Appendix R1 Response to Comments

The responses to the comments received on the I-405 Improvement Project Draft Environmental Impact Report (EIR)/Environmental Impact Statement (EIS) are organized as follows. The comments and responses are grouped by type of commenter. The types of commenters are:

- Federal Government Agencies
- State Government Agencies
- Regional Government Agencies
- Local Government Agencies
- Community Groups
- Industry and Business Groups
- Public Comments (received in writing via e-mail, U.S. mail, hand delivery, courier, or other means except for comments received at a public hearing) – Organized alphabetically by last name of the commenter, such that there are 26 separate public comment groups grouped by letter of the alphabet.
- Public Hearing Comments (received at a public hearing either in writing or verbally by the court reporter) – Organized by the four public hearings.

The comments and responses within each group are presented in a section, and the sections are consecutive according to the list above. The first part of each section provides the comments, and the second part provides the responses. Table R1-1 identifies each of the groups and the commenters in that group. For example, the first group is Government (Federal) and the first commenter is the Federal Emergency Management Agency (FEMA).

Each comment is given a unique identifier for the commenter, followed by a serial number for each comment made by the commenter. For example, the first comment of FEMA is GF1-1, with GF1 being the unique identifier for FEMA and "-1" referring to FEMA's first comment. The page number of the comment is provided in Table R1-1, followed by the page number of the response.

The comment letters and e-mails are presented with the unique identifier of the commenter shown at the top of each page of the comment letter or e-mail. Each comment within the letter is bracketed and shows the serial number of the comment. For example, the FEMA letter shows FEMA's unique identifier (GF1) at the top of each page. The five comments within FEMA's letter are each bracketed and identified with a serial number 1 through 5.

The responses are organized in the same order as the comments. The responses show the unique identifier of the commenter followed by the serial number of the comment within the commenter's letter. Comments and responses can be easily related with the identifiers.

An asterisk (*) in Table R1-1 denotes comments received after close of the formal comment period.

After receiving comments from the public and reviewing agencies on the Draft EIR/EIS, Caltrans performed additional analysis as discussed within the responses of this Appendix. Several engineering measures were studied to attempt to reduce impacts. Analyses that showed measures which resulted in unacceptable impacts or conclusions are discussed in this Appendix but were not proposed for the project. However, those that resulted in acceptable conclusions have been proposed as part of the project scope and are discussed in this Appendix and Chapter 2 of the Final EIR/EIS. The responses to comments in this Appendix and design options/variations that were developed as a result of the public comments were also part of the criteria used to identify the Preferred Alternative. The identification of the PA is discussed in the Final EIR/EIS, Summary, Section S.3, and Chapter 2.

Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
GOVERNMENT (FEDERAL) COMMENTS				
Federal Emergency Management Agency	GF1-1	R1-GF-1	R1-GF-8	E
	GF1-2	R1-GF-1	R1-GF-8	E
	GF1-3	R1-GF-1	R1-GF-8	E
	GF1-4	R1-GF-1	R1-GF-8	E
	GF1-5	R1-GF-1	R1-GF-8	E
United States Army Corps of Engineers*	GF2-1	R1-GF-2	R1-GF-8	E/T
	GF2-2	R1-GF-2	R1-GF-9	T
	GF2-3	R1-GF-2	R1-GF-9	E/T
	GF2-4	R1-GF-2	R1-GF-9	E/R
	GF2-5	R1-GF-2	R1-GF-10	E
	GF2-6	R1-GF-3	R1-GF-10	E
	GF2-7	R1-GF-3	R1-GF-10	E/T
	GF2-8	R1-GF-3	R1-GF-11	E/T
United States Department of the Interior	GF3-1	R1-GF-4	R1-GF-11	E
United States Environmental Protection Agency	GF4-1	R1-GF-4	R1-GF-11	T
	GF4-2	R1-GF-5	R1-GF-12	T

SUBJECT CODE KEY:
E – Environmental | C – Cultural Resources | D – Design | N – Noise | R – Right-of-Way
H – Hazardous Waste/Materials | T – Traffic | A – Air Quality | V – Visual

Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	GF4-3	R1-GF-5	R1-GF-12	T
	GF4-4	R1-GF-5	R1-GF-13	T
	GF4-5	R1-GF-5	R1-GF-13	T
	GF4-6	R1-GF-5	R1-GF-13	T/A
	GF4-7	R1-GF-6	R1-GF-13	T
	GF4-8	R1-GF-6	R1-GF-14	T
	GF4-9	R1-GF-6	R1-GF-14	T
	GF4-10	R1-GF-6	R1-GF-15	E
	GF4-11	R1-GF-6	R1-GF-15	T
	GF4-12	R1-GF-6	R1-GF-15	T
	GF4-13	R1-GF-6	R1-GF-16	E
	GF4-14	R1-GF-6	R1-GF-16	T
	GF4-15	R1-GF-6	R1-GF-16	T
	GF4-16	R1-GF-7	R1-GF-16	T
	GF4-17	R1-GF-7	R1-GF-16	T
	GF4-18	R1-GF-7	R1-GF-17	T
	GF4-19	R1-GF-7	R1-GF-17	T
GOVERNMENT (STATE) COMMENTS				
California Department of Fish and Wildlife	GS1-1	R1-GS-1	R1-GS-10	E
California Public Utilities Commission	GS2-1	R1-GS-1	R1-GS-10	D
California Transportation Commission*	GS3-1	R1-GS-2	R1-GS-10	E
	GS3-2	R1-GS-2	R1-GS-11	E
	GS3-3	R1-GS-2	R1-GS-11	E
	GS3-4	R1-GS-2	R1-GS-11	E
	GS3-5	R1-GS-2	R1-GS-11	E
Department of Toxic Substances Control	GS4-1	R1-GS-5	R1-GS-11	H/R
	GS4-2	R1-GS-5	R1-GS-12	H
	GS4-3	R1-GS-5	R1-GS-13	H
	GS4-4	R1-GS-5	R1-GS-13	H
	GS4-5	R1-GS-6	R1-GS-13	H
	GS4-6	R1-GS-6	R1-GS-13	R
	GS4-7	R1-GS-6	R1-GS-14	H
	GS4-8	R1-GS-6	R1-GS-14	H
	GS4-9	R1-GS-6	R1-GS-14	H

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Native American Heritage Commission	GS5-1	R1-GS-7	R1-GS-14	C
	GS5-2	R1-GS-7	R1-GS-15	C
	GS5-3	R1-GS-7	R1-GS-15	C
	GS5-4	R1-GS-7	R1-GS-15	C
	GS5-5	R1-GS-7	R1-GS-15	C
GOVERNMENT (REGIONAL) COMMENTS				
Gateway Cities Council of Governments	GR1-1	R1-GR-1	R1-GR-14	T/E
	GR1-2	R1-GR-1	R1-GR-14	T
	GR1-3	R1-GR-1	R1-GR-14	T
	GR1-4	R1-GR-1	R1-GR-15	T
	GR1-5	R1-GR-2	R1-GR-15	E
	GR1-6	R1-GR-2	R1-GR-16	E
	GR1-7	R1-GR-3	R1-GR-17	E
	GR1-8	R1-GR-3	R1-GR-17	E
	GR1-9	R1-GR-3	R1-GR-17	E/R
	GR1-10	R1-GR-3	R1-GR-18	T
	GR1-11	R1-GR-4	R1-GR-18	T
	GR1-12	R1-GR-4	R1-GR-18	T
	GR1-13	R1-GR-4	R1-GR-18	T
	GR1-14	R1-GR-4	R1-GR-20	D
	GR1-15	R1-GR-4	R1-GR-20	E
	GR1-16	R1-GR-4	R1-GR-20	T
	GR1-17	R1-GR-4	R1-GR-20	T
	GR1-18	R1-GR-5	R1-GR-20	T
	GR1-19	R1-GR-5	R1-GR-21	T
	GR1-20	R1-GR-5	R1-GR-22	T
	GR1-21	R1-GR-5	R1-GR-22	T
	GR1-22	R1-GR-5	R1-GR-22	T
	GR1-23	R1-GR-5	R1-GR-22	T
	GR1-24	R1-GR-5	R1-GR-22	E
	GR1-25	R1-GR-6	R1-GR-23	E
	GR1-26	R1-GR-6	R1-GR-23	T
	GR1-27	R1-GR-6	R1-GR-23	T
	GR1-28	R1-GR-6	R1-GR-23	T
	GR1-29	R1-GR-6	R1-GR-23	T

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	GR1-30	R1-GR-6	R1-GR-23	T
	GR1-31	R1-GR-6	R1-GR-23	T
Orange County Fire Authority	GR2-1	R1-GR-7	R1-GR-23	D
Orange County Sanitation District	GR3-1	R1-GR-7	R1-GR-24	D
	GR3-2	R1-GR-7	R1-GR-24	D/R
	GR3-3	R1-GR-7	R1-GR-24	D
	GR3-4	R1-GR-7	R1-GR-24	D
	GR3-5	R1-GR-7	R1-GR-25	D
	GR3-6	R1-GR-8	R1-GR-25	D
South Coast Air Quality Management District	GR4-1	R1-GR-8	R1-GR-25	A
	GR4-2	R1-GR-8	R1-GR-25	A
	GR4-3	R1-GR-9	R1-GR-25	E
	GR4-4	R1-GR-9	R1-GR-25	T
	GR4-5	R1-GR-9	R1-GR-26	A
	GR4-6	R1-GR-9	R1-GR-26	A
	GR4-7	R1-GR-10	R1-GR-26	A
	GR4-8	R1-GR-10	R1-GR-26	A
	GR4-9	R1-GR-10	R1-GR-26	T
	GR4-10	R1-GR-10	R1-GR-27	T/A
	GR4-11	R1-GR-10	R1-GR-27	E
	GR4-12	R1-GR-10	R1-GR-27	T
	GR4-13	R1-GR-10	R1-GR-27	T
	GR4-14	R1-GR-10	R1-GR-28	T/A
	GR4-15	R1-GR-11	R1-GR-28	T
	GR4-16	R1-GR-11	R1-GR-28	T
	GR4-17	R1-GR-11	R1-GR-28	T/A
	GR4-18	R1-GR-11	R1-GR-28	T
	GR4-19	R1-GR-11	R1-GR-29	T/A
	GR4-20	R1-GR-11	R1-GR-29	A
Southern California Association of Governments	GR5-1	R1-GR-12	R1-GR-29	E
Transportation Corridor Agencies	GR6-1	R1-GR-12	R1-GR-29	E
	GR6-2	R1-GR-12	R1-GR-29	T
	GR6-3	R1-GR-13	R1-GR-30	E
	GR6-4	R1-GR-13	R1-GR-30	D

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	GR6-5	R1-GR-13	R1-GR-30	D
	GR6-6	R1-GR-13	R1-GR-30	D
GOVERNMENT (LOCAL) COMMENTS				
Costa Mesa, City of	GL1-1	R1-GL-2	R1-GL-299	E
	GL1-2	R1-GL-2	R1-GL-300	E/T/D
	GL1-3	R1-GL-2	R1-GL-301	D
	GL1-4	R1-GL-2	R1-GL-301	N
	GL1-5	R1-GL-2	R1-GL-301	N
	GL1-6	R1-GL-3	R1-GL-302	N
	GL1-7	R1-GL-3	R1-GL-302	N
	GL1-8	R1-GL-3	R1-GL-302	N
	GL1-9	R1-GL-3	R1-GL-303	N
	GL1-10	R1-GL-3	R1-GL-303	T
	GL1-11	R1-GL-3	R1-GL-303	T
	GL1-12	R1-GL-3	R1-GL-304	T
	GL1-13	R1-GL-4	R1-GL-304	T
	GL1-14	R1-GL-4	R1-GL-304	T
	GL1-15	R1-GL-4	R1-GL-305	T
	GL1-16	R1-GL-4	R1-GL-305	T
	GL1-17	R1-GL-4	R1-GL-305	T
	GL1-18	R1-GL-4	R1-GL-305	T
	GL1-19	R1-GL-4	R1-GL-305	N
	GL1-20	R1-GL-5	R1-GL-306	N
	GL1-21	R1-GL-5	R1-GL-306	N
	GL1-22	R1-GL-5	R1-GL-306	N
	GL1-23	R1-GL-5	R1-GL-306	N/R
	GL1-24	R1-GL-5	R1-GL-307	T
	GL1-25	R1-GL-6	R1-GL-307	E
	GL1-26	R1-GL-6	R1-GL-308	E
Costa Mesa, City of*	GL2-1	R1-GL-46	R1-GL-308	E
Cypress, City of	GL3-1	R1-GL-47	R1-GL-308	T
Fountain Valley, City of	GL4-1	R1-GL-48	R1-GL-309	D
	GL4-2	R1-GL-48	R1-GL-309	T
	GL4-3	R1-GL-48	R1-GL-309	T
	GL4-4	R1-GL-48	R1-GL-309	T/R

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	GL4-5	R1-GL-48	R1-GL-310	T
	GL4-6	R1-GL-48	R1-GL-310	D/R
	GL4-7	R1-GL-48	R1-GL-311	E/R
	GL4-8	R1-GL-48	R1-GL-311	E/R
	GL4-9	R1-GL-48	R1-GL-311	E/R
	GL4-10	R1-GL-48	R1-GL-312	E/R
	GL4-11	R1-GL-49	R1-GL-312	D
	GL4-12	R1-GL-49	R1-GL-312	D/R
	GL4-13	R1-GL-49	R1-GL-312	N
	GL4-14	R1-GL-49	R1-GL-313	N/R
	GL4-15	R1-GL-49	R1-GL-313	N
	GL4-16	R1-GL-49	R1-GL-314	N
	GL4-17	R1-GL-49	R1-GL-314	N
	GL4-18	R1-GL-49	R1-GL-314	N
	GL4-19	R1-GL-49	R1-GL-315	D
	GL4-20	R1-GL-49	R1-GL-315	D/R
	GL4-21	R1-GL-49	R1-GL-315	D
	GL4-22	R1-GL-49	R1-GL-316	D/R
	GL4-23	R1-GL-49	R1-GL-316	D/R
	GL4-24	R1-GL-49	R1-GL-316	D
	GL4-25	R1-GL-50	R1-GL-316	D
	GL4-26	R1-GL-50	R1-GL-316	D
	GL4-27	R1-GL-50	R1-GL-317	V
	GL4-28	R1-GL-50	R1-GL-317	V
	GL4-29	R1-GL-50	R1-GL-317	E
	GL4-30	R1-GL-50	R1-GL-317	D/N
	GL4-31	R1-GL-50	R1-GL-317	E
	GL4-32	R1-GL-50	R1-GL-317	N/R
	GL4-33	R1-GL-50	R1-GL-318	D
	GL4-34	R1-GL-50	R1-GL-318	E
Garden Grove, City of	GL5-1	R1-GL-51	R1-GL-318	E
Huntington Beach, City of	GL6-1	R1-GL-51	R1-GL-318	E
	GL6-2	R1-GL-51	R1-GL-319	E
	GL6-3	R1-GL-51	R1-GL-319	E
	GL6-4	R1-GL-51	R1-GL-319	E/R

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	GL6-5	R1-GL-51	R1-GL-319	E/R
	GL6-6	R1-GL-51	R1-GL-319	E
	GL6-7	R1-GL-51	R1-GL-319	D
	GL6-8	R1-GL-51	R1-GL-319	E
	GL6-9	R1-GL-52	R1-GL-319	D/R
	GL6-10	R1-GL-52	R1-GL-320	E
	GL6-11	R1-GL-52	R1-GL-320	T
	GL6-12	R1-GL-52	R1-GL-320	E
	GL6-13	R1-GL-52	R1-GL-320	D/R
	GL6-14	R1-GL-52	R1-GL-320	E
Irvine, City of	GL7-1	R1-GL-52	R1-GL-320	T
	GL7-2	R1-GL-52	R1-GL-321	T
La Palma, City of	GL8-1	R1-GL-53	R1-GL-321	E
Los Alamitos, City of	GL9-1	R1-GL-54	R1-GL-321	T
	GL9-2	R1-GL-54	R1-GL-322	E
Los Alamitos Unified School District	GL10-1	R1-GL-55	R1-GL-322	D
Long Beach, City of	GL11-1	R1-GL-55	R1-GL-323	T
Long Beach, City of	GL12-1	R1-GL-56	R1-GL-323	T
	GL12-2	R1-GL-56	R1-GL-323	T
	GL12-3	R1-GL-56	R1-GL-323	T
	GL12-4	R1-GL-56	R1-GL-324	T
	GL12-5	R1-GL-56	R1-GL-324	T
	GL12-6	R1-GL-57	R1-GL-324	T
	GL12-7	R1-GL-57	R1-GL-324	T
	GL12-8	R1-GL-58	R1-GL-324	T
	GL12-9	R1-GL-58	R1-GL-324	T
	GL12-10	R1-GL-58	R1-GL-325	T
	GL12-11	R1-GL-58	R1-GL-325	T
	GL12-12	R1-GL-58	R1-GL-325	T
	GL12-13	R1-GL-58	R1-GL-325	T
	GL12-14	R1-GL-59	R1-GL-325	T
	GL12-15	R1-GL-59	R1-GL-325	T
	GL12-16	R1-GL-59	R1-GL-326	T
	GL12-17	R1-GL-59	R1-GL-326	T
	GL12-18	R1-GL-59	R1-GL-326	T

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	GL12-19	R1-GL-59	R1-GL-326	T
	GL12-20	R1-GL-59	R1-GL-326	T
	GL12-21	R1-GL-60	R1-GL-326	T
	GL12-22	R1-GL-60	R1-GL-327	T
	GL12-23	R1-GL-60	R1-GL-327	T
	GL12-24	R1-GL-60	R1-GL-327	T
	GL12-25	R1-GL-60	R1-GL-327	T
	GL12-26	R1-GL-61	R1-GL-327	T
	GL12-27	R1-GL-61	R1-GL-327	T
	GL12-28	R1-GL-61	R1-GL-327	T
	GL12-29	R1-GL-61	R1-GL-328	T
	GL12-30	R1-GL-61	R1-GL-328	T
	GL12-31	R1-GL-61	R1-GL-328	T
	GL12-32	R1-GL-61	R1-GL-328	T
	GL12-33	R1-GL-62	R1-GL-328	T
	GL12-34	R1-GL-62	R1-GL-329	T
	GL12-35	R1-GL-63	R1-GL-330	T
	GL12-36	R1-GL-63	R1-GL-330	T
	GL12-37	R1-GL-63	R1-GL-330	T
	GL12-38	R1-GL-63	R1-GL-330	T
Rossmoor Community Services District	GL13-1	R1-GL-65	R1-GL-330	T
	GL13-2	R1-GL-65	R1-GL-331	A/R
	GL13-3	R1-GL-66	R1-GL-331	N
	GL13-4	R1-GL-66	R1-GL-331	E
Seal Beach, City of	GL14-1	R1-GL-76	R1-GL-331	T
	GL14-2	R1-GL-76	R1-GL-332	T
	GL14-3	R1-GL-77	R1-GL-332	E
	GL14-4	R1-GL-78	R1-GL-332	E
	GL14-5	R1-GL-79	R1-GL-333	E
	GL14-6	R1-GL-79	R1-GL-333	E
	GL14-7	R1-GL-79	R1-GL-333	E
	GL14-8	R1-GL-79	R1-GL-333	D
	GL14-9	R1-GL-80	R1-GL-333	E
	GL14-10	R1-GL-80	R1-GL-334	E
	GL14-11	R1-GL-80	R1-GL-334	T

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	GL14-12	R1-GL-80	R1-GL-334	E
	GL14-13	R1-GL-81	R1-GL-334	E
	GL14-14	R1-GL-81	R1-GL-334	V
	GL14-15	R1-GL-81	R1-GL-334	D
	GL14-16	R1-GL-82	R1-GL-334	D
	GL14-17	R1-GL-82	R1-GL-334	D
	GL14-18	R1-GL-82	R1-GL-334	T
	GL14-19	R1-GL-82	R1-GL-335	E
	GL14-20	R1-GL-82	R1-GL-335	D
	GL14-21	R1-GL-82	R1-GL-335	V
	GL14-22	R1-GL-83	R1-GL-335	E
	GL14-23	R1-GL-83	R1-GL-335	E
	GL14-24	R1-GL-83	R1-GL-335	D
	GL14-25	R1-GL-83	R1-GL-336	D
	GL14-26	R1-GL-83	R1-GL-336	E
	GL14-27	R1-GL-84	R1-GL-336	E/R
	GL14-28	R1-GL-84	R1-GL-336	E/R
	GL14-29	R1-GL-84	R1-GL-336	T
	GL14-30	R1-GL-84	R1-GL-337	E/R
	GL14-31	R1-GL-85	R1-GL-337	E
	GL14-32	R1-GL-85	R1-GL-337	E/R
	GL14-33	R1-GL-85	R1-GL-338	D
	GL14-34	R1-GL-85	R1-GL-338	D/R
	GL14-35	R1-GL-86	R1-GL-338	D
	GL14-36	R1-GL-86	R1-GL-338	E/R
	GL14-37	R1-GL-88	R1-GL-338	H/R
	GL14-38	R1-GL-88	R1-GL-339	H/R
	GL14-39	R1-GL-88	R1-GL-339	E
	GL14-40	R1-GL-88	R1-GL-339	T
	GL14-41	R1-GL-89	R1-GL-339	T
	GL14-42	R1-GL-89	R1-GL-340	D
	GL14-43	R1-GL-89	R1-GL-340	D
	GL14-44	R1-GL-89	R1-GL-340	D
	GL14-45	R1-GL-90	R1-GL-340	T
	GL14-46	R1-GL-90	R1-GL-341	T

SUBJECT CODE KEY:
E – Environmental | C – Cultural Resources | D – Design | N – Noise | R – Right-of-Way
H – Hazardous Waste/Materials | T – Traffic | A – Air Quality | V – Visual

Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	GL14-47	R1-GL-90	R1-GL-341	T
	GL14-48	R1-GL-90	R1-GL-341	T
	GL14-49	R1-GL-91	R1-GL-342	T
	GL14-50	R1-GL-91	R1-GL-342	T
	GL14-51	R1-GL-92	R1-GL-342	T/E
	GL14-52	R1-GL-93	R1-GL-343	T
	GL14-53	R1-GL-93	R1-GL-343	T
	GL14-54	R1-GL-93	R1-GL-343	E
	GL14-55	R1-GL-93	R1-GL-343	E
	GL14-56	R1-GL-93	R1-GL-343	E
	GL14-57	R1-GL-94	R1-GL-343	E
	GL14-58	R1-GL-94	R1-GL-344	E
	GL14-59	R1-GL-94	R1-GL-344	E
	GL14-60	R1-GL-95	R1-GL-344	E
	GL14-61	R1-GL-95	R1-GL-344	E
	GL14-62	R1-GL-95	R1-GL-344	E
	GL14-63	R1-GL-96	R1-GL-344	E
	GL14-64	R1-GL-96	R1-GL-344	E
	GL14-65	R1-GL-96	R1-GL-345	E
	GL14-66	R1-GL-96	R1-GL-345	E
	GL14-67	R1-GL-96	R1-GL-345	E
	GL14-68	R1-GL-96	R1-GL-345	E
	GL14-69	R1-GL-97	R1-GL-345	T
	GL14-70	R1-GL-98	R1-GL-345	T
	GL14-71	R1-GL-99	R1-GL-346	T
	GL14-72	R1-GL-99	R1-GL-346	T
	GL14-73	R1-GL-99	R1-GL-347	T
	GL14-74	R1-GL-100	R1-GL-347	T
	GL14-75	R1-GL-101	R1-GL-347	A
	GL14-76	R1-GL-102	R1-GL-347	T
	GL14-77	R1-GL-102	R1-GL-347	T
	GL14-78	R1-GL-103	R1-GL-348	T
	GL14-79	R1-GL-103	R1-GL-348	E
	GL14-80	R1-GL-104	R1-GL-348	E
	GL14-81	R1-GL-104	R1-GL-349	E

SUBJECT CODE KEY:
E – Environmental; C – Cultural Resources; D – Design; N – Noise; R – Right-of-Way
H – Hazardous Waste/Materials; T – Traffic; A – Air Quality; V – Visual

Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	GL14-82	R1-GL-104	R1-GL-349	A
	GL14-83	R1-GL-104	R1-GL-349	T
	GL14-84	R1-GL-104	R1-GL-349	T
	GL14-85	R1-GL-104	R1-GL-350	T
	GL14-86	R1-GL-105	R1-GL-350	T
	GL14-87	R1-GL-105	R1-GL-350	E
	GL14-88	R1-GL-105	R1-GL-351	T
	GL14-89	R1-GL-105	R1-GL-351	T
	GL14-90	R1-GL-105	R1-GL-351	T
	GL14-91	R1-GL-106	R1-GL-351	E/R
	GL14-92	R1-GL-106	R1-GL-351	E
	GL14-93	R1-GL-107	R1-GL-351	E
	GL14-94	R1-GL-108	R1-GL-352	E
	GL14-95	R1-GL-108	R1-GL-352	E
	GL14-96	R1-GL-109	R1-GL-352	T
	GL14-97	R1-GL-110	R1-GL-352	E
	GL14-98	R1-GL-110	R1-GL-352	T
	GL14-99	R1-GL-110	R1-GL-353	T
	GL14-100	R1-GL-110	R1-GL-353	T
	GL14-101	R1-GL-111	R1-GL-353	T
	GL14-102	R1-GL-112	R1-GL-354	T
	GL14-103	R1-GL-112	R1-GL-354	E
	GL14-104	R1-GL-112	R1-GL-355	E
	GL14-105	R1-GL-112	R1-GL-355	E
	GL14-106	R1-GL-112	R1-GL-355	E/R
	GL14-107	R1-GL-113	R1-GL-355	E/R
	GL14-108	R1-GL-113	R1-GL-355	E/R
	GL14-109	R1-GL-113	R1-GL-356	E/R
	GL14-110	R1-GL-113	R1-GL-356	E
	GL14-111	R1-GL-113	R1-GL-356	E
	GL14-112	R1-GL-113	R1-GL-356	E
	GL14-113	R1-GL-113	R1-GL-356	T/D
	GL14-114	R1-GL-114	R1-GL-357	E
	GL14-115	R1-GL-114	R1-GL-357	E
	GL14-116	R1-GL-114	R1-GL-357	E

SUBJECT CODE KEY:
E – Environmental; C – Cultural Resources; D – Design; N – Noise; R – Right-of-Way
H – Hazardous Waste/Materials; T – Traffic; A – Air Quality; V – Visual

Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	GL14-117	R1-GL-114	R1-GL-357	T
	GL14-118	R1-GL-114	R1-GL-357	T/D
	GL14-119	R1-GL-115	R1-GL-358	T
	GL14-120	R1-GL-115	R1-GL-358	D/R
	GL14-121	R1-GL-115	R1-GL-359	T
	GL14-122	R1-GL-115	R1-GL-359	T
	GL14-123	R1-GL-115	R1-GL-359	T
	GL14-124	R1-GL-115	R1-GL-359	T
	GL14-125	R1-GL-116	R1-GL-359	T
	GL14-126	R1-GL-116	R1-GL-359	T
	GL14-127	R1-GL-116	R1-GL-359	E
	GL14-128	R1-GL-116	R1-GL-359	E
	GL14-129	R1-GL-117	R1-GL-360	T
	GL14-130	R1-GL-117	R1-GL-360	E
	GL14-131	R1-GL-118	R1-GL-360	E
	GL14-132	R1-GL-118	R1-GL-360	E
	GL14-133	R1-GL-119	R1-GL-360	E
	GL14-134	R1-GL-119	R1-GL-360	E
	GL14-135	R1-GL-119	R1-GL-360	E
	GL14-136	R1-GL-120	R1-GL-361	E
	GL14-137	R1-GL-120	R1-GL-361	E
	GL14-138	R1-GL-120	R1-GL-361	T
	GL14-139	R1-GL-120	R1-GL-361	T
	GL14-140	R1-GL-120	R1-GL-361	T
	GL14-141	R1-GL-120	R1-GL-362	T
	GL14-142	R1-GL-121	R1-GL-362	T
	GL14-143	R1-GL-121	R1-GL-362	T
	GL14-144	R1-GL-121	R1-GL-362	T
	GL14-145	R1-GL-121	R1-GL-362	T
	GL14-146	R1-GL-122	R1-GL-362	T
	GL14-147	R1-GL-122	R1-GL-362	T
	GL14-148	R1-GL-122	R1-GL-363	T
	GL14-149	R1-GL-122	R1-GL-363	A
	GL14-150	R1-GL-122	R1-GL-364	E
	GL14-151	R1-GL-123	R1-GL-364	T

SUBJECT CODE KEY:
E – Environmental C – Cultural Resources D – Design N – Noise R – Right-of-Way
H – Hazardous Waste/Materials T – Traffic A – Air Quality V – Visual

Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	GL14-152	R1-GL-123	R1-GL-364	E
	GL14-153	R1-GL-123	R1-GL-364	E
	GL14-154	R1-GL-123	R1-GL-364	E
	GL14-155	R1-GL-124	R1-GL-365	T
	GL14-156	R1-GL-124	R1-GL-365	T
	GL14-157	R1-GL-124	R1-GL-365	T
	GL14-158	R1-GL-124	R1-GL-365	T
	GL14-159	R1-GL-125	R1-GL-366	D
	GL14-160	R1-GL-125	R1-GL-366	T
	GL14-161	R1-GL-125	R1-GL-366	E
	GL14-162	R1-GL-125	R1-GL-366	E
	GL14-163	R1-GL-126	R1-GL-366	E
	GL14-164	R1-GL-126	R1-GL-367	E
	GL14-165	R1-GL-126	R1-GL-367	T/D
	GL14-166	R1-GL-127	R1-GL-367	E
	GL14-167	R1-GL-127	R1-GL-367	E
	GL14-168	R1-GL-127	R1-GL-368	T
	GL14-169	R1-GL-128	R1-GL-368	T
	GL14-170	R1-GL-128	R1-GL-368	T
	GL14-171	R1-GL-128	R1-GL-368	T
	GL14-172	R1-GL-129	R1-GL-368	E
	GL14-173	R1-GL-131	R1-GL-368	T
	GL14-174	R1-GL-131	R1-GL-369	T
	GL14-175	R1-GL-131	R1-GL-369	E
	GL14-176	R1-GL-131	R1-GL-369	E
	GL14-177	R1-GL-132	R1-GL-369	T
	GL14-178	R1-GL-133	R1-GL-369	T
	GL14-179	R1-GL-133	R1-GL-369	T
	GL14-180	R1-GL-133	R1-GL-369	T
	GL14-181	R1-GL-134	R1-GL-370	T
	GL14-182	R1-GL-134	R1-GL-370	T
	GL14-183	R1-GL-134	R1-GL-370	T
	GL14-184	R1-GL-134	R1-GL-370	T
	GL14-185	R1-GL-134	R1-GL-370	A
	GL14-186	R1-GL-134	R1-GL-371	T

SUBJECT CODE KEY:
E – Environmental; C – Cultural Resources; D – Design; N – Noise; R – Right-of-Way
H – Hazardous Waste/Materials; T – Traffic; A – Air Quality; V – Visual

Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	GL14-187	R1-GL-135	R1-GL-371	E
	GL14-188	R1-GL-135	R1-GL-371	T/D
	GL14-189	R1-GL-135	R1-GL-372	T/D
	GL14-190	R1-GL-135	R1-GL-372	D/E
	GL14-191	R1-GL-136	R1-GL-373	T/D
	GL14-192	R1-GL-136	R1-GL-373	T/D
	GL14-193	R1-GL-136	R1-GL-373	E
	GL14-194	R1-GL-136	R1-GL-374	E
	GL14-195	R1-GL-136	R1-GL-374	D
	GL14-196	R1-GL-136	R1-GL-374	T/D
	GL14-197	R1-GL-136	R1-GL-375	E
	GL14-198	R1-GL-136	R1-GL-375	A
	GL14-199	R1-GL-137	R1-GL-375	E
	GL14-200	R1-GL-137	R1-GL-375	T/D
	GL14-201	R1-GL-137	R1-GL-375	T/D
	GL14-202	R1-GL-137	R1-GL-376	T
	GL14-203	R1-GL-138	R1-GL-376	E
	GL14-204	R1-GL-138	R1-GL-376	E
	GL14-205	R1-GL-138	R1-GL-376	E
	GL14-206	R1-GL-138	R1-GL-377	E
	GL14-207	R1-GL-139	R1-GL-377	E
	GL14-208	R1-GL-139	R1-GL-377	A
	GL14-209	R1-GL-139	R1-GL-377	E
	GL14-210	R1-GL-139	R1-GL-377	E
	GL14-211	R1-GL-139	R1-GL-377	E
	GL14-212	R1-GL-140	R1-GL-378	E
	GL14-213	R1-GL-140	R1-GL-378	E
	GL14-214	R1-GL-140	R1-GL-378	E
	GL14-215	R1-GL-140	R1-GL-378	T/D
	GL14-216	R1-GL-141	R1-GL-378	T
	GL14-217	R1-GL-141	R1-GL-379	T
	GL14-218	R1-GL-141	R1-GL-379	T
	GL14-219	R1-GL-141	R1-GL-379	T
	GL14-220	R1-GL-141	R1-GL-379	V
	GL14-221	R1-GL-142	R1-GL-379	E

SUBJECT CODE KEY:
E – Environmental C – Cultural Resources D – Design N – Noise R – Right-of-Way
H – Hazardous Waste/Materials T – Traffic A – Air Quality V – Visual

Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	GL14-222	R1-GL-142	R1-GL-380	E
	GL14-223	R1-GL-142	R1-GL-380	
	GL14-224	R1-GL-142	R1-GL-380	E
	GL14-225	R1-GL-143	R1-GL-380	E
	GL14-226	R1-GL-143	R1-GL-380	T
	GL14-227	R1-GL-143	R1-GL-381	A
	GL14-228	R1-GL-144	R1-GL-381	E
	GL14-229	R1-GL-144	R1-GL-381	T
	GL14-230	R1-GL-144	R1-GL-381	T
	GL14-231	R1-GL-144	R1-GL-381	T
	GL14-232	R1-GL-145	R1-GL-381	E
	GL14-233	R1-GL-146	R1-GL-382	T
	GL14-234	R1-GL-146	R1-GL-382	E
	GL14-235	R1-GL-146	R1-GL-382	E
	GL14-236	R1-GL-147	R1-GL-382	T
	GL14-237	R1-GL-148	R1-GL-383	T
	GL14-238	R1-GL-148	R1-GL-383	T
	GL14-239	R1-GL-149	R1-GL-384	E
	GL14-240	R1-GL-149	R1-GL-384	E
	GL14-241	R1-GL-149	R1-GL-384	T
	GL14-242	R1-GL-152	R1-GL-384	T
	GL14-243	R1-GL-153	R1-GL-385	E
	GL14-244	R1-GL-153	R1-GL-385	T
	GL14-245	R1-GL-153	R1-GL-385	T
	GL14-246	R1-GL-154	R1-GL-385	E/R
	GL14-247	R1-GL-154	R1-GL-385	A
	GL14-248	R1-GL-154	R1-GL-386	A
	GL14-249	R1-GL-155	R1-GL-386	A
	GL14-250	R1-GL-155	R1-GL-387	A
	GL14-251	R1-GL-155	R1-GL-387	E
	GL14-252	R1-GL-156	R1-GL-387	A
	GL14-253	R1-GL-156	R1-GL-387	A
	GL14-254	R1-GL-156	R1-GL-387	A
	GL14-255	R1-GL-156	R1-GL-387	A
	GL14-256	R1-GL-157	R1-GL-387	A

SUBJECT CODE KEY:
E – Environmental | C – Cultural Resources | D – Design | N – Noise | R – Right-of-Way
H – Hazardous Waste/Materials | T – Traffic | A – Air Quality | V – Visual

Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	GL14-257	R1-GL-158	R1-GL-388	A
	GL14-258	R1-GL-158	R1-GL-388	A
	GL14-259	R1-GL-158	R1-GL-388	A
	GL14-260	R1-GL-158	R1-GL-388	T
	GL14-261	R1-GL-159	R1-GL-388	A
	GL14-262	R1-GL-159	R1-GL-388	N
	GL14-263	R1-GL-159	R1-GL-389	E
	GL14-264	R1-GL-159	R1-GL-389	E
	GL14-265	R1-GL-160	R1-GL-389	E
	GL14-266	R1-GL-161	R1-GL-389	E
	GL14-267	R1-GL-161	R1-GL-389	E
	GL14-268	R1-GL-161	R1-GL-389	E
	GL14-269	R1-GL-161	R1-GL-390	E
	GL14-270	R1-GL-162	R1-GL-390	E
	GL14-271	R1-GL-162	R1-GL-390	T
	GL14-272	R1-GL-162	R1-GL-390	T
	GL14-273	R1-GL-162	R1-GL-390	T
	GL14-274	R1-GL-163	R1-GL-390	T
	GL14-275	R1-GL-163	R1-GL-390	T
	GL14-276	R1-GL-163	R1-GL-391	T
	GL14-277	R1-GL-163	R1-GL-391	T
	GL14-278	R1-GL-163	R1-GL-391	T
	GL14-279	R1-GL-163	R1-GL-391	T
	GL14-280	R1-GL-163	R1-GL-391	T
	GL14-281	R1-GL-164	R1-GL-391	T
	GL14-282	R1-GL-164	R1-GL-392	T
	GL14-283	R1-GL-164	R1-GL-392	A
	GL14-284	R1-GL-164	R1-GL-392	A
	GL14-285	R1-GL-164	R1-GL-392	A
	GL14-286	R1-GL-164	R1-GL-392	A
	GL14-287	R1-GL-164	R1-GL-392	A
	GL14-288	R1-GL-164	R1-GL-392	A
	GL14-289	R1-GL-165	R1-GL-393	A
	GL14-290	R1-GL-165	R1-GL-393	A
	GL14-291	R1-GL-165	R1-GL-393	A

SUBJECT CODE KEY:

E – Environmental	C – Cultural Resources	D – Design	N – Noise	R – Right-of-Way
H – Hazardous Waste/Materials	T – Traffic	A – Air Quality	V – Visual	

Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	GL14-292	R1-GL-165	R1-GL-393	A
	GL14-293	R1-GL-165	R1-GL-393	A
	GL14-294	R1-GL-165	R1-GL-393	A
	GL14-295	R1-GL-165	R1-GL-393	A
	GL14-296	R1-GL-165	R1-GL-393	A
	GL14-297	R1-GL-165	R1-GL-393	A
	GL14-298	R1-GL-165	R1-GL-394	A
	GL14-299	R1-GL-166	R1-GL-394	A
	GL14-300	R1-GL-166	R1-GL-394	A
	GL14-301	R1-GL-166	R1-GL-394	A
	GL14-302	R1-GL-166	R1-GL-394	A
	GL14-303	R1-GL-167	R1-GL-395	N/R
	GL14-304	R1-GL-167	R1-GL-395	N
	GL14-305	R1-GL-167	R1-GL-395	N
	GL14-306	R1-GL-167	R1-GL-395	N
	GL14-307	R1-GL-167	R1-GL-396	N
	GL14-308	R1-GL-167	R1-GL-397	N
	GL14-309	R1-GL-167	R1-GL-397	N
	GL14-310	R1-GL-167	R1-GL-398	N
	GL14-311	R1-GL-167	R1-GL-398	N/R
	GL14-312	R1-GL-168	R1-GL-398	N
	GL14-313	R1-GL-168	R1-GL-399	N
	GL14-314	R1-GL-168	R1-GL-399	N
	GL14-315	R1-GL-169	R1-GL-400	N/R
	GL14-316	R1-GL-170	R1-GL-401	E
Seal Beach, City of	GL15-1	R1-GL-296	R1-GL-401	E
	GL15-2	R1-GL-296	R1-GL-401	E
	GL15-3	R1-GL-296	R1-GL-401	E
	GL15-4	R1-GL-296	R1-GL-401	E
Westminster, City of	GL16-1	R1-GL-297	R1-GL-402	D
	GL16-2	R1-GL-297	R1-GL-402	D/R
	GL16-3	R1-GL-297	R1-GL-402	D
	GL16-4	R1-GL-297	R1-GL-402	D
	GL16-5	R1-GL-297	R1-GL-402	D
	GL16-6	R1-GL-297	R1-GL-402	N/R

SUBJECT CODE KEY:
E – Environmental; C – Cultural Resources; D – Design; N – Noise; R – Right-of-Way
H – Hazardous Waste/Materials; T – Traffic; A – Air Quality; V – Visual

Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	GL16-7	R1-GL-297	R1-GL-403	D
COMMUNITY GROUP COMMENTS				
College Park East Neighborhood Association	CG1-1	R1-CG-1	R1-CG-48	E
	CG1-2	R1-CG-1	R1-CG-48	D
	CG1-3	R1-CG-1	R1-CG-48	E
	CG1-4	R1-CG-1	R1-CG-48	T
	CG1-5	R1-CG-1	R1-CG-48	T
Friends of Harbors, Beaches, and Parks	CG2-1	R1-CG-38	R1-CG-49	E
	CG2-2	R1-CG-38	R1-CG-49	T
	CG2-3	R1-CG-38	R1-CG-49	T
	CG2-4	R1-CG-38	R1-CG-49	T
	CG2-5	R1-CG-38	R1-CG-49	T
	CG2-6	R1-CG-38	R1-CG-50	T
	CG2-7	R1-CG-38	R1-CG-50	T
	CG2-8	R1-CG-38	R1-CG-50	T
	CG2-9	R1-CG-39	R1-CG-50	T
	CG2-10	R1-CG-39	R1-CG-51	T
	CG2-11	R1-CG-39	R1-CG-51	T
	CG2-12	R1-CG-39	R1-CG-51	T/R
	CG2-13	R1-CG-39	R1-CG-51	T
Mesa North Community Association	CG3-1	R1-CG-40	R1-CG-52	E
	CG3-2	R1-CG-40	R1-CG-52	D
	CG3-3	R1-CG-41	R1-CG-52	D
	CG3-4	R1-CG-41	R1-CG-52	T
	CG3-5	R1-CG-41	R1-CG-53	D
	CG3-6	R1-CG-41	R1-CG-53	D/R
	CG3-7	R1-CG-41	R1-CG-53	D/R
	CG3-8	R1-CG-41	R1-CG-53	E
Rossmoor Homeowners Association	CG4-1	R1-CG-42	R1-CG-53	T/A
	CG4-2	R1-CG-42	R1-CG-53	A
	CG4-3	R1-CG-42	R1-CG-54	A
	CG4-4	R1-CG-42	R1-CG-55	E
	CG4-5	R1-CG-42	R1-CG-55	T
	CG4-6	R1-CG-42	R1-CG-56	E
Sierra Club – Long Beach Area Group –	CG5-1	R1-CG-43	R1-CG-56	E

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H – Hazardous Waste/Materials; T – Traffic; A – Air Quality; V – Visual

Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Angeles Chapter	CG5-2	R1-CG-43	R1-CG-56	E
	CG5-3	R1-CG-43	R1-CG-57	T
Transit Advocates of Orange County	CG6-1	R1-CG-43	R1-CG-57	E
	CG6-2	R1-CG-44	R1-CG-57	T
	CG6-3	R1-CG-44	R1-CG-57	T
	CG6-4	R1-CG-44	R1-CG-58	T
	CG6-5	R1-CG-44	R1-CG-58	T
	CG6-6	R1-CG-44	R1-CG-58	T
	CG6-7	R1-CG-44	R1-CG-59	T
	CG6-8	R1-CG-44	R1-CG-59	T
	CG6-9	R1-CG-45	R1-CG-59	T
	CG6-10	R1-CG-45	R1-CG-59	T
	CG6-11	R1-CG-45	R1-CG-59	T
	CG6-12	R1-CG-46	R1-CG-60	T
	CG6-13	R1-CG-46	R1-CG-60	T
	CG6-14	R1-CG-46	R1-CG-61	T
	CG6-15	R1-CG-46	R1-CG-61	E
	CG6-16	R1-CG-46	R1-CG-62	T
	CG6-17	R1-CG-46	R1-CG-62	T
	CG6-18	R1-CG-46	R1-CG-62	T
	CG6-19	R1-CG-47	R1-CG-63	E
	CG6-20	R1-CG-47	R1-CG-63	T
	CG6-21	R1-CG-47	R1-CG-63	T
	CG6-22	R1-CG-47	R1-CG-63	T
	CG6-23	R1-CG-47	R1-CG-64	T
	CG6-24	R1-CG-47	R1-CG-64	T
	CG6-25	R1-CG-47	R1-CG-64	T
	CG6-26	R1-CG-47	R1-CG-64	T
	CG6-27	R1-CG-47	R1-CG-64	T
	CG6-28	R1-CG-47	R1-CG-64	T
	CG6-29	R1-CG-47	R1-CG-64	T
INDUSTRY AND BUSINESS GROUP COMMENTS				
Allen Matkins Leck Gamble Mallory & Natsis LLP	IBG1-1	R1-IBG-1	R1-IBG-13	E/R
	IBG1-2	R1-IBG-1	R1-IBG-13	E
	IBG1-3	R1-IBG-1	R1-IBG-13	E

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	IBG1-4	R1-IBG-1	R1-IBG-13	E/R
	IBG1-5	R1-IBG-2	R1-IBG-13	E/R
	IBG1-6	R1-IBG-2	R1-IBG-14	E/R
	IBG1-7	R1-IBG-2	R1-IBG-14	E
	IBG1-8	R1-IBG-2	R1-IBG-14	E/R
	IBG1-9	R1-IBG-2	R1-IBG-14	E
	IBG1-10	R1-IBG-2	R1-IBG-14	E
American Council of Engineering Companies	IBG2-1	R1-IBG-4	R1-IBG-14	E
Automobile Club of Southern California	IBG3-1	R1-IBG-5	R1-IBG-14	E
	IBG3-2	R1-IBG-5	R1-IBG-15	T
	IBG3-3	R1-IBG-5	R1-IBG-15	T
Barnard Ventures	IBG4-1	R1-IBG-6	R1-IBG-15	D
	IBG4-2	R1-IBG-6	R1-IBG-16	D/R
	IBG4-3	R1-IBG-6	R1-IBG-16	E
C.J. Segerstrom & Sons	IBG5-1	R1-IBG-7	R1-IBG-16	D
	IBG5-2	R1-IBG-7	R1-IBG-16	D
	IBG5-3	R1-IBG-7	R1-IBG-16	E
Costa Mesa Chamber of Commerce	IBG6-1	R1-IBG-8	R1-IBG-17	E
Elwyn California	IBG7-1	R1-IBG-9	R1-IBG-17	E
John Wayne Airport	IBG8-1	R1-IBG-9	R1-IBG-17	E
Seal Beach Chamber of Commerce	IBG9-1	R1-IBG-10	R1-IBG-17	E/D/T
	IBG9-2	R1-IBG-10	R1-IBG-18	E
South Coast Collection	IBG10-1	R1-IBG-10	R1-IBG-18	E
	IBG10-2	R1-IBG-10	R1-IBG-18	E
	IBG10-3	R1-IBG-10	R1-IBG-18	D
	IBG10-4	R1-IBG-11	R1-IBG-18	T
	IBG10-5	R1-IBG-11	R1-IBG-18	D
	IBG10-6	R1-IBG-11	R1-IBG-18	E
	IBG10-7	R1-IBG-11	R1-IBG-18	E
The Gerral Group/Seville Properties	IBG11-1	R1-IBG-12	R1-IBG-19	E
PUBLIC COMMENTS				
Jared Abe	PC-A1-1	R1-PC-A-1	R1-PC-A-22	E/D
Laine Acevez	PC-A2-1	R1-PC-A-1	R1-PC-A-22	E
Marline Acosta	PC-A3-1	R1-PC-A-2	R1-PC-A-23	E

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Craig Adams	PC-A4-1	R1-PC-A-3	R1-PC-A-23	E
	PC-A4-2	R1-PC-A-3	R1-PC-A-23	D
Jim Adams	PC-A5-1	R1-PC-A-3	R1-PC-A-23	E/D
Roberta S. Adler	PC-A6-1	R1-PC-A-3	R1-PC-A-24	D
	PC-A6-2	R1-PC-A-3	R1-PC-A-24	D
	PC-A6-3	R1-PC-A-3	R1-PC-A-24	D
	PC-A6-4	R1-PC-A-3	R1-PC-A-24	E/D
	PC-A6-5	R1-PC-A-3	R1-PC-A-24	E
Jose M. Aguila	PC-A7-1	R1-PC-A-4	R1-PC-A-25	E
Juan Aguilera	PC-A8-1	R1-PC-A-4	R1-PC-A-25	E
John Aguirre	PC-A9-1	R1-PC-A-5	R1-PC-A-25	E
Peggy Allard	PC-A10-1	R1-PC-A-5	R1-PC-A-25	E/D
Milton Allione	PC-A11-1	R1-PC-A-6	R1-PC-A-26	E
John Almanza	PC-A12-1	R1-PC-A-6	R1-PC-A-26	E
Jack Alvarado	PC-A13-1	R1-PC-A-7	R1-PC-A-26	E
Ricardo Alvarado	PC-A14-1	R1-PC-A-7	R1-PC-A-26	E
Raul Alvarez	PC-A15-1	R1-PC-A-8	R1-PC-A-27	E
Luis Ambrosio	PC-A16-1	R1-PC-A-8	R1-PC-A-27	E
Amy	PC-A17-1	R1-PC-A-9	R1-PC-A-27	D
	PC-A17-2	R1-PC-A-9	R1-PC-A-27	T
	PC-A17-3	R1-PC-A-9	R1-PC-A-27	D
	PC-A17-4	R1-PC-A-9	R1-PC-A-27	E/A
	PC-A17-5	R1-PC-A-9	R1-PC-A-28	D
	PC-A17-6	R1-PC-A-9	R1-PC-A-28	T
	PC-A17-7	R1-PC-A-9	R1-PC-A-28	D
	PC-A17-8	R1-PC-A-9	R1-PC-A-28	E/R
	PC-A17-9	R1-PC-A-9	R1-PC-A-28	D/R
	PC-A17-10	R1-PC-A-9	R1-PC-A-29	D
	PC-A17-11	R1-PC-A-9	R1-PC-A-29	T
	PC-A17-12	R1-PC-A-9	R1-PC-A-29	E/R
Lin Anderson	PC-A18-1	R1-PC-A-10	R1-PC-A-29	D
Ray Angon	PC-A19-1	R1-PC-A-10	R1-PC-A-30	E
Erwin Anisman	PC-A20-1	R1-PC-A-11	R1-PC-A-30	D
Mike Antonacci	PC-A21-1	R1-PC-A-11	R1-PC-A-30	E
George Aplin	PC-A22-1	R1-PC-A-12	R1-PC-A-30	E

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Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Joan Archibald	PC-A23-1	R1-PC-A-12	R1-PC-A-30	E
Antonio Arellano	PC-A24-1	R1-PC-A-13	R1-PC-A-31	E
Jose G. Arellano	PC-A25-1	R1-PC-A-13	R1-PC-A-31	E
Joe Arias	PC-A26-1	R1-PC-A-14	R1-PC-A-31	E
Kenneth Arnold	PC-A27-1	R1-PC-A-15	R1-PC-A-32	E
Joe Arsenian	PC-A28-1	R1-PC-A-15	R1-PC-A-32	E
Katie Arthur and Herb Netal	PC-A29-1	R1-PC-A-16	R1-PC-A-32	E/D
Katie Arthur, Herb Netal, Alex Arthur, Colin Netal, and Lucas Netal	PC-A30-1	R1-PC-A-16	R1-PC-A-32	E/D
Robert Arzate	PC-A31-1	R1-PC-A-16	R1-PC-A-33	E
Valeria Ascensio	PC-A32-1	R1-PC-A-17	R1-PC-A-33	E
Ruthie Ashton	PC-A33-1	R1-PC-A-17	R1-PC-A-33	E
Jim Atkinson	PC-A34-1	R1-PC-A-17	R1-PC-A-33	T
	PC-A34-2	R1-PC-A-17	R1-PC-A-34	T
Jim Atkinson	PC-A35-1	R1-PC-A-18	R1-PC-A-34	T
	PC-A35-2	R1-PC-A-18	R1-PC-A-34	E/D
	PC-A35-3	R1-PC-A-18	R1-PC-A-34	T
Larry Aube	PC-A36-1	R1-PC-A-18	R1-PC-A-35	E
Juan C. Aule	PC-A37-1	R1-PC-A-18	R1-PC-A-35	E
Beth M. Auzmus	PC-A38-1	R1-PC-A-19	R1-PC-A-35	E
	PC-A38-2	R1-PC-A-19	R1-PC-A-35	T
	PC-A38-3	R1-PC-A-19	R1-PC-A-35	D
	PC-A38-4	R1-PC-A-19	R1-PC-A-36	A
	PC-A38-5	R1-PC-A-19	R1-PC-A-36	E
Clemente Avila Jr.	PC-A39-1	R1-PC-A-20	R1-PC-A-36	E
Tony S. Ayala	PC-A40-1	R1-PC-A-20	R1-PC-A-36	E
Alp Ayolin	PC-A41-1	R1-PC-A-21	R1-PC-A-36	E
Emad Aziz	PC-A42-1	R1-PC-A-21	R1-PC-A-36	E
John O. Bailey	PC-B1-1	R1-PC-B-1	R1-PC-B-25	T
	PC-B1-2	R1-PC-B-1	R1-PC-B-25	T
	PC-B1-3	R1-PC-B-1	R1-PC-B-25	D
	PC-B1-4	R1-PC-B-1	R1-PC-B-25	T
	PC-B1-5	R1-PC-B-1	R1-PC-B-26	T
Michael E. Bailey	PC-B2-1	R1-PC-B-2	R1-PC-B-26	D
	PC-B2-2	R1-PC-B-2	R1-PC-B-26	T

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	PC-B2-3	R1-PC-B-2	R1-PC-B-26	T
Michael E. Bailey	PC-B3-1	R1-PC-B-2	R1-PC-B-27	E
David Balas	PC-B4-1	R1-PC-B-3	R1-PC-B-27	E
Davy Banales	PC-B5-1	R1-PC-B-3	R1-PC-B-27	E
Dr. Michael Bantel	PC-B6-1	R1-PC-B-4	R1-PC-B-27	E/A/N
	PC-B6-2	R1-PC-B-4	R1-PC-B-28	E
Chuck and Barbara Barone	PC-B7-1	R1-PC-B-4	R1-PC-B-28	E
Tony Barra	PC-B8-1	R1-PC-B-5	R1-PC-B-29	E
Marcelo Barragan	PC-B9-1	R1-PC-B-5	R1-PC-B-29	E
Miguel Barragan	PC-B10-1	R1-PC-B-6	R1-PC-B-29	E
Edgar Barrera	PC-B11-1	R1-PC-B-7	R1-PC-B-30	E
Victor M. Barrera	PC-B12-1	R1-PC-B-8	R1-PC-B-30	E
Jaime Barton	PC-B13-1	R1-PC-B-9	R1-PC-B-30	E
Julian Bautista	PC-B14-1	R1-PC-B-9	R1-PC-B-31	E
Robert Beachler	PC-B15-1	R1-PC-B-10	R1-PC-B-31	E
Seth Beasley	PC-B16-1	R1-PC-B-10	R1-PC-B-31	E
Vaughn Becht	PC-B17-1	R1-PC-B-11	R1-PC-B-31	E
Vaughn Becht*	PC-B18-1	R1-PC-B-11	R1-PC-B-32	E
Jorge Benedez	PC-B19-1	R1-PC-B-11	R1-PC-B-32	E
George Berg	PC-B20-1	R1-PC-B-12	R1-PC-B-32	A/V/N/ T
Lynne Bianco	PC-B21-1	R1-PC-B-12	R1-PC-B-34	E/T
	PC-B21-2	R1-PC-B-12	R1-PC-B-34	E/D/T
Harold Biggerstaff	PC-B22-1	R1-PC-B-13	R1-PC-B-34	T
	PC-B22-2	R1-PC-B-13	R1-PC-B-34	T
	PC-B22-3	R1-PC-B-13	R1-PC-B-34	T
	PC-B22-4	R1-PC-B-13	R1-PC-B-35	D/R
Patricia Biggerstaff	PC-B23-1	R1-PC-B-13	R1-PC-B-35	D
	PC-B23-2	R1-PC-B-13	R1-PC-B-35	D
	PC-B23-3	R1-PC-B-13	R1-PC-B-35	E/T/D
	PC-B23-4	R1-PC-B-13	R1-PC-B-35	T
	PC-B23-5	R1-PC-B-13	R1-PC-B-35	T
Barbara Biggs	PC-B24-1	R1-PC-B-14	R1-PC-B-35	T
	PC-B24-2	R1-PC-B-14	R1-PC-B-36	T
	PC-B24-3	R1-PC-B-14	R1-PC-B-36	T

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	PC-B24-4	R1-PC-B-14	R1-PC-B-36	E/T
	PC-B24-5	R1-PC-B-14	R1-PC-B-36	N
	PC-B24-6	R1-PC-B-14	R1-PC-B-36	T
Carol Bills	PC-B25-1	R1-PC-B-14	R1-PC-B-37	E
	PC-B25-2	R1-PC-B-14	R1-PC-B-37	T
	PC-B25-3	R1-PC-B-14	R1-PC-B-37	N
	PC-B25-4	R1-PC-B-14	R1-PC-B-38	N
Carol Bills	PC-B26-1	R1-PC-B-15	R1-PC-B-38	T
Larry Black	PC-B27-1	R1-PC-B-16	R1-PC-B-38	T
	PC-B27-2	R1-PC-B-16	R1-PC-B-38	T
	PC-B27-3	R1-PC-B-16	R1-PC-B-39	T
	PC-B27-4	R1-PC-B-16	R1-PC-B-39	T
	PC-B27-5	R1-PC-B-16	R1-PC-B-39	T
	PC-B27-6	R1-PC-B-16	R1-PC-B-39	T
	PC-B27-7	R1-PC-B-16	R1-PC-B-39	E/R
	PC-B27-8	R1-PC-B-16	R1-PC-B-39	T
Jeff Blanton	PC-B28-1	R1-PC-B-17	R1-PC-B-39	E
Joyce Bloom	PC-B29-1	R1-PC-B-17	R1-PC-B-40	D
Ryan Blossey	PC-B30-1	R1-PC-B-17	R1-PC-B-40	E
	PC-B30-2	R1-PC-B-17	R1-PC-B-40	D
	PC-B30-3	R1-PC-B-17	R1-PC-B-40	T
Jane Bongiorno	PC-B31-1	R1-PC-B-18	R1-PC-B-41	E
Carolyn Borg	PC-B32-1	R1-PC-B-18	R1-PC-B-41	D
Andrew Born	PC-B33-1	R1-PC-B-19	R1-PC-B-42	E
	PC-B33-2	R1-PC-B-19	R1-PC-B-42	T
	PC-B33-3	R1-PC-B-19	R1-PC-B-42	T
Barney Brady	PC-B34-1	R1-PC-B-19	R1-PC-B-42	D
Karen D. Branton	PC-B35-1	R1-PC-B-19	R1-PC-B-42	E
Michelle Briggs*	PC-B36-1	R1-PC-B-19	R1-PC-B-43	E
Lisa Broder	PC-B37-1	R1-PC-B-20	R1-PC-B-43	E
Ron Broder	PC-B38-1	R1-PC-B-20	R1-PC-B-43	E
	PC-B38-2	R1-PC-B-20	R1-PC-B-44	A
	PC-B38-3	R1-PC-B-20	R1-PC-B-44	T
Bob Bromen	PC-B39-1	R1-PC-B-20	R1-PC-B-44	D/N
	PC-B39-2	R1-PC-B-20	R1-PC-B-45	D/N

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Susana Brommers*	PC-B40-1	R1-PC-B-20	R1-PC-B-45	E/T
Ronald E. Brown	PC-B41-1	R1-PC-B-21	R1-PC-B-45	E
Michael Buhbe	PC-B42-1	R1-PC-B-21	R1-PC-B-46	D/N
Keith Burgoyne	PC-B43-1	R1-PC-B-22	R1-PC-B-46	T
	PC-B43-2	R1-PC-B-22	R1-PC-B-46	T
	PC-B43-3	R1-PC-B-22	R1-PC-B-46	T
Carol Burke	PC-B44-1	R1-PC-B-22	R1-PC-B-46	E
Michael J. Burton	PC-B45-1	R1-PC-B-23	R1-PC-B-47	D
	PC-B45-2	R1-PC-B-23	R1-PC-B-47	T
	PC-B45-3	R1-PC-B-23	R1-PC-B-47	T
Michael Burton	PC-B46-1	R1-PC-B-23	R1-PC-B-47	D
	PC-B46-2	R1-PC-B-23	R1-PC-B-48	T
William and Susan Butts	PC-B47-1	R1-PC-B-24	R1-PC-B-48	E/T
Sandra Cabello	PC-C1-1	R1-PC-C-1	R1-PC-C-32	E/T
	PC-C1-2	R1-PC-C-1	R1-PC-C-32	E
	PC-C1-3	R1-PC-C-1	R1-PC-C-32	D
Gerardo Calderon	PC-C2-1	R1-PC-C-1	R1-PC-C-32	E
Joe J. Calderon	PC-C3-1	R1-PC-C-2	R1-PC-C-33	E
Lynne Callahan	PC-C4-1	R1-PC-C-2	R1-PC-C-33	E
Guellermo A. Callo	PC-C5-1	R1-PC-C-3	R1-PC-C-33	E
Jim and Marge Cammack	PC-C6-1	R1-PC-C-3	R1-PC-C-33	E
Colleen Campbell	PC-C7-1	R1-PC-C-3	R1-PC-C-34	E/T
Colleen Campbell	PC-C8-1	R1-PC-C-4	R1-PC-C-34	E/T
Patricia E. Campbell	PC-C9-1	R1-PC-C-4	R1-PC-C-34	E
	PC-C9-2	R1-PC-C-4	R1-PC-C-34	D
	PC-C9-3	R1-PC-C-4	R1-PC-C-34	D
	PC-C9-4	R1-PC-C-5	R1-PC-C-34	E
	PC-C9-5	R1-PC-C-5	R1-PC-C-35	D
	PC-C9-6	R1-PC-C-5	R1-PC-C-35	D
	PC-C9-7	R1-PC-C-5	R1-PC-C-35	D
	PC-C9-8	R1-PC-C-5	R1-PC-C-35	T
	PC-C9-9	R1-PC-C-5	R1-PC-C-35	T
	PC-C9-10	R1-PC-C-5	R1-PC-C-35	T
	PC-C9-11	R1-PC-C-5	R1-PC-C-36	T
	PC-C9-12	R1-PC-C-5	R1-PC-C-36	T

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	PC-C9-13	R1-PC-C-6	R1-PC-C-36	E
	PC-C9-14	R1-PC-C-6	R1-PC-C-36	D
	PC-C9-15	R1-PC-C-6	R1-PC-C-37	E/T/D
Luther Candler	PC-C10-1	R1-PC-C-6	R1-PC-C-37	E
Linda Cannelli	PC-C11-1	R1-PC-C-7	R1-PC-C-37	E
	PC-C11-2	R1-PC-C-7	R1-PC-C-37	E/R
Brian Cannizzaro	PC-C12-1	R1-PC-C-7	R1-PC-C-38	E/D
	PC-C12-2	R1-PC-C-7	R1-PC-C-38	E/D
	PC-C12-3	R1-PC-C-7	R1-PC-C-38	E/D
Marianne Cannizzaro	PC-C13-1	R1-PC-C-8	R1-PC-C-39	E/D
	PC-C13-2	R1-PC-C-8	R1-PC-C-39	E/D
	PC-C13-3	R1-PC-C-8	R1-PC-C-39	E/D
Adrian Cantreras	PC-C14-1	R1-PC-C-8	R1-PC-C-39	E
Jose N. Cardenas	PC-C15-1	R1-PC-C-9	R1-PC-C-39	E
Luis Cardenas	PC-C16-1	R1-PC-C-10	R1-PC-C-40	E
Diana Carey	PC-C17-1	R1-PC-C-10	R1-PC-C-40	E
	PC-C17-2	R1-PC-C-10	R1-PC-C-40	E
	PC-C17-3	R1-PC-C-10	R1-PC-C-40	E
Penilla Carlos	PC-C18-1	R1-PC-C-11	R1-PC-C-40	E
Jim Carr	PC-C19-1	R1-PC-C-11	R1-PC-C-41	D
Manuel John Carrillo III	PC-C20-1	R1-PC-C-12	R1-PC-C-41	E
Gary Carson	PC-C21-1	R1-PC-C-12	R1-PC-C-41	N
Mr. Gilbert Carson and Mrs. Carol Carson	PC-C22-1	R1-PC-C-13	R1-PC-C-42	E
	PC-C22-2	R1-PC-C-13	R1-PC-C-42	E/N
	PC-C22-3	R1-PC-C-13	R1-PC-C-42	D/N
	PC-C22-4	R1-PC-C-13	R1-PC-C-42	T
	PC-C22-5	R1-PC-C-13	R1-PC-C-43	E/T/N
	PC-C22-6	R1-PC-C-13	R1-PC-C-43	D/N
	PC-C22-7	R1-PC-C-14	R1-PC-C-43	T
Henrietta Carter	PC-C23-1	R1-PC-C-14	R1-PC-C-43	A
	PC-C23-2	R1-PC-C-14	R1-PC-C-44	T
Marita Caruso	PC-C24-1	R1-PC-C-15	R1-PC-C-44	E
Richard Castaneda	PC-C25-1	R1-PC-C-16	R1-PC-C-44	E
Rafual M. Castillo	PC-C26-1	R1-PC-C-16	R1-PC-C-44	E
Carlos Catalan	PC-C27-1	R1-PC-C-17	R1-PC-C-45	E

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Andres J. Celestino	PC-C28-1	R1-PC-C-18	R1-PC-C-45	E
Andres Chagallan	PC-C29-1	R1-PC-C-18	R1-PC-C-45	E
Christine Chapel	PC-C30-1	R1-PC-C-19	R1-PC-C-45	E/T/D
Roberto Chavez	PC-C31-1	R1-PC-C-19	R1-PC-C-46	E
Rodolfo Chavez	PC-C32-1	R1-PC-C-20	R1-PC-C-46	E
Chris Cheek	PC-C33-1	R1-PC-C-21	R1-PC-C-46	E
Karole Chesser	PC-C34-1	R1-PC-C-21	R1-PC-C-46	E/D
Steven B. Chesser	PC-C35-1	R1-PC-C-22	R1-PC-C-47	E/D
	PC-C35-2	R1-PC-C-22	R1-PC-C-47	D
	PC-C35-3	R1-PC-C-22	R1-PC-C-47	D
	PC-C35-4	R1-PC-C-22	R1-PC-C-47	D
Donna Chinn	PC-C36-1	R1-PC-C-22	R1-PC-C-47	E
	PC-C36-2	R1-PC-C-22	R1-PC-C-48	E
	PC-C36-3	R1-PC-C-22	R1-PC-C-49	T
	PC-C36-4	R1-PC-C-22	R1-PC-C-49	D
	PC-C36-5	R1-PC-C-22	R1-PC-C-49	T
	PC-C36-6	R1-PC-C-22	R1-PC-C-49	E
	PC-C36-7	R1-PC-C-22	R1-PC-C-49	E
	PC-C36-8	R1-PC-C-22	R1-PC-C-49	E
Josie Christiansen	PC-C37-1	R1-PC-C-23	R1-PC-C-49	E/D/R
	PC-C37-2	R1-PC-C-23	R1-PC-C-50	E/D
	PC-C37-3	R1-PC-C-23	R1-PC-C-50	E
Shirley Chung	PC-C38-1	R1-PC-C-24	R1-PC-C-50	E
	PC-C38-2	R1-PC-C-24	R1-PC-C-51	A
B. Clark	PC-C39-1	R1-PC-C-24	R1-PC-C-51	E
	PC-C39-2	R1-PC-C-24	R1-PC-C-51	D
	PC-C39-3	R1-PC-C-24	R1-PC-C-51	D
	PC-C39-4	R1-PC-C-24	R1-PC-C-51	T
	PC-C39-5	R1-PC-C-24	R1-PC-C-51	T
	PC-C39-6	R1-PC-C-24	R1-PC-C-52	T
Kimberly Claytor	PC-C40-1	R1-PC-C-25	R1-PC-C-52	E/D
Laura Collier*	PC-C41-1	R1-PC-C-25	R1-PC-C-52	E/D
Ateliodoro L. Compos	PC-C42-1	R1-PC-C-26	R1-PC-C-52	E
Daniel J. Conley	PC-C43-1	R1-PC-C-26	R1-PC-C-53	E/D
Kenneth and Martha Coolidge	PC-C44-1	R1-PC-C-27	R1-PC-C-53	E/D/T

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Peter Coromelas	PC-C45-1	R1-PC-C-27	R1-PC-C-53	E/D
	PC-C45-2	R1-PC-C-27	R1-PC-C-54	T
David Cortes	PC-C46-1	R1-PC-C-28	R1-PC-C-54	E
Stephen V. Cortesy	PC-C47-1	R1-PC-C-28	R1-PC-C-54	E
Eduardo Covarrubias	PC-C48-1	R1-PC-C-29	R1-PC-C-55	E
Wallace Lee Cowdell, M.D.	PC-C49-1	R1-PC-C-29	R1-PC-C-55	E/D
Brian Cronin	PC-C50-1	R1-PC-C-30	R1-PC-C-55	E/D
	PC-C50-2	R1-PC-C-30	R1-PC-C-55	A
Richard Crowe	PC-C51-1	R1-PC-C-30	R1-PC-C-56	E/D/T
Jose Cruz-Soltero	PC-C52-1	R1-PC-C-31	R1-PC-C-56	E
Jason Cuevas	PC-C53-1	R1-PC-C-31	R1-PC-C-56	E
Samy Dang	PC-D1-1	R1-PC-D-1	R1-PC-D-12	E
Dick and Sue Davies	PC-D2-1	R1-PC-D-1	R1-PC-D-12	T
	PC-D2-2	R1-PC-D-1	R1-PC-D-12	T
	PC-D2-3	R1-PC-D-2	R1-PC-D-12	A
Scott J. Davis	PC-D3-1	R1-PC-D-2	R1-PC-D-13	D
Paul Dean	PC-D4-1	R1-PC-D-3	R1-PC-D-13	E
Steve Dees	PC-D5-1	R1-PC-D-3	R1-PC-D-13	E
Diane Delaterre	PC-D6-1	R1-PC-D-3	R1-PC-D-13	E
	PC-D6-2	R1-PC-D-3	R1-PC-D-14	D
	PC-D6-3	R1-PC-D-3	R1-PC-D-14	E
Debi DelMonico	PC-D7-1	R1-PC-D-4	R1-PC-D-15	D
Steve Demmon	PC-D8-1	R1-PC-D-4	R1-PC-D-15	E
Debbie Depin	PC-D9-1	R1-PC-D-5	R1-PC-D-15	E
Chris DeRose	PC-D10-1	R1-PC-D-5	R1-PC-D-15	E
Shelley DeRose	PC-D11-1	R1-PC-D-5	R1-PC-D-16	E
Lou DeSandro	PC-D12-1	R1-PC-D-5	R1-PC-D-16	E
Martha Destra	PC-D13-1	R1-PC-D-6	R1-PC-D-16	T
	PC-D13-2	R1-PC-D-6	R1-PC-D-17	T
Helio Diaz	PC-D14-1	R1-PC-D-7	R1-PC-D-17	E
Jarred Diaz	PC-D15-1	R1-PC-D-7	R1-PC-D-17	E
Jeff Diaz	PC-D16-1	R1-PC-D-8	R1-PC-D-17	E
Robert Dickson	PC-D17-1	R1-PC-D-8	R1-PC-D-18	E/T
	PC-D17-2	R1-PC-D-8	R1-PC-D-18	E
Andrew Dominguez	PC-D18-1	R1-PC-D-9	R1-PC-D-18	E

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Patrick Dore	PC-D19-1	R1-PC-D-9	R1-PC-D-18	E/T
Amy Dozier	PC-D20-1	R1-PC-D-9	R1-PC-D-19	T
Laura O. Doyle	PC-D21-1	R1-PC-D-10	R1-PC-D-19	E
	PC-D21-2	R1-PC-D-10	R1-PC-D-19	E/R
Alan P. Dubin	PC-D22-1	R1-PC-D-10	R1-PC-D-20	E
	PC-D22-2	R1-PC-D-10	R1-PC-D-20	T
	PC-D22-3	R1-PC-D-10	R1-PC-D-20	T
	PC-D22-4	R1-PC-D-10	R1-PC-D-20	D
Judith Duffy	PC-D23-1	R1-PC-D-11	R1-PC-D-20	E
Oliver Early	PC-E1-1	R1-PC-E-1	R1-PC-E-11	E
J.N. Ebner	PC-E2-1	R1-PC-E-1	R1-PC-E-11	E
Eric Elliott	PC-E3-1	R1-PC-E-1	R1-PC-E-11	E
	PC-E3-2	R1-PC-E-1	R1-PC-E-12	E
	PC-E3-3	R1-PC-E-1	R1-PC-E-12	E
	PC-E3-4	R1-PC-E-1	R1-PC-E-12	E
Jose A. Enriquez	PC-E4-1	R1-PC-E-2	R1-PC-E-12	E
Ron Epperson	PC-E5-1	R1-PC-E-2	R1-PC-E-12	N
	PC-E5-2	R1-PC-E-2	R1-PC-E-13	N
Angie Epstein	PC-E6-1	R1-PC-E-6	R1-PC-E-13	A
	PC-E6-2	R1-PC-E-6	R1-PC-E-13	E/A/N/T
	PC-E6-3	R1-PC-E-6	R1-PC-E-13	T
Betty and William Erickson	PC-E7-1	R1-PC-E-7	R1-PC-E-14	E
Ernest Escareno	PC-E8-1	R1-PC-E-7	R1-PC-E-14	E
Raymond and Patricia Erperti	PC-E9-1	R1-PC-E-8	R1-PC-E-14	E
	PC-E9-2	R1-PC-E-8	R1-PC-E-14	D
	PC-E9-3	R1-PC-E-8	R1-PC-E-15	D
	PC-E9-4	R1-PC-E-8	R1-PC-E-15	E
Jose Pager Beranca Espino	PC-E10-1	R1-PC-E-8	R1-PC-E-15	E
Austin Etchegoyen	PC-E11-1	R1-PC-E-9	R1-PC-E-15	E
Darrell Evans	PC-E12-1	R1-PC-E-10	R1-PC-E-16	E
	PC-E12-2	R1-PC-E-10	R1-PC-E-16	D
	PC-E12-3	R1-PC-E-10	R1-PC-E-16	D
	PC-E12-4	R1-PC-E-10	R1-PC-E-16	T
	PC-E12-5	R1-PC-E-10	R1-PC-E-16	E
Desiree Faase	PC-F1-1	R1-PC-F-1	R1-PC-F-25	D

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Desiree Faase	PC-F2-1	R1-PC-F-1	R1-PC-F-25	D
Carlos P. Falcon	PC-F3-1	R1-PC-F-2	R1-PC-F-25	E
Eduardo Farias	PC-F4-1	R1-PC-F-2	R1-PC-F-26	E
Lorna Farnum	PC-F5-1	R1-PC-F-3	R1-PC-F-26	E/R
John and Wilma “Ernie” Feeney	PC-F6-1	R1-PC-F-3	R1-PC-F-26	E/D
	PC-F6-2	R1-PC-F-3	R1-PC-F-26	N
	PC-F6-3	R1-PC-F-3	R1-PC-F-27	T
John Feeney	PC-F7-1	R1-PC-F-4	R1-PC-F-27	E/D/T
Wilma E. Feeney	PC-F8-1	R1-PC-F-4	R1-PC-F-27	E
David Feldman	PC-F9-1	R1-PC-F-5	R1-PC-F-27	E/D
Gilbert B. Felix	PC-F10-1	R1-PC-F-5	R1-PC-F-28	E
Frank W. Fernandez	PC-F11-1	R1-PC-F-6	R1-PC-F-28	E
Liam Ferris	PC-F12-1	R1-PC-F-6	R1-PC-F-28	E
Liam Ferris	PC-F13-1	R1-PC-F-6	R1-PC-F-29	N
Louise Fiduccia	PC-F14-1	R1-PC-F-7	R1-PC-F-29	E/D/T/R
Louise Fiduccia	PC-F15-1	R1-PC-F-7	R1-PC-F-29	E/D/T
Roger Fierce	PC-F16-1	R1-PC-F-7	R1-PC-F-30	E
	PC-F16-2	R1-PC-F-7	R1-PC-F-30	T
	PC-F16-3	R1-PC-F-7	R1-PC-F-30	E
	PC-F16-4	R1-PC-F-7	R1-PC-F-30	D
	PC-F16-5	R1-PC-F-7	R1-PC-F-31	D
Dean Fife	PC-F17-1	R1-PC-F-8	R1-PC-F-31	D
	PC-F17-2	R1-PC-F-8	R1-PC-F-31	A
	PC-F17-3	R1-PC-F-8	R1-PC-F-31	E
	PC-F17-4	R1-PC-F-8	R1-PC-F-31	D
Matt Filler	PC-F18-1	R1-PC-F-8	R1-PC-F-32	T
Matthew Filler	PC-F19-1	R1-PC-F-8	R1-PC-F-32	T
	PC-F19-2	R1-PC-F-8	R1-PC-F-32	V
	PC-F19-3	R1-PC-F-8	R1-PC-F-32	T
	PC-F19-4	R1-PC-F-8	R1-PC-F-33	E
Matthew Filler	PC-F20-1	R1-PC-F-9	R1-PC-F-33	E
	PC-F20-2	R1-PC-F-9	R1-PC-F-33	T
	PC-F20-3	R1-PC-F-9	R1-PC-F-33	T
	PC-F20-4	R1-PC-F-9	R1-PC-F-33	T
Matthew Filler	PC-F21-1	R1-PC-F-9	R1-PC-F-33	T

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Matthew Filler	PC-F22-1	R1-PC-F-10	R1-PC-F-34	N
	PC-F22-2	R1-PC-F-10	R1-PC-F-34	N
	PC-F22-3	R1-PC-F-10	R1-PC-F-34	N
	PC-F22-4	R1-PC-F-10	R1-PC-F-34	N
	PC-F22-5	R1-PC-F-10	R1-PC-F-35	N
	PC-F22-6	R1-PC-F-10	R1-PC-F-35	N
	PC-F22-7	R1-PC-F-10	R1-PC-F-35	N
	PC-F22-8	R1-PC-F-10	R1-PC-F-35	N
Matthew Filler	PC-F23-1	R1-PC-F-11	R1-PC-F-36	T/V
	PC-F23-2	R1-PC-F-11	R1-PC-F-36	T/V/T/E
	PC-F23-3	R1-PC-F-11	R1-PC-F-36	T
	PC-F23-4	R1-PC-F-11	R1-PC-F-36	T/N
	PC-F23-5	R1-PC-F-12	R1-PC-F-36	N
	PC-F23-6	R1-PC-F-12	R1-PC-F-36	N
	PC-F23-7	R1-PC-F-12	R1-PC-F-36	E
Dr. Thomas Fitzgerald, P.E.	PC-F24-1	R1-PC-F-12	R1-PC-F-37	E
Steve and Jacqueline Fitzpatrick	PC-F25-1	R1-PC-F-13	R1-PC-F-37	D/E
	PC-F25-2	R1-PC-F-13	R1-PC-F-37	T
	PC-F25-3	R1-PC-F-13	R1-PC-F-37	T
James Flanagan	PC-F26-1	R1-PC-F-13	R1-PC-F-38	D
Sylvia Flood	PC-F27-1	R1-PC-F-14	R1-PC-F-38	D/E
Daniel Flores	PC-F28-1	R1-PC-F-14	R1-PC-F-38	E
Elias Flores	PC-F29-1	R1-PC-F-15	R1-PC-F-39	E
Eric Flores	PC-F30-1	R1-PC-F-15	R1-PC-F-39	E
Roberto Flores	PC-F31-1	R1-PC-F-16	R1-PC-F-39	E
Christopher Fonseca	PC-F32-1	R1-PC-F-16	R1-PC-F-39	E/T
Edward H. Foster	PC-F33-1	R1-PC-F-17	R1-PC-F-39	E
Glenn Frank	PC-F34-1	R1-PC-F-17	R1-PC-F-40	E
Charlene Franke	PC-F35-1	R1-PC-F-17	R1-PC-F-40	E
Richard and Charlene Franke	PC-F36-1	R1-PC-F-18	R1-PC-F-40	E/D
	PC-F36-2	R1-PC-F-18	R1-PC-F-40	T
Richard and Charlene Franke	PC-F37-1	R1-PC-F-18	R1-PC-F-41	E/T
Pamela Frankel	PC-F38-1	R1-PC-F-18	R1-PC-F-41	D/E/T
Olga G. Franklin	PC-F39-1	R1-PC-F-19	R1-PC-F-41	E/A/D
	PC-F39-2	R1-PC-F-19	R1-PC-F-42	T

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	PC-F39-3	R1-PC-F-19	R1-PC-F-42	T/R
	PC-F39-4	R1-PC-F-19	R1-PC-F-43	E/R
Marco Frausto	PC-F40-1	R1-PC-F-19	R1-PC-F-43	E
Richard T. Freeman	PC-F41-1	R1-PC-F-20	R1-PC-F-43	E/D
	PC-F41-2	R1-PC-F-20	R1-PC-F-43	E
	PC-F41-3	R1-PC-F-20	R1-PC-F-43	E
	PC-F41-4	R1-PC-F-20	R1-PC-F-43	D
	PC-F41-5	R1-PC-F-20	R1-PC-F-44	D
	PC-F41-6	R1-PC-F-20	R1-PC-F-44	E
	PC-F41-7	R1-PC-F-20	R1-PC-F-44	T
	PC-F41-8	R1-PC-F-20	R1-PC-F-44	A
	PC-F41-9	R1-PC-F-20	R1-PC-F-44	A
	PC-F41-10	R1-PC-F-20	R1-PC-F-44	D/T
	PC-F41-11	R1-PC-F-20	R1-PC-F-45	T
	PC-F41-12	R1-PC-F-20	R1-PC-F-45	T/R
	PC-F41-13	R1-PC-F-21	R1-PC-F-45	D
	PC-F41-14	R1-PC-F-21	R1-PC-F-45	T
	PC-F41-15	R1-PC-F-21	R1-PC-F-45	E/T
Steve French	PC-F42-1	R1-PC-F-22	R1-PC-F-46	E/D
Rosemary Frenkiel	PC-F43-1	R1-PC-F-22	R1-PC-F-46	E/D/T/R
	PC-F43-2	R1-PC-F-22	R1-PC-F-46	E/D/T
Theresa Fresenius	PC-F44-1	R1-PC-F-22	R1-PC-F-46	E/D
	PC-F44-2	R1-PC-F-22	R1-PC-F-46	A
	PC-F44-3	R1-PC-F-22	R1-PC-F-47	N
	PC-F44-4	R1-PC-F-22	R1-PC-F-47	T
	PC-F44-5	R1-PC-F-22	R1-PC-F-47	D
Jeannette Friedland	PC-F45-1	R1-PC-F-23	R1-PC-F-47	E
Dennis Friedrich	PC-F46-1	R1-PC-F-23	R1-PC-F-47	E/D
	PC-F46-2	R1-PC-F-23	R1-PC-F-47	E/D
Janet Friedrich	PC-F47-1	R1-PC-F-23	R1-PC-F-48	E/D
Gilbert Friese	PC-F48-1	R1-PC-F-23	R1-PC-F-48	E/D/T
Fred and Midori Fujikawa	PC-49-1	R1-PC-F-24	R1-PC-F-48	D/E
	PC-49-2	R1-PC-F-24	R1-PC-F-48	T
	PC-49-3	R1-PC-F-24	R1-PC-F-49	D
	PC-49-4	R1-PC-F-24	R1-PC-F-49	D/E

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H – Hazardous Waste/Materials | T – Traffic | A – Air Quality | V – Visual

Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Barbara Gal	PC-G1-1	R1-PC-G-1	R1-PC-G-38	T
	PC-G1-2	R1-PC-G-1	R1-PC-G-38	N
	PC-G1-3	R1-PC-G-1	R1-PC-G-38	E
Jerry Galbreath	PC-G2-1	R1-PC-G-1	R1-PC-G-38	E
Sergio Galieia	PC-G3-1	R1-PC-G-1	R1-PC-G-39	E
Antonio Gambay	PC-G4-1	R1-PC-G-2	R1-PC-G-39	E
Alex Gamboa	PC-G5-1	R1-PC-G-3	R1-PC-G-39	E
Domingo Garcia	PC-G6-1	R1-PC-G-3	R1-PC-G-40	E
Fred Garcia	PC-G7-1	R1-PC-G-4	R1-PC-G-40	E
Garilyn Garcia-Orta	PC-G8-1	R1-PC-G-4	R1-PC-G-40	E
Pablo Garcia	PC-G9-1	R1-PC-G-5	R1-PC-G-40	E
Ramiro Garcia	PC-G10-1	R1-PC-G-6	R1-PC-G-40	E
Adam Garafalo	PC-G11-1	R1-PC-G-6	R1-PC-G-41	E
Miguel Gastelum	PC-G12-1	R1-PC-G-7	R1-PC-G-41	E
Sergio A. Gaxiola	PC-G13-1	R1-PC-G-7	R1-PC-G-41	E
Mary Lou Garcia	PC-G14-1	R1-PC-G-8	R1-PC-G-41	D
Bill Gekler	PC-G15-1	R1-PC-G-8	R1-PC-G-42	T
	PC-G15-2	R1-PC-G-8	R1-PC-G-42	T
Bill Gekler*	PC-G16-1	R1-PC-G-8	R1-PC-G-42	E
	PC-G16-2	R1-PC-G-8	R1-PC-G-42	T
	PC-G16-3	R1-PC-G-8	R1-PC-G-42	T
	PC-G16-4	R1-PC-G-8	R1-PC-G-43	D
Sandra Genis	PC-G17-1	R1-PC-G-11	R1-PC-G-43	E
	PC-G17-2	R1-PC-G-11	R1-PC-G-43	E
	PC-G17-3	R1-PC-G-11	R1-PC-G-43	E
	PC-G17-4	R1-PC-G-11	R1-PC-G-44	E/R
	PC-G17-5	R1-PC-G-11	R1-PC-G-45	N
	PC-G17-6	R1-PC-G-11	R1-PC-G-45	N
	PC-G17-7	R1-PC-G-12	R1-PC-G-46	N
	PC-G17-8	R1-PC-G-12	R1-PC-G-46	V
	PC-G17-9	R1-PC-G-12	R1-PC-G-47	E
	PC-G17-10	R1-PC-G-12	R1-PC-G-48	E
	PC-G17-11	R1-PC-G-12	R1-PC-G-48	E
Thomas Gibbons	PC-G18-1	R1-PC-G-13	R1-PC-G-48	D
Gloria	PC-G19-1	R1-PC-G-13	R1-PC-G-49	D

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Nathanael Gleason	PC-G20-1	R1-PC-G-14	R1-PC-G-49	E
Frank Godino, D.M.D.	PC-G21-1	R1-PC-G-14	R1-PC-G-49	E
Mark Gole	PC-G22-1	R1-PC-G-15	R1-PC-G-49	D
Simon M. Gomez, Sr.	PC-G23-1	R1-PC-G-15	R1-PC-G-50	E
George Gonzales	PC-G24-1	R1-PC-G-16	R1-PC-G-50	E
Jose G. Gonzales	PC-G25-1	R1-PC-G-16	R1-PC-G-50	E
Bernabe Gonzalez	PC-G26-1	R1-PC-G-17	R1-PC-G-50	E
Eduardo Gonzalez	PC-G27-1	R1-PC-G-17	R1-PC-G-50	E
Jimmy Gonzalez	PC-G28-1	R1-PC-G-18	R1-PC-G-51	E
Juan Gonzalez	PC-G29-1	R1-PC-G-18	R1-PC-G-51	E
Octavio Gonzalez	PC-G30-1	R1-PC-G-19	R1-PC-G-51	E
Robert Gonzalez	PC-G31-1	R1-PC-G-20	R1-PC-G-52	E
Jaime Gorcoa	PC-G32-1	R1-PC-G-20	R1-PC-G-52	E
Harvey and Francine Goodman	PC-G33-1	R1-PC-G-21	R1-PC-G-52	D
	PC-G33-2	R1-PC-G-21	R1-PC-G-53	E
	PC-G33-3	R1-PC-G-21	R1-PC-G-53	A
	PC-G33-4	R1-PC-G-22	R1-PC-G-53	E
	PC-G33-5	R1-PC-G-22	R1-PC-G-54	E
	PC-G33-6	R1-PC-G-22	R1-PC-G-54	V
	PC-G33-7	R1-PC-G-22	R1-PC-G-54	E
Harvey and Francine Goodman	PC-G34-1	R1-PC-G-23	R1-PC-G-55	E
	PC-G34-2	R1-PC-G-23	R1-PC-G-55	D
	PC-G34-3	R1-PC-G-23	R1-PC-G-55	T
	PC-G34-4	R1-PC-G-23	R1-PC-G-56	E
Patricia Goodman	PC-G35-1	R1-PC-G-23	R1-PC-G-56	E
Mary Goulamanian	PC-G36-1	R1-PC-G-24	R1-PC-G-56	E
John Graham	PC-G37-1	R1-PC-G-24	R1-PC-G-56	D
Tom Graham	PC-G38-1	R1-PC-G-25	R1-PC-G-57	T
	PC-G38-2	R1-PC-G-25	R1-PC-G-57	T
	PC-G38-3	R1-PC-G-25	R1-PC-G-58	T
Ralph Jay Grajedo	PC-G39-1	R1-PC-G-25	R1-PC-G-58	E
L. Green	PC-G40-1	R1-PC-G-26	R1-PC-G-58	D
Irwin Greenfield	PC-G41-1	R1-PC-G-26	R1-PC-G-58	E
Laurence Greenfield	PC-G42-1	R1-PC-G-27	R1-PC-G-59	E
Bert Grunseth	PC-G43-1	R1-PC-G-27	R1-PC-G-59	E

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Guardi	PC-G44-1	R1-PC-G-28	R1-PC-G-59	E
Arturo Guillen	PC-G45-1	R1-PC-G-28	R1-PC-G-59	E
Gonzalo Guillen	PC-G46-1	R1-PC-G-29	R1-PC-G-60	E
Gonzalo R. Guillen	PC-G47-1	R1-PC-G-30	R1-PC-G-60	E
Jose Guillen	PC-G48-1	R1-PC-G-31	R1-PC-G-61	E
Jose G. Guillen	PC-G49-1	R1-PC-G-32	R1-PC-G-61	E
Miguel L. Guillen	PC-G50-1	R1-PC-G-33	R1-PC-G-61	E
Felix and Lillian Guo and Family	PC-G51-1	R1-PC-G-33	R1-PC-G-62	T
	PC-G51-2	R1-PC-G-33	R1-PC-G-62	T
	PC-G51-3	R1-PC-G-33	R1-PC-G-62	E
Adalinda Gutierrez	PC-G52-1	R1-PC-G-34	R1-PC-G-62	D
Adalinda Gutierrez	PC-G53-1	R1-PC-G-34	R1-PC-G-62	E
Adalinda Gutierrez	PC-G54-1	R1-PC-G-34	R1-PC-G-63	E/D
Adalinda Gutierrez	PC-G55-1	R1-PC-G-34	R1-PC-G-63	E/R
Adalinda Gutierrez	PC-G56-1	R1-PC-G-34	R1-PC-G-63	E/D
Adalinda Gutierrez	PC-G57-1	R1-PC-G-34	R1-PC-G-63	E/T
Adalinda Gutierrez	PC-G58-1	R1-PC-G-35	R1-PC-G-64	D
Adalinda Gutierrez	PC-G59-1	R1-PC-G-35	R1-PC-G-64	D
Lisa Gutierrez	PC-G60-1	R1-PC-G-35	R1-PC-G-64	D
Rosemary Gutierrez	PC-G61-1	R1-PC-G-35	R1-PC-G-64	E
Beth M. Guzman	PC-G62-1	R1-PC-G-36	R1-PC-G-65	E
	PC-G62-2	R1-PC-G-36	R1-PC-G-65	D
	PC-G62-3	R1-PC-G-36	R1-PC-G-65	E
	PC-G62-4	R1-PC-G-36	R1-PC-G-65	T
Paul Guzman	PC-G63-1	R1-PC-G-37	R1-PC-G-65	E
Donald H. Haddock	PC-H1-1	R1-PC-H-1	R1-PC-H-27	E/D
	PC-H1-2	R1-PC-H-1	R1-PC-H-27	E
Donald H. Haddock	PC-H2-1	R1-PC-H-1	R1-PC-H-27	E/D
Patrick Halbert	PC-H3-1	R1-PC-H-2	R1-PC-H-27	N/D
	PC-H3-2	R1-PC-H-2	R1-PC-H-28	D
	PC-H3-3	R1-PC-H-2	R1-PC-H-28	E/D
	PC-H3-4	R1-PC-H-2	R1-PC-H-28	E
Ruth G. Hallett	PC-H4-1	R1-PC-H-2	R1-PC-H-28	D
	PC-H4-2	R1-PC-H-2	R1-PC-H-29	D
	PC-H4-3	R1-PC-H-2	R1-PC-H-29	E

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Michelle Halligan	PC-H5-1	R1-PC-H-3	R1-PC-H-29	E
	PC-H5-2	R1-PC-H-3	R1-PC-H-29	E
Dan Happoldt	PC-H6-1	R1-PC-H-3	R1-PC-H-30	N
	PC-H6-2	R1-PC-H-3	R1-PC-H-31	T
Claudia Harden	PC-H7-1	R1-PC-H-4	R1-PC-H-31	N/D
	PC-H7-2	R1-PC-H-4	R1-PC-H-31	E/D
	PC-H7-3	R1-PC-H-4	R1-PC-H-31	E/D
	PC-H7-4	R1-PC-H-4	R1-PC-H-32	E/D
Betts Harley	PC-H8-1	R1-PC-H-4	R1-PC-H-32	E/D/T
Lloyd Haring	PC-H9-1	R1-PC-H-4	R1-PC-H-32	E
Rebecca Haring	PC-H10-1	R1-PC-H-5	R1-PC-H-32	E
Nick Harris	PC-H11-1	R1-PC-H-5	R1-PC-H-33	D
Richard Harrison	PC-H12-1	R1-PC-H-6	R1-PC-H-33	E
Reem Hashem	PC-H13-1	R1-PC-H-6	R1-PC-H-33	E
	PC-H13-2	R1-PC-H-6	R1-PC-H-33	E
	PC-H13-3	R1-PC-H-6	R1-PC-H-34	E
	PC-H13-4	R1-PC-H-6	R1-PC-H-34	E
	PC-H13-5	R1-PC-H-6	R1-PC-H-34	E
	PC-H13-6	R1-PC-H-6	R1-PC-H-34	T
	PC-H13-7	R1-PC-H-6	R1-PC-H-34	E
	PC-H13-8	R1-PC-H-6	R1-PC-H-34	E
William Haslett	PC-H14-1	R1-PC-H-7	R1-PC-H-34	N/D
	PC-H14-2	R1-PC-H-7	R1-PC-H-36	A
	PC-H14-3	R1-PC-H-7	R1-PC-H-36	T
	PC-H14-4	R1-PC-H-7	R1-PC-H-36	E
	PC-H14-5	R1-PC-H-7	R1-PC-H-36	D
Carol Hayes	PC-H15-1	R1-PC-H-7	R1-PC-H-37	D
Jennifer Hayter	PC-H16-1	R1-PC-H-8	R1-PC-H-37	N/D/A/ E/T
Heather	PC-H17-1	R1-PC-H-8	R1-PC-H-37	E
Patricia Joan Hemphill	PC-H18-1	R1-PC-H-8	R1-PC-H-38	E/N/A
Dave Henderson	PC-H19-1	R1-PC-H-9	R1-PC-H-38	E
Nidia Henriquez	PC-H20-1	R1-PC-H-9	R1-PC-H-38	E
Jason Herbert	PC-H21-1	R1-PC-H-10	R1-PC-H-38	E
Christian Herc	PC-H22-1	R1-PC-H-10	R1-PC-H-39	E

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Antonio Hernandez	PC-H23-1	R1-PC-H-11	R1-PC-H-39	E
Felipp Hernandez	PC-H24-1	R1-PC-H-11	R1-PC-H-39	E
Gerardo Hernandez	PC-H25-1	R1-PC-H-12	R1-PC-H-40	E
Jose Luis Hernandez	PC-H26-1	R1-PC-H-13	R1-PC-H-40	E
Ramiro Hernandez	PC-H27-1	R1-PC-H-14	R1-PC-H-40	E
Ray S. Hernandez	PC-H28-1	R1-PC-H-14	R1-PC-H-41	E
Mary, Joe, Angelina, Joseph, Stone, Gavin, Natalie, and Cash Herrera	PC-H29-1	R1-PC-H-15	R1-PC-H-41	D
Garry and Kathleen Herron	PC-H30-1	R1-PC-H-15	R1-PC-H-41	N/E/D/ A
Diane Hill	PC-H31-1	R1-PC-H-16	R1-PC-H-42	A/V/N/ T
Richard Hilliker	PC-H32-1	R1-PC-H-16	R1-PC-H-42	E
Michael Hoag	PC-H33-1	R1-PC-H-16	R1-PC-H-42	E
Fran S. Hogordi	PC-H34-1	R1-PC-H-17	R1-PC-H-43	D
Matthew B. Holbrook	PC-H35-1	R1-PC-H-17	R1-PC-H-43	E
Deborah Holzhauer	PC-H36-1	R1-PC-H-18	R1-PC-H-43	E/T
	PC-H36-2	R1-PC-H-18	R1-PC-H-43	T
	PC-H36-3	R1-PC-H-18	R1-PC-H-44	E
Matthew Hough	PC-H37-1	R1-PC-H-18	R1-PC-H-44	E
Antonio A. Huerta	PC-H38-1	R1-PC-H-19	R1-PC-H-44	E
Maria and David Huang	PC-H39-1	R1-PC-H-19	R1-PC-H-44	N/D
Mr. and Mrs. Arthur Huey	PC-H40-1	R1-PC-H-20	R1-PC-H-44	N/D
	PC-H40-2	R1-PC-H-20	R1-PC-H-45	T
	PC-H40-3	R1-PC-H-20	R1-PC-H-45	N/D
Debbie Hults	PC-H41-1	R1-PC-H-20	R1-PC-H-45	D
	PC-H41-2	R1-PC-H-20	R1-PC-H-45	E
	PC-H41-3	R1-PC-H-20	R1-PC-H-45	T
Debra Hults	PC-H42-1	R1-PC-H-21	R1-PC-H-46	D
John V. Humphrey	PC-H43-1	R1-PC-H-21	R1-PC-H-46	E
	PC-H43-2	R1-PC-H-21	R1-PC-H-46	V
	PC-H43-3	R1-PC-H-21	R1-PC-H-46	N
	PC-H43-4	R1-PC-H-21	R1-PC-H-47	D
	PC-H43-5	R1-PC-H-21	R1-PC-H-47	N/A
	PC-H43-6	R1-PC-H-21	R1-PC-H-48	N/R
	PC-H43-7	R1-PC-H-21	R1-PC-H-48	E/R

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	PC-H43-8	R1-PC-H-21	R1-PC-H-48	T/R
	PC-H43-9	R1-PC-H-22	R1-PC-H-48	D
	PC-H43-10	R1-PC-H-22	R1-PC-H-49	T
	PC-H43-11	R1-PC-H-22	R1-PC-H-49	T
	PC-H43-12	R1-PC-H-22	R1-PC-H-49	T
	PC-H43-13	R1-PC-H-22	R1-PC-H-49	E/D
	PC-H43-14	R1-PC-H-22	R1-PC-H-49	N
	PC-H43-15	R1-PC-H-22	R1-PC-H-50	D
	PC-H43-16	R1-PC-H-22	R1-PC-H-50	N
	PC-H43-17	R1-PC-H-22	R1-PC-H-50	D
	PC-H43-18	R1-PC-H-22	R1-PC-H-50	A
	PC-H43-19	R1-PC-H-22	R1-PC-H-50	E
	PC-H43-20	R1-PC-H-22	R1-PC-H-50	E
	PC-H43-21	R1-PC-H-22	R1-PC-H-50	D/R
	PC-H43-22	R1-PC-H-22	R1-PC-H-50	T/E
	PC-H43-23	R1-PC-H-23	R1-PC-H-51	E
Terry and Lisa Humphrey	PC-H44-1	R1-PC-H-23	R1-PC-H-51	D
	PC-H44-2	R1-PC-H-23	R1-PC-H-51	E
	PC-H44-3	R1-PC-H-24	R1-PC-H-51	N
	PC-H44-4	R1-PC-H-24	R1-PC-H-51	A
	PC-H44-5	R1-PC-H-24	R1-PC-H-51	D
	PC-H44-6	R1-PC-H-24	R1-PC-H-51	T
	PC-H44-7	R1-PC-H-24	R1-PC-H-51	D
Nancy Hunsaker	PC-H45-1	R1-PC-H-24	R1-PC-H-52	D/E
Nancy Hunsaker	PC-H46-1	R1-PC-H-24	R1-PC-H-52	E/N/A
Gene Hutchins	PC-H47-1	R1-PC-H-25	R1-PC-H-52	A/V/N/T
Kim-Yen Huynh	PC-H48-1	R1-PC-H-25	R1-PC-H-53	E
Mickey Huynh	PC-H49-1	R1-PC-H-26	R1-PC-H-53	T
Margarete Iannelli	PC-I1-1	R1-PC-I-1	R1-PC-I-3	E
	PC-I1-2	R1-PC-I-1	R1-PC-I-3	T
	PC-I1-3	R1-PC-I-1	R1-PC-I-3	T
Michael Ignatius*	PC-I2-1	R1-PC-I-1	R1-PC-I-3	E/D
	PC-I2-2	R1-PC-I-1	R1-PC-I-4	D
	PC-I2-3	R1-PC-I-1	R1-PC-I-4	V

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	PC-I2-4	R1-PC-I-1	R1-PC-I-4	A
	PC-I2-5	R1-PC-I-1	R1-PC-I-4	E
	PC-I2-6	R1-PC-I-1	R1-PC-I-4	T
Paul T. Ikuta, M.D.	PC-I3-1	R1-PC-I-2	R1-PC-I-4	A
Marcelo Isais	PC-I4-1	R1-PC-I-2	R1-PC-I-5	E
Myron (Mike) Jacobs	PC-J1-1	R1-PC-J-1	R1-PC-J-9	E
Myron Jacobs and Family	PC-J2-1	R1-PC-J-1	R1-PC-J-9	E/T
Myron G. Jacobs	PC-J3-1	R1-PC-J-1	R1-PC-J-9	E
	PC-J3-2	R1-PC-J-1	R1-PC-J-9	T
Robert James	PC-J4-1	R1-PC-J-2	R1-PC-J-10	E
Talmow L. James	PC-J5-1	R1-PC-J-2	R1-PC-J-10	E
Jan	PC-J6-1	R1-PC-J-3	R1-PC-J-10	E
Sean Jasperson	PC-J7-1	R1-PC-J-3	R1-PC-J-10	E
Tom Jatich	PC-J8-1	R1-PC-J-3	R1-PC-J-10	E
	PC-J8-2	R1-PC-J-3	R1-PC-J-11	T
Raymond Jacuinde	PC-J9-1	R1-PC-J-4	R1-PC-J-11	E
Jose Orozco Jimenez	PC-J10-1	R1-PC-J-4	R1-PC-J-11	E
Tim M. Johnson, CPA	PC-J11-1	R1-PC-J-5	R1-PC-J-11	E
	PC-J11-2	R1-PC-J-5	R1-PC-J-12	T
	PC-J11-3	R1-PC-J-5	R1-PC-J-12	T
Darrell Johnston	PC-J12-1	R1-PC-J-5	R1-PC-J-12	E
Richard “Dick” Jolly	PC-J13-1	R1-PC-J-6	R1-PC-J-12	E
	PC-J13-2	R1-PC-J-6	R1-PC-J-13	T
	PC-J13-3	R1-PC-J-6	R1-PC-J-13	D
Geri Jones	PC-J14-1	R1-PC-J-6	R1-PC-J-13	E
Robin Norman Jones	PC-J15-1	R1-PC-J-6	R1-PC-J-13	N
Gonzalez Jose	PC-J16-1	R1-PC-J-7	R1-PC-J-14	E
Cheri Jordan	PC-J17-1	R1-PC-J-7	R1-PC-J-14	E
Lisa Jordan	PC-J18-1	R1-PC-J-8	R1-PC-J-14	E
Gale and Terry Jurgensen	PC-J19-1	R1-PC-J-8	R1-PC-J-14	E/T
Gale and Terry Jurgensen	PC-J20-1	R1-PC-J-8	R1-PC-J-15	E/T
Nancy Weintraub and David Kahn	PC-K1-1	R1-PC-K-1	R1-PC-K-11	E/D
	PC-K1-2	R1-PC-K-1	R1-PC-K-11	T
	PC-K1-3	R1-PC-K-1	R1-PC-K-11	T
	PC-K1-4	R1-PC-K-1	R1-PC-K-11	E/R

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Eddy Karam	PC-K2-1	R1-PC-K-1	R1-PC-K-11	T
	PC-K2-2	R1-PC-K-1	R1-PC-K-12	T
Hart Keeble	PC-K3-1	R1-PC-K-2	R1-PC-K-12	E
Hart Keeble	PC-K4-1	R1-PC-K-2	R1-PC-K-12	E
Paul D. Kelly	PC-K5-1	R1-PC-K-3	R1-PC-K-12	E/T
Paul Kendrick	PC-K6-1	R1-PC-K-3	R1-PC-K-12	E
Wiley Kennedy	PC-K7-1	R1-PC-K-4	R1-PC-K-13	E
Brian and Claire Kibler	PC-K8-1	R1-PC-K-4	R1-PC-K-13	A/N/T
	PC-K8-2	R1-PC-K-4	R1-PC-K-13	T
James Kimmel	PC-K9-1	R1-PC-K-4	R1-PC-K-13	N/T
	PC-K9-2	R1-PC-K-4	R1-PC-K-14	T
	PC-K9-3	R1-PC-K-4	R1-PC-K-14	A
Julie K. and James R. Kimmel	PC-K10-1	R1-PC-K-5	R1-PC-K-14	N/T
	PC-K10-2	R1-PC-K-5	R1-PC-K-14	T
	PC-K10-3	R1-PC-K-5	R1-PC-K-14	A
James R. and Julie K. Kimmel, RN	PC-K11-1	R1-PC-K-5	R1-PC-K-15	N/T
	PC-K11-2	R1-PC-K-5	R1-PC-K-15	T
	PC-K11-3	R1-PC-K-5	R1-PC-K-15	A
James R. and Julie K. Kimmel, RN	PC-K12-1	R1-PC-K-6	R1-PC-K-15	D
	PC-K12-2	R1-PC-K-6	R1-PC-K-15	T
	PC-K12-3	R1-PC-K-6	R1-PC-K-15	T
	PC-K12-4	R1-PC-K-6	R1-PC-K-15	A
	PC-K12-5	R1-PC-K-6	R1-PC-K-15	E
Robert and Lois Kimmerle	PC-K13-1	R1-PC-K-6	R1-PC-K-16	E
William J. Kirland	PC-K14-1	R1-PC-K-7	R1-PC-K-16	D
	PC-K14-2	R1-PC-K-7	R1-PC-K-16	E/D/T
Jane Kirland	PC-K15-1	R1-PC-K-7	R1-PC-K-16	D
	PC-K15-2	R1-PC-K-7	R1-PC-K-17	E/D/T
Lori Singer Kisler	PC-K16-1	R1-PC-K-7	R1-PC-K-17	E
Lori Singer Kisler	PC-K17-1	R1-PC-K-8	R1-PC-K-17	E/D
	PC-K17-2	R1-PC-K-8	R1-PC-K-17	T
Paul Klevgard, Ph.D.	PC-K18-1	R1-PC-K-8	R1-PC-K-18	E
Terrell E. Koken	PC-K19-1	R1-PC-K-8	R1-PC-K-18	T
	PC-K19-2	R1-PC-K-8	R1-PC-K-18	T
Terrell E. Koken	PC-K20-1	R1-PC-K-9	R1-PC-K-18	E/T

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Terrell E. Koken	PC-K21-1	R1-PC-K-9	R1-PC-K-19	E/T
Mel Kong	PC-K22-1	R1-PC-K-9	R1-PC-K-19	T
Jeffrey Konshak	PC-K23-1	R1-PC-K-9	R1-PC-K-20	N
	PC-K23-2	R1-PC-K-9	R1-PC-K-21	N
	PC-K23-3	R1-PC-K-10	R1-PC-K-21	N
	PC-K23-4	R1-PC-K-10	R1-PC-K-21	N
Ken Kropf	PC-K24-1	R1-PC-K-10	R1-PC-K-21	T
Karen Kupfer	PC-K25-1	R1-PC-K-10	R1-PC-K-22	E/T
Leslie La Berge*	PC-L1-1	R1-PC-L-1	R1-PC-L-41	E
Marcel Lacelle	PC-L2-1	R1-PC-L-1	R1-PC-L-41	N
Pauline Lacelle	PC-L3-1	R1-PC-L-2	R1-PC-L-41	E
	PC-L3-2	R1-PC-L-2	R1-PC-L-41	N
	PC-L3-3	R1-PC-L-2	R1-PC-L-41	T
	PC-L3-4	R1-PC-L-2	R1-PC-L-42	T
	PC-L3-5	R1-PC-L-2	R1-PC-L-42	E
Jeanine Lambert	PC-L4-1	R1-PC-L-3	R1-PC-L-42	E/D
Ailsa Lambert	PC-L5-1	R1-PC-L-3	R1-PC-L-42	E/D
Rae M. Langdale	PC-L6-1	R1-PC-L-3	R1-PC-L-43	E/D/T
Rodney G. Larson	PC-L7-1	R1-PC-L-4	R1-PC-L-43	E
Cynthia Laurence	PC-L8-1	R1-PC-L-4	R1-PC-L-43	E
	PC-L8-2	R1-PC-L-4	R1-PC-L-43	T
	PC-L8-3	R1-PC-L-4	R1-PC-L-43	T
	PC-L8-4	R1-PC-L-4	R1-PC-L-44	T
	PC-L8-5	R1-PC-L-4	R1-PC-L-44	T
Neal Lauron	PC-L9-1	R1-PC-L-5	R1-PC-L-44	E
Jenea Lawley	PC-L10-1	R1-PC-L-5	R1-PC-L-44	D
	PC-L10-2	R1-PC-L-5	R1-PC-L-44	A
	PC-L10-3	R1-PC-L-5	R1-PC-L-45	E
	PC-L10-4	R1-PC-L-5	R1-PC-L-45	A
Mitzi C. Lawrence	PC-L11-1	R1-PC-L-6	R1-PC-L-45	D
	PC-L11-2	R1-PC-L-6	R1-PC-L-45	D
Anh-Tuan Le, PE	PC-L12-1	R1-PC-L-6	R1-PC-L-45	E
	PC-L12-2	R1-PC-L-6	R1-PC-L-46	T
	PC-L12-3	R1-PC-L-6	R1-PC-L-46	A
	PC-L12-4	R1-PC-L-6	R1-PC-L-46	T

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	PC-L12-5	R1-PC-L-7	R1-PC-L-46	T
	PC-L12-6	R1-PC-L-7	R1-PC-L-46	T
	PC-L12-7	R1-PC-L-7	R1-PC-L-46	D
Kim Le	PC-L13-1	R1-PC-L-7	R1-PC-L-46	E
Modesto L. Leal	PC-L14-1	R1-PC-L-8	R1-PC-L-47	E
Royelio Leal	PC-L15-1	R1-PC-L-9	R1-PC-L-47	E
Lorrie Le Cou	PC-L16-1	R1-PC-L-9	R1-PC-L-47	D
	PC-L16-2	R1-PC-L-9	R1-PC-L-47	D
	PC-L16-3	R1-PC-L-9	R1-PC-L-48	E
	PC-L16-4	R1-PC-L-9	R1-PC-L-48	N
	PC-L16-5	R1-PC-L-9	R1-PC-L-49	A
	PC-L16-6	R1-PC-L-9	R1-PC-L-49	D
	PC-L16-7	R1-PC-L-9	R1-PC-L-49	T
	PC-L16-8	R1-PC-L-9	R1-PC-L-49	E
	PC-L16-9	R1-PC-L-10	R1-PC-L-49	E
Byung Lee, General Manager	PC-L17-1	R1-PC-L-10	R1-PC-L-50	E
Ruby W. Lee	PC-L18-1	R1-PC-L-10	R1-PC-L-50	D
	PC-L18-2	R1-PC-L-10	R1-PC-L-50	E
	PC-L18-3	R1-PC-L-10	R1-PC-L-50	T
	PC-L18-4	R1-PC-L-10	R1-PC-L-50	T
	PC-L18-5	R1-PC-L-10	R1-PC-L-50	E
Wayne and Robin Leffler	PC-L19-1	R1-PC-L-11	R1-PC-L-51	D/E/T
	PC-L19-2	R1-PC-L-11	R1-PC-L-51	E
Gigi Leiby	PC-L20-1	R1-PC-L-11	R1-PC-L-51	E
	PC-L20-2	R1-PC-L-11	R1-PC-L-51	T
	PC-L20-3	R1-PC-L-11	R1-PC-L-51	E
Margarito Lemus	PC-L21-1	R1-PC-L-12	R1-PC-L-52	E
Domingo Leon	PC-L22-1	R1-PC-L-12	R1-PC-L-52	E
	PC-L22-2	R1-PC-L-12	R1-PC-L-52	D
	PC-L22-3	R1-PC-L-12	R1-PC-L-52	D
	PC-L22-4	R1-PC-L-12	R1-PC-L-52	E
	PC-L22-5	R1-PC-L-12	R1-PC-L-52	T
	PC-L22-6	R1-PC-L-12	R1-PC-L-52	T
	PC-L22-7	R1-PC-L-13	R1-PC-L-52	D
Tony Leonardo	PC-L23-1	R1-PC-L-14	R1-PC-L-53	E

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Tom Leonardo, Jr.	PC-L24-1	R1-PC-L-15	R1-PC-L-53	E
Sue Lester	PC-L25-1	R1-PC-L-15	R1-PC-L-54	E
	PC-L25-2	R1-PC-L-15	R1-PC-L-54	E
Susan L. Lester	PC-L26-1	R1-PC-L-16	R1-PC-L-54	E
	PC-L26-2	R1-PC-L-16	R1-PC-L-54	E
Jackie Leung	PC-L27-1	R1-PC-L-16	R1-PC-L-54	T
	PC-L27-2	R1-PC-L-16	R1-PC-L-55	A/R
	PC-L27-3	R1-PC-L-16	R1-PC-L-57	E
Joe Leung	PC-L28-1	R1-PC-L-17	R1-PC-L-57	T
	PC-L28-2	R1-PC-L-17	R1-PC-L-57	A
	PC-L28-3	R1-PC-L-17	R1-PC-L-57	E
Shane Levoit	PC-L29-1	R1-PC-L-17	R1-PC-L-57	E
Roger Libasora	PC-L30-1	R1-PC-L-18	R1-PC-L-58	E
Richard Licerio	PC-L31-1	R1-PC-L-18	R1-PC-L-58	E
Mike Lilly	PC-L32-1	R1-PC-L-19	R1-PC-L-58	E
Adam Littig	PC-L33-1	R1-PC-L-19	R1-PC-L-58	E/R
	PC-L33-2	R1-PC-L-19	R1-PC-L-59	T
	PC-L33-3	R1-PC-L-20	R1-PC-L-59	E
	PC-L33-4	R1-PC-L-20	R1-PC-L-59	E
	PC-L33-5	R1-PC-L-20	R1-PC-L-59	E
	PC-L33-6	R1-PC-L-21	R1-PC-L-59	E
	PC-L33-7	R1-PC-L-21	R1-PC-L-59	E
Adam Littig	PC-L34-1	R1-PC-L-21	R1-PC-L-59	T
Adam Littig	PC-L35-1	R1-PC-L-21	R1-PC-L-59	D
Adam Littig	PC-L36-1	R1-PC-L-21	R1-PC-L-60	D
Adam Littig	PC-L37-1	R1-PC-L-21	R1-PC-L-60	D
Adam Littig	PC-L38-1	R1-PC-L-22	R1-PC-L-60	D
Adam Littig	PC-L39-1	R1-PC-L-22	R1-PC-L-60	E
Adam Littig	PC-L40-1	R1-PC-L-22	R1-PC-L-61	E
Adam Littig	PC-L41-1	R1-PC-L-22	R1-PC-L-61	T
Adam Littig	PC-L42-1	R1-PC-L-22	R1-PC-L-61	T
Adam Littig	PC-L43-1	R1-PC-L-22	R1-PC-L-61	E
Adam Littig	PC-L44-1	R1-PC-L-22	R1-PC-L-62	E/R
Adam Littig	PC-L45-1	R1-PC-L-23	R1-PC-L-62	E
Frank Lomonico	PC-L46-1	R1-PC-L-23	R1-PC-L-63	E

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Van Loney	PC-L47-1	R1-PC-L-24	R1-PC-L-63	D
Kyle Lonsberry	PC-L48-1	R1-PC-L-24	R1-PC-L-64	E
Angel V. Lopez	PC-L49-1	R1-PC-L-25	R1-PC-L-64	E
Austreberto G. Lopez	PC-L50-1	R1-PC-L-26	R1-PC-L-64	E
Cirinco Z. Lopez	PC-L51-1	R1-PC-L-27	R1-PC-L-65	E
David Lopez	PC-L52-1	R1-PC-L-27	R1-PC-L-65	E
Felipe S. Lopez	PC-L53-1	R1-PC-L-28	R1-PC-L-65	E
Gyorany Lopez	PC-L54-1	R1-PC-L-29	R1-PC-L-66	E
Ismael Lopez	PC-L55-1	R1-PC-L-29	R1-PC-L-66	E
Jesus A. Leal Lopez	PC-L56-1	R1-PC-L-30	R1-PC-L-66	E
Jorge Lopez	PC-L57-1	R1-PC-L-31	R1-PC-L-66	E
Jose L. Lopez	PC-L58-1	R1-PC-L-31	R1-PC-L-67	E
Manual Lopez	PC-L59-1	R1-PC-L-32	R1-PC-L-67	E
Mark Lopez	PC-L60-1	R1-PC-L-33	R1-PC-L-67	E
Ramon Lopez	PC-L61-1	R1-PC-L-33	R1-PC-L-68	E
Ramon L. Lopez	PC-L62-1	R1-PC-L-34	R1-PC-L-68	E
Rigoberto Lopez	PC-L63-1	R1-PC-L-35	R1-PC-L-68	E
Victor A. Lopez	PC-L64-1	R1-PC-L-35	R1-PC-L-68	E
Tim Lough	PC-L65-1	R1-PC-L-36	R1-PC-L-69	E
	PC-L65-2	R1-PC-L-36	R1-PC-L-69	E
Andrea Erickson Lowery	PC-L66-1	R1-PC-L-36	R1-PC-L-69	E/R
Michael Chavez Loza	PC-L67-1	R1-PC-L-36	R1-PC-L-70	E
Kris Ludington	PC-L68-1	R1-PC-L-37	R1-PC-L-70	E
	PC-L68-2	R1-PC-L-37	R1-PC-L-70	N
	PC-L68-3	R1-PC-L-37	R1-PC-L-71	T
	PC-L68-4	R1-PC-L-37	R1-PC-L-71	T
	PC-L68-5	R1-PC-L-37	R1-PC-L-71	E
	PC-L68-6	R1-PC-L-37	R1-PC-L-71	E/R
	PC-L68-7	R1-PC-L-37	R1-PC-L-72	E
Robert and Eva Lujan	PC-L69-1	R1-PC-L-37	R1-PC-L-72	A
Elias Luna	PC-L70-1	R1-PC-L-37	R1-PC-L-72	E
Rudy Luna	PC-L71-1	R1-PC-L-38	R1-PC-L-72	E
Esther Lurwig	PC-L72-1	R1-PC-L-38	R1-PC-L-72	D
	PC-L72-2	R1-PC-L-38	R1-PC-L-73	T
	PC-L72-3	R1-PC-L-38	R1-PC-L-73	T

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	PC-L72-4	R1-PC-L-39	R1-PC-L-73	T
	PC-L72-5	R1-PC-L-39	R1-PC-L-73	A
	PC-L72-6	R1-PC-L-39	R1-PC-L-74	T
	PC-L72-7	R1-PC-L-39	R1-PC-L-74	D
Mrs. Trinna A. Lytle	PC-L73-1	R1-PC-L-39	R1-PC-L-74	D
	PC-L73-2	R1-PC-L-40	R1-PC-L-74	A/N
	PC-L73-3	R1-PC-L-40	R1-PC-L-75	A/N
	PC-L73-4	R1-PC-L-40	R1-PC-L-75	D
	PC-L73-5	R1-PC-L-40	R1-PC-L-75	E
Patricia E. Fusco and Ron MacDonald	PC-M1-1	R1-PC-M-1	R1-PC-M-45	E/D
	PC-M1-2	R1-PC-M-1	R1-PC-M-45	T
	PC-M1-3	R1-PC-M-1	R1-PC-M-45	D
	PC-M1-4	R1-PC-M-1	R1-PC-M-45	T
	PC-M1-5	R1-PC-M-1	R1-PC-M-45	E
	PC-M1-6	R1-PC-M-1	R1-PC-M-46	E
	PC-M1-7	R1-PC-M-1	R1-PC-M-46	E/D
Glen MacLeod	PC-M2-1	R1-PC-M-1	R1-PC-M-46	E
Jenny Madia	PC-M3-1	R1-PC-M-2	R1-PC-M-46	E
Eddie Madrid	PC-M4-1	R1-PC-M-2	R1-PC-M-46	E
Hector Madrigal	PC-M5-1	R1-PC-M-3	R1-PC-M-47	E
Ramon Magana	PC-M6-1	R1-PC-M-3	R1-PC-M-47	E
Chuck Magie	PC-M7-1	R1-PC-M-4	R1-PC-M-47	E
C.M. Mahrer	PC-M8-1	R1-PC-M-4	R1-PC-M-47	E/D
	PC-M8-2	R1-PC-M-4	R1-PC-M-48	T
Philip Mainset	PC-M9-1	R1-PC-M-5	R1-PC-M-48	E/D
	PC-M9-2	R1-PC-M-5	R1-PC-M-48	T
Carol Lee Manary	PC-M10-1	R1-PC-M-5	R1-PC-M-48	E/T
Hernandez Manuel	PC-M11-1	R1-PC-M-6	R1-PC-M-49	E
Susan Manzo	PC-M12-1	R1-PC-M-6	R1-PC-M-49	E/T/D
George Margo, Jr.	PC-M13-1	R1-PC-M-7	R1-PC-M-49	E
Gildardo Marquez	PC-M14-1	R1-PC-M-7	R1-PC-M-50	E
Patricia Marquez	PC-M15-1	R1-PC-M-8	R1-PC-M-50	E/D
Roger Marquez	PC-M16-1	R1-PC-M-8	R1-PC-M-50	E
Carolyn A. Marr	PC-M17-1	R1-PC-M-9	R1-PC-M-50	E
Bill Marr	PC-M18-1	R1-PC-M-9	R1-PC-M-50	E/T/r

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	PC-M18-2	R1-PC-M-9	R1-PC-M-51	E/T
Gary Marshall	PC-M19-1	R1-PC-M-9	R1-PC-M-52	N
	PC-M19-2	R1-PC-M-9	R1-PC-M-52	N
	PC-M19-3	R1-PC-M-9	R1-PC-M-52	N
	PC-M19-4	R1-PC-M-9	R1-PC-M-52	N
Lori Marshall	PC-M20-1	R1-PC-M-9	R1-PC-M-53	N
Debbie Marsteller	PC-M21-1	R1-PC-M-10	R1-PC-M-53	E
	PC-M21-2	R1-PC-M-10	R1-PC-M-53	N
	PC-M21-3	R1-PC-M-10	R1-PC-M-53	E/D
Flo Martin	PC-M22-1	R1-PC-M-10	R1-PC-M-53	E
Florence N. Martin	PC-M23-1	R1-PC-M-10	R1-PC-M-54	E
Felix Martinez	PC-M24-1	R1-PC-M-11	R1-PC-M-54	E
Jacob Martinez	PC-M25-1	R1-PC-M-11	R1-PC-M-54	E
Victor Martinez	PC-M26-1	R1-PC-M-12	R1-PC-M-54	E
S. Matalon	PC-M27-1	R1-PC-M-12	R1-PC-M-54	E
Sean Matranga	PC-M28-1	R1-PC-M-12	R1-PC-M-55	E
Pat Matsubara	PC-M29-1	R1-PC-M-13	R1-PC-M-55	E/T
	PC-M29-2	R1-PC-M-13	R1-PC-M-55	E/D
	PC-M29-3	R1-PC-M-13	R1-PC-M-55	E
	PC-M29-4	R1-PC-M-13	R1-PC-M-55	E/T
Gayle Matsubara	PC-M30-1	R1-PC-M-13	R1-PC-M-55	T
	PC-M30-2	R1-PC-M-13	R1-PC-M-56	E
	PC-M30-3	R1-PC-M-13	R1-PC-M-56	A/N
	PC-M30-4	R1-PC-M-14	R1-PC-M-56	D
	PC-M30-5	R1-PC-M-14	R1-PC-M-56	E
Donald W. McClain	PC-M31-1	R1-PC-M-14	R1-PC-M-57	A/D
Mark-David McCool and Family	PC-M32-1	R1-PC-M-15	R1-PC-M-57	A/V/N/T
	PC-M32-2	R1-PC-M-15	R1-PC-M-57	E
Cynthia McDonald	PC-M33-1	R1-PC-M-15	R1-PC-M-57	A/D
	PC-M33-2	R1-PC-M-15	R1-PC-M-58	A/N
	PC-M33-3	R1-PC-M-15	R1-PC-M-58	D
Joan McEvoy	PC-M34-1	R1-PC-M-16	R1-PC-M-58	T
Andy McGlasson	PC-M35-1	R1-PC-M-16	R1-PC-M-58	E
Wayne and Carole McLaughlin	PC-M36-1	R1-PC-M-17	R1-PC-M-59	D/E

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	PC-M36-2	R1-PC-M-17	R1-PC-M-59	D
Michele McLeod	PC-M37-1	R1-PC-M-17	R1-PC-M-59	D
M.G. McNally	PC-M38-1	R1-PC-M-18	R1-PC-M-59	T
	PC-M38-2	R1-PC-M-18	R1-PC-M-60	T
	PC-M38-3	R1-PC-M-18	R1-PC-M-60	T
Manuel Mecado	PC-M39-1	R1-PC-M-18	R1-PC-M-60	E
Manuel M. Galvez	PC-M40-1	R1-PC-M-19	R1-PC-M-60	E
Miranda Megrdichian	PC-M41-1	R1-PC-M-19	R1-PC-M-60	E
Alex Mejia	PC-M42-1	R1-PC-M-20	R1-PC-M-61	E
Rafael Mendez	PC-M43-1	R1-PC-M-20	R1-PC-M-61	E
Ricardo Mendez	PC-M44-1	R1-PC-M-21	R1-PC-M-61	E
Jose Mendoza	PC-M45-1	R1-PC-M-21	R1-PC-M-61	E
Ramon Mendoza	PC-M46-1	R1-PC-M-22	R1-PC-M-61	E
Silvano G. Mendoza	PC-M47-1	R1-PC-M-23	R1-PC-M-62	E
Arlene K. Mercer	PC-M48-1	R1-PC-M-23	R1-PC-M-62	T
	PC-M48-2	R1-PC-M-23	R1-PC-M-62	T
	PC-M48-3	R1-PC-M-23	R1-PC-M-63	E
	PC-M48-4	R1-PC-M-23	R1-PC-M-63	A/N/D
	PC-M48-5	R1-PC-M-24	R1-PC-M-63	T/D
Terry Mercer	PC-M49-1	R1-PC-M-24	R1-PC-M-64	T/E
	PC-M49-2	R1-PC-M-24	R1-PC-M-64	E
	PC-M49-3	R1-PC-M-24	R1-PC-M-64	T
	PC-M49-4	R1-PC-M-25	R1-PC-M-64	DF
Juan Alberto Lopez Meza	PC-M50-1	R1-PC-M-25	R1-PC-M-65	E
Roger Michaud	PC-M51-1	R1-PC-M-26	R1-PC-M-65	E
Felix Michel	PC-M52-1	R1-PC-M-26	R1-PC-M-65	E
Ron Milano	PC-M53-1	R1-PC-M-27	R1-PC-M-66	E
Brent Miller	PC-M54-1	R1-PC-M-28	R1-PC-M-66	E
Christina Miller	PC-M55-1	R1-PC-M-28	R1-PC-M-66	N/E/D/ A
Gary Miller	PC-M56-1	R1-PC-M-29	R1-PC-M-67	E/T
	PC-M56-2	R1-PC-M-29	R1-PC-M-67	E
	PC-M56-3	R1-PC-M-29	R1-PC-M-67	E
	PC-M56-4	R1-PC-M-29	R1-PC-M-67	D
	PC-M56-5	R1-PC-M-29	R1-PC-M-68	D

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	PC-M56-6	R1-PC-M-29	R1-PC-M-68	D
	PC-M56-7	R1-PC-M-29	R1-PC-M-68	N
	PC-M56-8	R1-PC-M-30	R1-PC-M-68	A
	PC-M56-9	R1-PC-M-30	R1-PC-M-69	E/R
	PC-M56-10	R1-PC-M-30	R1-PC-M-69	E
	PC-M56-11	R1-PC-M-30	R1-PC-M-69	T
	PC-M56-12	R1-PC-M-30	R1-PC-M-69	T
	PC-M56-13	R1-PC-M-30	R1-PC-M-70	E/T/D/N/A
Mitch Miller	PC-M57-1	R1-PC-M-34	R1-PC-M-70	D
	PC-M57-2	R1-PC-M-34	R1-PC-M-70	D
	PC-M57-3	R1-PC-M-34	R1-PC-M-70	D
	PC-M57-4	R1-PC-M-34	R1-PC-M-70	D
	PC-M57-5	R1-PC-M-34	R1-PC-M-70	D/A/N/E
	PC-M57-6	R1-PC-M-34	R1-PC-M-70	D/R
	PC-M57-7	R1-PC-M-34	R1-PC-M-71	E/D
	PC-M57-8	R1-PC-M-34	R1-PC-M-71	D/T
Steve Miller	PC-M58-1	R1-PC-M-34	R1-PC-M-71	E
Richard and Lauri Millward	PC-M59-1	R1-PC-M-35	R1-PC-M-71	E
	PC-M59-2	R1-PC-M-35	R1-PC-M-71	E
	PC-M59-3	R1-PC-M-35	R1-PC-M-71	D
	PC-M59-4	R1-PC-M-35	R1-PC-M-72	N
	PC-M59-5	R1-PC-M-35	R1-PC-M-72	E
Howard Mirowitz	PC-M60-1	R1-PC-M-35	R1-PC-M-72	T
	PC-M60-2	R1-PC-M-35	R1-PC-M-72	T
	PC-M60-3	R1-PC-M-35	R1-PC-M-72	T
	PC-M60-4	R1-PC-M-35	R1-PC-M-73	T
Joe Montelvo	PC-M61-1	R1-PC-M-36	R1-PC-M-73	E
Margery Moniz	PC-M62-1	R1-PC-M-36	R1-PC-M-73	E
Hugo H. Morg	PC-M63-1	R1-PC-M-37	R1-PC-M-73	E
Oscar Morataya	PC-M64-1	R1-PC-M-37	R1-PC-M-73	E
Jeff Moore	PC-M65-1	R1-PC-M-38	R1-PC-M-74	E
Thomas Moore	PC-M66-1	R1-PC-M-38	R1-PC-M-74	E/T
Barbara Morihiro	PC-M67-1	R1-PC-M-38	R1-PC-M-74	E/T
Trisha and Brad Morris	PC-M68-1	R1-PC-M-38	R1-PC-M-74	E/D

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Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Trisha and Brad Morris	PC-M69-1	R1-PC-M-38	R1-PC-M-75	D
Trisha Morris	PC-M70-1	R1-PC-M-39	R1-PC-M-75	D/T/E/A
Trisha Morris	PC-M71-1	R1-PC-M-40	R1-PC-M-75	E/D
	PC-M71-2	R1-PC-M-40	R1-PC-M-75	E/D
	PC-M71-3	R1-PC-M-40	R1-PC-M-76	E/D
	PC-M71-4	R1-PC-M-40	R1-PC-M-76	E/D
Doris and Ed Morrissey	PC-M72-1	R1-PC-M-40	R1-PC-M-76	E/T
Pat Morrissey	PC-M73-1	R1-PC-M-41	R1-PC-M-76	E
Brandon Moss	PC-M74-1	R1-PC-M-41	R1-PC-M-76	E
Denis Mull, M.D.	PC-M75-1	R1-PC-M-42	R1-PC-M-76	E
Chris Mulhern	PC-M76-1	R1-PC-M-42	R1-PC-M-77	D
Lisa and Pete Mulvaney	PC-M77-1	R1-PC-M-43	R1-PC-M-77	E/D/N
	PC-M77-2	R1-PC-M-43	R1-PC-M-77	E/D/N
	PC-M77-3	R1-PC-M-43	R1-PC-M-77	A/E
	PC-M77-4	R1-PC-M-43	R1-PC-M-78	E/D/T/A
Gustavo Munoz	PC-M78-1	R1-PC-M-43	R1-PC-M-78	E
Jim Murphy	PC-M79-1	R1-PC-M-44	R1-PC-M-78	A
Inako Nafarrete	PC-N1-1	R1-PC-N-1	R1-PC-N-11	D
	PC-N1-2	R1-PC-N-1	R1-PC-N-11	D
	PC-N1-3	R1-PC-N-1	R1-PC-N-11	T
Santos Nafarrete	PC-N2-1	R1-PC-N-1	R1-PC-N-11	D
Santos Nafarrete	PC-N3-1	R1-PC-N-2	R1-PC-N-11	D
Santos Nafarrete	PC-N4-1	R1-PC-N-2	R1-PC-N-12	D
	PC-N4-2	R1-PC-N-2	R1-PC-N-12	E
	PC-N4-3	R1-PC-N-2	R1-PC-N-12	T
Michele Nathanson	PC-N5-1	R1-PC-N-3	R1-PC-N-12	E
Lorraine Elicks Navarro	PC-N6-1	R1-PC-N-3	R1-PC-N-13	D
	PC-N6-2	R1-PC-N-3	R1-PC-N-13	T
	PC-N6-3	R1-PC-N-3	R1-PC-N-13	T
	PC-N6-4	R1-PC-N-3	R1-PC-N-13	T
	PC-N6-5	R1-PC-N-3	R1-PC-N-14	T
	PC-N6-6	R1-PC-N-3	R1-PC-N-14	D
	PC-N6-7	R1-PC-N-3	R1-PC-N-14	D
Tom Nesbitt	PC-N7-1	R1-PC-N-4	R1-PC-N-14	E
Syndy Neyland	PC-N8-1	R1-PC-N-4	R1-PC-N-14	E

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Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Christine M. Nichols	PC-N9-1	R1-PC-N-5	R1-PC-N-15	E
Roger and Sandy Nieder	PC-N10-1	R1-PC-N-5	R1-PC-N-15	D/E/T
	PC-N10-2	R1-PC-N-5	R1-PC-N-15	A/N
	PC-N10-3	R1-PC-N-5	R1-PC-N-16	D
	PC-N10-4	R1-PC-N-6	R1-PC-N-16	D
	PC-N10-5	R1-PC-N-6	R1-PC-N-16	D
	PC-N10-6	R1-PC-N-6	R1-PC-N-16	D
	PC-N10-7	R1-PC-N-6	R1-PC-N-16	E
Dennis Nordstrom	PC-N11-1	R1-PC-N-6	R1-PC-N-16	T
Kitty Nordstrom	PC-N12-1	R1-PC-N-6	R1-PC-N-17	E
Kitty Nordstrom	PC-N13-1	R1-PC-N-7	R1-PC-N-17	E
Kitty Nordstrom	PC-N14-1	R1-PC-N-7	R1-PC-N-17	E
	PC-N14-2	R1-PC-N-7	R1-PC-N-18	D
P. Nordstrom	PC-N15-1	R1-PC-N-8	R1-PC-N-18	E
Linda Northrop	PC-N16-1	R1-PC-N-8	R1-PC-N-18	E
	PC-N16-2	R1-PC-N-8	R1-PC-N-18	N
Cheryl Norton*	PC-N17-1	R1-PC-N-9	R1-PC-N-19	D
Anthony Novello	PC-N18-1	R1-PC-N-10	R1-PC-N-19	E
Sam Nowak	PC-N19-1	R1-PC-N-10	R1-PC-N-19	E
Tim and Lynnette O'Bryan	PC-O1-1	R1-PC-O-1	R1-PC-O-10	N
	PC-O1-2	R1-PC-O-1	R1-PC-O-11	E
	PC-O1-3	R1-PC-O-1	R1-PC-O-11	T
	PC-O1-4	R1-PC-O-1	R1-PC-O-11	V
Alvaro Ochoa	PC-O2-1	R1-PC-O-1	R1-PC-O-11	E
John O'Donnell	PC-O3-1	R1-PC-O-2	R1-PC-O-12	E/T
Sean O'Donnell	PC-O4-1	R1-PC-O-2	R1-PC-O-12	E/T
Joyce Okazaki	PC-O5-1	R1-PC-O-2	R1-PC-O-12	T
	PC-O5-2	R1-PC-O-2	R1-PC-O-13	E
	PC-O5-3	R1-PC-O-2	R1-PC-O-13	E/T
	PC-O5-4	R1-PC-O-2	R1-PC-O-13	D
Mr. and Mr. Derek Olin	PC-O6-1	R1-PC-O-3	R1-PC-O-13	E
Martha S. O'Mears	PC-O7-1	R1-PC-O-3	R1-PC-O-14	D/T/E
Mary K. O'Neill	PC-O8-1	R1-PC-O-4	R1-PC-O-14	D/T/E
Fermin Orozco	PC-O9-1	R1-PC-O-4	R1-PC-O-14	E
Ignacio Ortega	PC-O10-1	R1-PC-O-5	R1-PC-O-14	E

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Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Arturo Ortiz	PC-O11-1	R1-PC-O-5	R1-PC-O-14	E
Chris Osborn	PC-O12-1	R1-PC-O-6	R1-PC-O-15	T
Enea Ostrich	PC-O13-1	R1-PC-O-6	R1-PC-O-15	E/D
Enea Ostrich	PC-O14-1	R1-PC-O-7	R1-PC-O-15	D
	PC-O14-2	R1-PC-O-7	R1-PC-O-16	A/N
	PC-O14-3	R1-PC-O-7	R1-PC-O-16	T
	PC-O14-4	R1-PC-O-7	R1-PC-O-16	T
	PC-O14-5	R1-PC-O-7	R1-PC-O-16	T
	PC-O14-6	R1-PC-O-8	R1-PC-O-16	T
Alan Otani	PC-O15-1	R1-PC-O-8	R1-PC-O-17	D
	PC-O15-2	R1-PC-O-8	R1-PC-O-17	N
	PC-O15-3	R1-PC-O-8	R1-PC-O-17	A
	PC-O15-4	R1-PC-O-8	R1-PC-O-17	E
	PC-O15-5	R1-PC-O-8	R1-PC-O-18	E
Ray Ott	PC-O16-1	R1-PC-O-9	R1-PC-O-18	E
	PC-O16-2	R1-PC-O-9	R1-PC-O-18	E
Harriet Ottaviano	PC-O17-1	R1-PC-O-9	R1-PC-O-18	T
	PC-O17-2	R1-PC-O-9	R1-PC-O-18	T
	PC-O17-3	R1-PC-O-9	R1-PC-O-19	T
	PC-O17-4	R1-PC-O-9	R1-PC-O-19	T
	PC-O17-5	R1-PC-O-9	R1-PC-O-19	T/D
Alfredo Padiero	PC-P1-1	R1-PC-P-1	R1-PC-P-29	E
Liz Padilla	PC-P2-1	R1-PC-P-1	R1-PC-P-29	E
Johnny Palmerin	PC-P3-1	R1-PC-P-2	R1-PC-P-29	E
Bruce Panting	PC-P4-1	R1-PC-P-2	R1-PC-P-29	E
	PC-P4-2	R1-PC-P-2	R1-PC-P-29	V
	PC-P4-3	R1-PC-P-2	R1-PC-P-30	D
	PC-P4-4	R1-PC-P-3	R1-PC-P-30	D
	PC-P4-5	R1-PC-P-3	R1-PC-P-30	N
	PC-P4-6	R1-PC-P-3	R1-PC-P-31	D
	PC-P4-7	R1-PC-P-3	R1-PC-P-31	E
	PC-P4-8	R1-PC-P-3	R1-PC-P-31	T
	PC-P4-9	R1-PC-P-3	R1-PC-P-31	E
	PC-P4-10	R1-PC-P-3	R1-PC-P-31	E
	PC-P4-11	R1-PC-P-3	R1-PC-P-31	E

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Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Christine L. Parker	PC-P5-1	R1-PC-P-4	R1-PC-P-31	E/D/T
Barbara Parks	PC-P6-1	R1-PC-P-5	R1-PC-P-32	D
	PC-P6-2	R1-PC-P-5	R1-PC-P-32	E/A
	PC-P6-3	R1-PC-P-5	R1-PC-P-32	E
Joe Partise	PC-P7-1	R1-PC-P-5	R1-PC-P-32	D
	PC-P7-2	R1-PC-P-5	R1-PC-P-33	E
	PC-P7-3	R1-PC-P-5	R1-PC-P-33	D
	PC-P7-4	R1-PC-P-5	R1-PC-P-33	E
	PC-P7-5	R1-PC-P-5	R1-PC-P-33	E
	PC-P7-6	R1-PC-P-5	R1-PC-P-33	D
	PC-P7-7	R1-PC-P-5	R1-PC-P-33	D
	PC-P7-8	R1-PC-P-5	R1-PC-P-33	N
	PC-P7-9	R1-PC-P-5	R1-PC-P-33	D
	PC-P7-10	R1-PC-P-5	R1-PC-P-34	D
	PC-P7-11	R1-PC-P-5	R1-PC-P-34	E
	PC-P7-12	R1-PC-P-5	R1-PC-P-34	T
	PC-P7-13	R1-PC-P-5	R1-PC-P-34	T
	PC-P7-14	R1-PC-P-5	R1-PC-P-34	T
	PC-P7-15	R1-PC-P-5	R1-PC-P-34	T
	PC-P7-16	R1-PC-P-5	R1-PC-P-34	E
	PC-P7-17	R1-PC-P-5	R1-PC-P-34	T
	PC-P7-18	R1-PC-P-6	R1-PC-P-35	T
	PC-P7-19	R1-PC-P-6	R1-PC-P-35	T
	PC-P7-20	R1-PC-P-6	R1-PC-P-35	T
	PC-P7-21	R1-PC-P-6	R1-PC-P-35	T
	PC-P7-22	R1-PC-P-6	R1-PC-P-35	T
Allison Passanisi	PC-P8-1	R1-PC-P-6	R1-PC-P-36	E
	PC-P8-2	R1-PC-P-6	R1-PC-P-36	D
	PC-P8-3	R1-PC-P-6	R1-PC-P-36	D
	PC-P8-4	R1-PC-P-6	R1-PC-P-36	D
	PC-P8-5	R1-PC-P-6	R1-PC-P-36	T
Vincent Passanisi	PC-P9-1	R1-PC-P-7	R1-PC-P-36	T
	PC-P9-2	R1-PC-P-7	R1-PC-P-37	T
	PC-P9-3	R1-PC-P-7	R1-PC-P-37	D
	PC-P9-4	R1-PC-P-7	R1-PC-P-37	T/R

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Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	PC-P9-5	R1-PC-P-7	R1-PC-P-37	E
Shelly Patino	PC-P10-1	R1-PC-P-7	R1-PC-P-37	E
Cary & Steve Pawlacyk	PC-P11-1	R1-PC-P-8	R1-PC-P-37	D
Mark Payne	PC-P12-1	R1-PC-P-8	R1-PC-P-38	E
Sean Payne	PC-P13-1	R1-PC-P-9	R1-PC-P-38	D
Greg Pearman	PC-P14-1	R1-PC-P-9	R1-PC-P-38	E
Scott Pearson	PC-P15-1	R1-PC-P-10	R1-PC-P-38	E
Jess Pedroza	PC-P16-1	R1-PC-P-10	R1-PC-P-39	E
Gilberto Pena	PC-P17-1	R1-PC-P-11	R1-PC-P-39	E
Cynthia Perez	PC-P18-1	R1-PC-P-11	R1-PC-P-39	E
Freddy Perez	PC-P19-1	R1-PC-P-12	R1-PC-P-39	E
Jose Luis Perez	PC-P20-1	R1-PC-P-12	R1-PC-P-39	E
Jim Perham	PC-P21-1	R1-PC-P-13	R1-PC-P-40	E
Roger Perkins	PC-P22-1	R1-PC-P-13	R1-PC-P-40	T
Roger Perkins	PC-P23-1	R1-PC-P-13	R1-PC-P-41	T
Tracy Pham	PC-P24-1	R1-PC-P-13	R1-PC-P-41	E
Tino Pham	PC-P25-1	R1-PC-P-14	R1-PC-P-41	E
Tony Phillips	PC-P26-1	R1-PC-P-14	R1-PC-P-41	T
	PC-P26-2	R1-PC-P-14	R1-PC-P-42	T
	PC-P26-3	R1-PC-P-14	R1-PC-P-42	D
Cody Pieplow	PC-P27-1	R1-PC-P-15	R1-PC-P-42	E
Muriel Pike	PC-P28-1	R1-PC-P-15	R1-PC-P-43	E
Eduardo H. Pinuela	PC-P29-1	R1-PC-P-16	R1-PC-P-43	E
	PC-P29-2	R1-PC-P-16	R1-PC-P-43	
Robert Pirillo	PC-P30-1	R1-PC-P-17	R1-PC-P-43	E/D
John Ploski	PC-P31-1	R1-PC-P-17	R1-PC-P-44	E/D
Antonio Ponce	PC-P32-1	R1-PC-P-18	R1-PC-P-44	E
Alfredo Poredes	PC-P33-1	R1-PC-P-19	R1-PC-P-44	E
George and Nancy Post	PC-P34-1	R1-PC-P-19	R1-PC-P-44	T
	PC-P34-2	R1-PC-P-19	R1-PC-P-44	T/A
	PC-P34-3	R1-PC-P-19	R1-PC-P-45	A
	PC-P34-4	R1-PC-P-19	R1-PC-P-45	A
	PC-P34-5	R1-PC-P-20	R1-PC-P-45	A
	PC-P34-6	R1-PC-P-20	R1-PC-P-45	T
	PC-P34-7	R1-PC-P-20	R1-PC-P-45	A

SUBJECT CODE KEY:
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H – Hazardous Waste/Materials; T – Traffic; A – Air Quality; V – Visual

Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	PC-P34-8	R1-PC-P-20	R1-PC-P-45	A
Tom Power	PC-P35-1	R1-PC-P-20	R1-PC-P-45	E
	PC-P35-2	R1-PC-P-20	R1-PC-P-46	T
	PC-P35-3	R1-PC-P-20	R1-PC-P-46	E
	PC-P35-4	R1-PC-P-21	R1-PC-P-46	T
	PC-P35-5	R1-PC-P-21	R1-PC-P-46	T
	PC-P35-6	R1-PC-P-21	R1-PC-P-46	T
	PC-P35-7	R1-PC-P-21	R1-PC-P-46	T
	PC-P35-8	R1-PC-P-21	R1-PC-P-47	T
	PC-P35-9	R1-PC-P-21	R1-PC-P-47	T
	PC-P35-10	R1-PC-P-22	R1-PC-P-47	D
	PC-P35-11	R1-PC-P-22	R1-PC-P-47	D
	PC-P35-12	R1-PC-P-22	R1-PC-P-47	E
	PC-P35-13	R1-PC-P-22	R1-PC-P-47	D
	PC-P35-14	R1-PC-P-22	R1-PC-P-47	D
	PC-P35-15	R1-PC-P-22	R1-PC-P-48	T
	PC-P35-16	R1-PC-P-22	R1-PC-P-48	T
	PC-P35-17	R1-PC-P-22	R1-PC-P-48	T
	PC-P35-18	R1-PC-P-22	R1-PC-P-48	E
	PC-P35-19	R1-PC-P-23	R1-PC-P-48	D
	PC-P35-20	R1-PC-P-23	R1-PC-P-48	D
	PC-P35-21	R1-PC-P-23	R1-PC-P-48	D
	PC-P35-22	R1-PC-P-23	R1-PC-P-48	A/N
	PC-P35-23	R1-PC-P-23	R1-PC-P-48	E
Tom Power	PC-P36-1	R1-PC-P-24	R1-PC-P-48	E/T
Andrya N. Powers	PC-P37-1	R1-PC-P-24	R1-PC-P-49	D
	PC-P37-2	R1-PC-P-24	R1-PC-P-49	D
	PC-P37-3	R1-PC-P-25	R1-PC-P-49	D
	PC-P37-4	R1-PC-P-25	R1-PC-P-49	T
	PC-P37-5	R1-PC-P-25	R1-PC-P-49	T
	PC-P37-6	R1-PC-P-25	R1-PC-P-49	T
	PC-P37-7	R1-PC-P-25	R1-PC-P-50	T
	PC-P37-8	R1-PC-P-25	R1-PC-P-50	D
	PC-P37-9	R1-PC-P-25	R1-PC-P-50	D
	PC-P37-10	R1-PC-P-25	R1-PC-P-50	E

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H – Hazardous Waste/Materials | T – Traffic | A – Air Quality | V – Visual

Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	PC-P37-11	R1-PC-P-25	R1-PC-P-50	D/R
	PC-P37-12	R1-PC-P-25	R1-PC-P-50	D
	PC-P37-13	R1-PC-P-25	R1-PC-P-50	D
	PC-P37-14	R1-PC-P-25	R1-PC-P-51	D
	PC-P37-15	R1-PC-P-25	R1-PC-P-51	D
	PC-P37-16	R1-PC-P-26	R1-PC-P-51	D
	PC-P37-17	R1-PC-P-26	R1-PC-P-51	D
	PC-P37-18	R1-PC-P-26	R1-PC-P-51	D
	PC-P37-19	R1-PC-P-26	R1-PC-P-51	E
	PC-P37-20	R1-PC-P-26	R1-PC-P-51	D
	PC-P37-21	R1-PC-P-26	R1-PC-P-51	A
	PC-P37-22	R1-PC-P-26	R1-PC-P-51	D
	PC-P37-23	R1-PC-P-26	R1-PC-P-52	E
Dave Powers	PC-P38-1	R1-PC-P-27	R1-PC-P-52	E/D/N
Kelly Powers	PC-P39-1	R1-PC-P-27	R1-PC-P-52	E
Stephanie Pszyk	PC-P40-1	R1-PC-P-28	R1-PC-P-53	E/D
Georgette M. Quinn	PC-Q1-1	R1-PC-Q-1	R1-PC-Q-3	E/D
Humberto Quijas	PC-Q2-1	R1-PC-Q-1	R1-PC-Q-3	E
Estebon Quiroz	PC-Q3-1	R1-PC-Q-2	R1-PC-Q-3	E
Lopez Rafael	PC-R1-1	R1-PC-R-1	R1-PC-R-35	E
Keith and Lois Raffel	PC-R2-1	R1-PC-R-1	R1-PC-R-35	E
	PC-R2-2	R1-PC-R-1	R1-PC-R-35	D/E
Keith and Lois Raffel	PC-R3-1	R1-PC-R-2	R1-PC-R-35	D/E
	PC-R3-2	R1-PC-R-2	R1-PC-R-36	E
Carlos Ramirez	PC-R4-1	R1-PC-R-2	R1-PC-R-36	E
Isaias Ramirez	PC-R5-1	R1-PC-R-3	R1-PC-R-36	E
John Ramirez	PC-R6-1	R1-PC-R-4	R1-PC-R-36	E
Leal Garcia Ramiro	PC-R7-1	R1-PC-R-4	R1-PC-R-37	E
Lilla Ramos	PC-R8-1	R1-PC-R-5	R1-PC-R-37	E
Irene Raney	PC-R9-1	R1-PC-R-5	R1-PC-R-37	E
Geneva G. Ray	PC-R10-1	R1-PC-R-6	R1-PC-R-38	E
	PC-R10-2	R1-PC-R-6	R1-PC-R-38	D
	PC-R10-3	R1-PC-R-6	R1-PC-R-38	T
	PC-R10-4	R1-PC-R-6	R1-PC-R-38	T
	PC-R10-5	R1-PC-R-6	R1-PC-R-38	T

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	PC-R10-6	R1-PC-R-6	R1-PC-R-38	T
	PC-R10-7	R1-PC-R-6	R1-PC-R-39	T
	PC-R10-8	R1-PC-R-6	R1-PC-R-39	E
	PC-R10-9	R1-PC-R-6	R1-PC-R-39	E
	PC-R10-10	R1-PC-R-6	R1-PC-R-39	E
	PC-R10-11	R1-PC-R-7	R1-PC-R-39	E
	PC-R10-12	R1-PC-R-7	R1-PC-R-39	E
	PC-R10-13	R1-PC-R-7	R1-PC-R-39	A
	PC-R10-14	R1-PC-R-7	R1-PC-R-39	E
Jerry Regnier	PC-R11-1	R1-PC-R-7	R1-PC-R-39	T
	PC-R11-2	R1-PC-R-7	R1-PC-R-40	E
	PC-R11-3	R1-PC-R-7	R1-PC-R-40	D
	PC-R11-4	R1-PC-R-7	R1-PC-R-40	T
Kimberlee Regnier	PC-R12-1	R1-PC-R-8	R1-PC-R-40	T
	PC-R12-2	R1-PC-R-8	R1-PC-R-41	D
Pamela Reid	PC-R13-1	R1-PC-R-8	R1-PC-R-41	A/N/T
	PC-R13-2	R1-PC-R-8	R1-PC-R-41	T
Rich Reiser	PC-R14-1	R1-PC-R-8	R1-PC-R-41	E/D/T
Dan Remmel	PC-R15-1	R1-PC-R-9	R1-PC-R-42	T
Dan Remmel	PC-R16-1	R1-PC-R-9	R1-PC-R-43	T
Roy Reynolds	PC-R17-1	R1-PC-R-9	R1-PC-R-43	E
	PC-R17-2	R1-PC-R-9	R1-PC-R-43	E
Charles Rice	PC-R18-1	R1-PC-R-9	R1-PC-R-44	E
	PC-R18-2	R1-PC-R-9	R1-PC-R-44	E
	PC-R18-3	R1-PC-R-9	R1-PC-R-44	T
Zelda Rice	PC-R19-1	R1-PC-R-10	R1-PC-R-44	E
	PC-R19-2	R1-PC-R-10	R1-PC-R-44	D
	PC-R19-3	R1-PC-R-10	R1-PC-R-44	T
	PC-R19-4	R1-PC-R-10	R1-PC-R-45	T
	PC-R19-5	R1-PC-R-10	R1-PC-R-45	E
Kenneth J. Rhea	PC-R20-1	R1-PC-R-11	R1-PC-R-45	D
Raymond Richards	PC-R21-1	R1-PC-R-11	R1-PC-R-46	T
Bella Ridley	PC-R22-1	R1-PC-R-11	R1-PC-R-46	E/D
Robin Ridley	PC-R23-1	R1-PC-R-12	R1-PC-R-46	E
Janet Riness	PC-R24-1	R1-PC-R-13	R1-PC-R-46	E/D

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	PC-R24-2	R1-PC-R-13	R1-PC-R-47	T
	PC-R24-3	R1-PC-R-13	R1-PC-R-47	T
	PC-R24-4	R1-PC-R-13	R1-PC-R-47	T
	PC-R24-5	R1-PC-R-13	R1-PC-R-47	D
Bobby Rivera	PC-R25-1	R1-PC-R-13	R1-PC-R-47	E
Leandro Martinez Rivera	PC-R26-1	R1-PC-R-14	R1-PC-R-48	E
Douglas Robbins	PC-R27-1	R1-PC-R-15	R1-PC-R-48	E
Keenan Roberson	PC-R28-1	R1-PC-R-15	R1-PC-R-48	E
Eddie Roblero	PC-R29-1	R1-PC-R-16	R1-PC-R-48	E
Karen Robbins	PC-R30-1	R1-PC-R-16	R1-PC-R-49	E
Karen Robbins	PC-R31-1	R1-PC-R-17	R1-PC-R-49	E
Anthony Robles	PC-R32-1	R1-PC-R-17	R1-PC-R-49	E
Thomas R. Robles, Sr.	PC-R33-1	R1-PC-R-18	R1-PC-R-50	E
Rosa Roch	PC-R34-1	R1-PC-R-18	R1-PC-R-50	E
Teddie Rovefeld	PC-R35-1	R1-PC-R-19	R1-PC-R-50	D
	PC-R35-2	R1-PC-R-19	R1-PC-R-50	E
Heraclio Radriguez	PC-R36-1	R1-PC-R-20	R1-PC-R-50	E
Melitor Rodriguez	PC-R37-1	R1-PC-R-20	R1-PC-R-51	E
Moiso Rodriguez	PC-R38-1	R1-PC-R-21	R1-PC-R-51	E
Richard Rodson	PC-R39-1	R1-PC-R-22	R1-PC-R-51	E
Jennifer Rohdenburg	PC-R40-1	R1-PC-R-23	R1-PC-R-52	D
Aurelio Rojas	PC-R41-1	R1-PC-R-23	R1-PC-R-52	E/R
Cary Rosenberg	PC-R42-1	R1-PC-R-24	R1-PC-R-52	E
	PC-R42-2	R1-PC-R-24	R1-PC-R-53	T
	PC-R42-3	R1-PC-R-24	R1-PC-R-53	E
Dana Rosenberg	PC-R43-1	R1-PC-R-25	R1-PC-R-53	E
	PC-R43-2	R1-PC-R-25	R1-PC-R-54	T
	PC-R43-3	R1-PC-R-25	R1-PC-R-54	E
Melinda Rosenberg	PC-R44-1	R1-PC-R-25	R1-PC-R-54	E
	PC-R44-2	R1-PC-R-25	R1-PC-R-54	T
	PC-R44-3	R1-PC-R-25	R1-PC-R-54	E
Ann Marie Rousseau and Duvall Hecht	PC-R45-1	R1-PC-R-26	R1-PC-R-54	E
Jon and Patricia Rowe	PC-R46-1	R1-PC-R-26	R1-PC-R-54	E/N
	PC-R46-2	R1-PC-R-26	R1-PC-R-55	D
	PC-R46-3	R1-PC-R-26	R1-PC-R-55	T

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	PC-R46-4	R1-PC-R-26	R1-PC-R-56	T
	PC-R46-5	R1-PC-R-26	R1-PC-R-56	E
J. Rob Royal	PC-R47-1	R1-PC-R-27	R1-PC-R-56	E
Jose A. Rual	PC-R48-1	R1-PC-R-27	R1-PC-R-56	E
Ruth and Al Rudis	PC-R49-1	R1-PC-R-28	R1-PC-R-56	T
	PC-R49-2	R1-PC-R-28	R1-PC-R-57	T
Joan S. Rudisil	PC-R50-1	R1-PC-R-28	R1-PC-R-57	E
Chawnie Rueff	PC-R51-1	R1-PC-R-29	R1-PC-R-57	D
Jim Rueff	PC-R52-1	R1-PC-R-29	R1-PC-R-58	D
Anthony Ruiz	PC-R53-1	R1-PC-R-29	R1-PC-R-58	E
Jorge L. Ruiz	PC-R54-1	R1-PC-R-30	R1-PC-R-58	E
Ruben Ruiz	PC-R55-1	R1-PC-R-31	R1-PC-R-59	E
Carlos Rumbo	PC-R56-1	R1-PC-R-31	R1-PC-R-59	E
Diane Rush	PC-R57-1	R1-PC-R-32	R1-PC-R-59	E/A
Clinton Rusk	PC-R58-1	R1-PC-R-32	R1-PC-R-59	E
Jeff Ruvalcava	PC-R59-1	R1-PC-R-33	R1-PC-R-60	E
Sandra L. Ruyle	PC-R60-1	R1-PC-R-33	R1-PC-R-60	E/A/N/T
Randall Rydjeski	PC-R61-1	R1-PC-R-34	R1-PC-R-60	E
	PC-R61-2	R1-PC-R-34	R1-PC-R-61	D
	PC-R61-3	R1-PC-R-34	R1-PC-R-61	E
	PC-R61-4	R1-PC-R-34	R1-PC-R-61	E
Joya Ryerson	PC-R62-1	R1-PC-R-34	R1-PC-R-61	E/N/A
Vicente Salcedo	PC-S1-1	R1-PC-S-1	R1-PC-S-56	E
Philip J. Salerno	PC-S2-1	R1-PC-S-1	R1-PC-S-56	E
Charlotte Salisbury, PMP	PC-S3-1	R1-PC-S-2	R1-PC-S-56	E/R
Tim Salisbury	PC-S4-1	R1-PC-S-2	R1-PC-S-56	E
Mr. and Mrs. Robert Sample	PC-S5-1	R1-PC-S-3	R1-PC-S-56	E
Javier Sanchez	PC-S6-1	R1-PC-S-3	R1-PC-S-57	E
Craig Sandberg	PC-S7-1	R1-PC-S-4	R1-PC-S-57	E
	PC-S7-2	R1-PC-S-4	R1-PC-S-57	E
	PC-S7-3	R1-PC-S-4	R1-PC-S-57	E
The Sander Family	PC-S8-1	R1-PC-S-4	R1-PC-S-57	D
	PC-S8-2	R1-PC-S-4	R1-PC-S-58	D
	PC-S8-3	R1-PC-S-4	R1-PC-S-58	D/R
	PC-S8-4	R1-PC-S-4	R1-PC-S-58	D

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Melanie Sanders	PC-S9-1	R1-PC-S-4	R1-PC-S-58	E
Cesar G. Sandoval	PC-S10-1	R1-PC-S-5	R1-PC-S-58	E
Michael Santos	PC-S11-1	R1-PC-S-5	R1-PC-S-58	D
	PC-S11-2	R1-PC-S-5	R1-PC-S-59	D
	PC-S11-3	R1-PC-S-5	R1-PC-S-59	D
Sam Santos	PC-S12-1	R1-PC-S-6	R1-PC-S-59	E
Jalinda de los Santos	PC-S13-1	R1-PC-S-6	R1-PC-S-59	E
	PC-S13-2	R1-PC-S-6	R1-PC-S-59	D
	PC-S13-3	R1-PC-S-6	R1-PC-S-59	E
	PC-S13-4	R1-PC-S-6	R1-PC-S-59	E
Oscar Sanudo	PC-S14-1	R1-PC-S-7	R1-PC-S-60	E
Ashley Schaefer	PC-S15-1	R1-PC-S-7	R1-PC-S-60	E
Elsbeth Schmidt	PC-S16-1	R1-PC-S-8	R1-PC-S-60	E
	PC-S16-2	R1-PC-S-8	R1-PC-S-60	E
	PC-S16-3	R1-PC-S-8	R1-PC-S-60	T
	PC-S16-4	R1-PC-S-8	R1-PC-S-61	E
	PC-S16-5	R1-PC-S-8	R1-PC-S-61	E
	PC-S16-6	R1-PC-S-8	R1-PC-S-61	D
	PC-S16-7	R1-PC-S-8	R1-PC-S-61	E
	PC-S16-8	R1-PC-S-8	R1-PC-S-61	E
Elsbeth Schmidt	PC-S17-1	R1-PC-S-9	R1-PC-S-61	E
	PC-S17-2	R1-PC-S-9	R1-PC-S-61	D
	PC-S17-3	R1-PC-S-9	R1-PC-S-61	E
	PC-S17-4	R1-PC-S-9	R1-PC-S-61	E
Gloria Schmidt	PC-S18-1	R1-PC-S-9	R1-PC-S-62	D
	PC-S18-2	R1-PC-S-9	R1-PC-S-62	A
	PC-S18-3	R1-PC-S-9	R1-PC-S-62	N
Theodore P. Schraff III	PC-S19-1	R1-PC-S-10	R1-PC-S-62	T
	PC-S19-2	R1-PC-S-10	R1-PC-S-63	T
	PC-S19-3	R1-PC-S-10	R1-PC-S-63	A
	PC-S19-4	R1-PC-S-10	R1-PC-S-63	E
	PC-S19-5	R1-PC-S-10	R1-PC-S-63	E
Linda Scott	PC-S20-1	R1-PC-S-10	R1-PC-S-63	D

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H – Hazardous Waste/Materials | T – Traffic | A – Air Quality | V – Visual

Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Bell Sedlak	PC-S21-1	R1-PC-S-11	R1-PC-S-64	E
	PC-S21-2	R1-PC-S-11	R1-PC-S-64	T
	PC-S21-3	R1-PC-S-11	R1-PC-S-64	T
	PC-S21-4	R1-PC-S-11	R1-PC-S-64	E
Jim Seippel	PC-S22-1	R1-PC-S-11	R1-PC-S-64	E
Kenneth H. Seiff	PC-S23-1	R1-PC-S-11	R1-PC-S-64	E
	PC-S23-2	R1-PC-S-11	R1-PC-S-65	T
	PC-S23-3	R1-PC-S-12	R1-PC-S-65	E
	PC-S23-4	R1-PC-S-12	R1-PC-S-65	T
Debbie Serrano	PC-S24-1	R1-PC-S-12	R1-PC-S-65	E
Monica Sevoyian	PC-S25-1	R1-PC-S-13	R1-PC-S-66	E
Moises Sevilla	PC-S26-1	R1-PC-S-13	R1-PC-S-66	E
Roy Shahbazian	PC-S27-1	R1-PC-S-14	R1-PC-S-66	D
Roy Shahbazian	PC-S28-1	R1-PC-S-14	R1-PC-S-67	E
Roy Shahbazian	PC-S29-1	R1-PC-S-15	R1-PC-S-67	D
	PC-S29-2	R1-PC-S-16	R1-PC-S-68	D/R
	PC-S29-3	R1-PC-S-16	R1-PC-S-68	D
	PC-S29-4	R1-PC-S-16	R1-PC-S-68	D
	PC-S29-5	R1-PC-S-17	R1-PC-S-69	D
	PC-S29-6	R1-PC-S-17	R1-PC-S-69	D
	PC-S29-7	R1-PC-S-17	R1-PC-S-69	D
	PC-S29-8	R1-PC-S-17	R1-PC-S-70	D
	PC-S29-9	R1-PC-S-17	R1-PC-S-70	D
	PC-S29-10	R1-PC-S-18	R1-PC-S-70	D
	PC-S29-11	R1-PC-S-18	R1-PC-S-70	D
	PC-S29-12	R1-PC-S-18	R1-PC-S-71	D
	PC-S29-13	R1-PC-S-18	R1-PC-S-71	D
	PC-S29-14	R1-PC-S-18	R1-PC-S-71	D
	PC-S29-15	R1-PC-S-18	R1-PC-S-71	D
	PC-S29-16	R1-PC-S-18	R1-PC-S-71	D
	PC-S29-17	R1-PC-S-18	R1-PC-S-71	D
	PC-S29-18	R1-PC-S-18	R1-PC-S-72	T
	PC-S29-19	R1-PC-S-18	R1-PC-S-72	T
Amy Shaw	PC-S30-1	R1-PC-S-19	R1-PC-S-72	E
Ben and Susan Shaw	PC-S31-1	R1-PC-S-19	R1-PC-S-73	E

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H – Hazardous Waste/Materials; T – Traffic; A – Air Quality; V – Visual

Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Ben and Susan Shaw	PC-S32-1	R1-PC-S-19	R1-PC-S-73	E/D
	PC-S32-2	R1-PC-S-19	R1-PC-S-73	E
Dave Shea	PC-S33-1	R1-PC-S-19	R1-PC-S-74	T
Scott Shoemaker	PC-S34-1	R1-PC-S-20	R1-PC-S-74	E
Julia M. and James W. Shores	PC-S35-1	R1-PC-S-20	R1-PC-S-74	E
	PC-S35-2	R1-PC-S-20	R1-PC-S-74	D
Carlos P. Silvestre	PC-S36-1	R1-PC-S-21	R1-PC-S-75	E
Terry Simpson	PC-S37-1	R1-PC-S-21	R1-PC-S-75	E
	PC-S37-2	R1-PC-S-21	R1-PC-S-75	T
Peter J. Sinambal	PC-S38-1	R1-PC-S-22	R1-PC-S-75	E
	PC-S38-2	R1-PC-S-22	R1-PC-S-75	N
Jan Sledge	PC-S39-1	R1-PC-S-23	R1-PC-S-76	E
	PC-S39-2	R1-PC-S-23	R1-PC-S-76	D
	PC-S39-3	R1-PC-S-23	R1-PC-S-76	T
	PC-S39-4	R1-PC-S-23	R1-PC-S-76	A
	PC-S39-5	R1-PC-S-23	R1-PC-S-76	T
	PC-S39-6	R1-PC-S-23	R1-PC-S-76	E
	PC-S39-7	R1-PC-S-23	R1-PC-S-77	T
	PC-S39-8	R1-PC-S-23	R1-PC-S-77	T
	PC-S39-9	R1-PC-S-23	R1-PC-S-77	E
	PC-S39-10	R1-PC-S-23	R1-PC-S-77	E
A.A. Smillie	PC-S40-1	R1-PC-S-23	R1-PC-S-78	D
	PC-S40-2	R1-PC-S-23	R1-PC-S-78	E
A.A. Smillie	PC-S41-1	R1-PC-S-24	R1-PC-S-78	D
	PC-S41-2	R1-PC-S-24	R1-PC-S-78	E
	PC-S41-3	R1-PC-S-24	R1-PC-S-78	E
Alice Smith	PC-S42-1	R1-PC-S-25	R1-PC-S-78	E
Ann A. Smith	PC-S43-1	R1-PC-S-25	R1-PC-S-79	D/E/T
	PC-S43-2	R1-PC-S-25	R1-PC-S-79	T
Jack S. Smith	PC-S44-1	R1-PC-S-26	R1-PC-S-79	D/E/T
Jason Smith	PC-S45-1	R1-PC-S-26	R1-PC-S-79	E
Judy Smith	PC-S46-1	R1-PC-S-27	R1-PC-S-79	T
	PC-S46-2	R1-PC-S-27	R1-PC-S-80	E
	PC-S46-3	R1-PC-S-27	R1-PC-S-80	N
Paulette Smith	PC-S47-1	R1-PC-S-27	R1-PC-S-80	D

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Scott D. Smith	PC-S48-1	R1-PC-S-27	R1-PC-S-80	E
Jon Sohegan	PC-S49-1	R1-PC-S-28	R1-PC-S-81	E
Carolina Leon Solans	PC-S50-1	R1-PC-S-28	R1-PC-S-81	D
	PC-S50-2	R1-PC-S-28	R1-PC-S-81	T
	PC-S50-3	R1-PC-S-28	R1-PC-S-81	T
	PC-S50-4	R1-PC-S-28	R1-PC-S-81	T
	PC-S50-5	R1-PC-S-29	R1-PC-S-82	T
	PC-S50-6	R1-PC-S-29	R1-PC-S-82	D
J. Soldana	PC-S51-1	R1-PC-S-29	R1-PC-S-82	E
Manuel Soto	PC-S52-1	R1-PC-S-30	R1-PC-S-83	E
William Soule	PC-S53-1	R1-PC-S-31	R1-PC-S-83	D
William and Gilma Soule	PC-S54-1	R1-PC-S-31	R1-PC-S-83	D
	PC-S54-2	R1-PC-S-31	R1-PC-S-84	T
	PC-S54-3	R1-PC-S-31	R1-PC-S-84	T
	PC-S54-4	R1-PC-S-31	R1-PC-S-84	T
	PC-S54-5	R1-PC-S-32	R1-PC-S-84	T
	PC-S54-6	R1-PC-S-32	R1-PC-S-84	D
Michael Sparks	PC-S55-1	R1-PC-S-32	R1-PC-S-84	E
Deborah Speer	PC-S56-1	R1-PC-S-33	R1-PC-S-84	E
	PC-S56-2	R1-PC-S-33	R1-PC-S-84	D
	PC-S56-3	R1-PC-S-33	R1-PC-S-85	D
Deborah Speer	PC-S57-1	R1-PC-S-33	R1-PC-S-85	E
	PC-S57-2	R1-PC-S-33	R1-PC-S-85	D
	PC-S57-3	R1-PC-S-33	R1-PC-S-85	D
Gayle Spinks	PC-S58-1	R1-PC-S-34	R1-PC-S-85	E
	PC-S58-2	R1-PC-S-34	R1-PC-S-85	T
	PC-S58-3	R1-PC-S-34	R1-PC-S-85	N
	PC-S58-4	R1-PC-S-34	R1-PC-S-86	E
	PC-S58-5	R1-PC-S-34	R1-PC-S-86	D
	PC-S58-6	R1-PC-S-34	R1-PC-S-86	D
	PC-S58-7	R1-PC-S-34	R1-PC-S-86	T
Bette Sprague	PC-S59-1	R1-PC-S-35	R1-PC-S-87	E
Roger Sprague	PC-S60-1	R1-PC-S-36	R1-PC-S-87	E
	PC-S60-2	R1-PC-S-36	R1-PC-S-87	T
	PC-S60-3	R1-PC-S-36	R1-PC-S-87	T

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Sarah Stack	PC-S61-1	R1-PC-S-37	R1-PC-S-87	E
	PC-S61-2	R1-PC-S-37	R1-PC-S-88	E
Karla Stagman	PC-S62-1	R1-PC-S-37	R1-PC-S-88	E
Karla Stagman	PC-S63-1	R1-PC-S-37	R1-PC-S-88	E
Karla Stagman	PC-S64-1	R1-PC-S-37	R1-PC-S-88	E
	PC-S64-2	R1-PC-S-37	R1-PC-S-89	T
Bruce Stava	PC-S65-1	R1-PC-S-38	R1-PC-S-89	D
Cynthia Stava	PC-S66-1	R1-PC-S-38	R1-PC-S-89	D
	PC-S66-2	R1-PC-S-38	R1-PC-S-90	T
Mary Stebbins	PC-S67-1	R1-PC-S-38	R1-PC-S-90	D
Mary Stebbins	PC-S68-1	R1-PC-S-39	R1-PC-S-90	D
Mary Stebbins	PC-S69-1	R1-PC-S-40	R1-PC-S-90	D
Daniel Stelung	PC-S70-1	R1-PC-S-41	R1-PC-S-91	D
Johanna Stephenson	PC-S71-1	R1-PC-S-41	R1-PC-S-91	E
Stephen Steponovich, Esq.	PC-S72-1	R1-PC-S-41	R1-PC-S-91	D
Stephen Steponovich, Esq.	PC-S73-1	R1-PC-S-42	R1-PC-S-92	E
Stephen Steponovich, Esq.	PC-S74-1	R1-PC-S-42	R1-PC-S-92	T
Barbara Steve	PC-S75-1	R1-PC-S-43	R1-PC-S-92	D
	PC-S75-2	R1-PC-S-43	R1-PC-S-92	D
	PC-S75-3	R1-PC-S-43	R1-PC-S-92	D
Bruce W. Steve	PC-S76-1	R1-PC-S-43	R1-PC-S-93	T
	PC-S76-2	R1-PC-S-43	R1-PC-S-93	D
Rodriguez Steve	PC-S77-1	R1-PC-S-44	R1-PC-S-93	E
Doreen Stevens	PC-S78-1	R1-PC-S-44	R1-PC-S-93	E
	PC-S78-2	R1-PC-S-44	R1-PC-S-93	D
	PC-S78-3	R1-PC-S-44	R1-PC-S-93	D
	PC-S78-4	R1-PC-S-44	R1-PC-S-94	E
	PC-S78-5	R1-PC-S-44	R1-PC-S-94	T
	PC-S78-6	R1-PC-S-44	R1-PC-S-94	T
Doreen Stevens	PC-S79-1	R1-PC-S-45	R1-PC-S-94	D
	PC-S79-2	R1-PC-S-45	R1-PC-S-94	D
	PC-S79-3	R1-PC-S-45	R1-PC-S-94	D
	PC-S79-4	R1-PC-S-45	R1-PC-S-94	D/R
Lloyd Stockwell	PC-S80-1	R1-PC-S-45	R1-PC-S-95	E
Melinda Stone	PC-S81-1	R1-PC-S-45	R1-PC-S-95	E

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Anthony Storno	PC-S82-1	R1-PC-S-46	R1-PC-S-95	E
Corinne Stover	PC-S83-1	R1-PC-S-46	R1-PC-S-95	D
	PC-S83-2	R1-PC-S-46	R1-PC-S-96	D
	PC-S83-3	R1-PC-S-46	R1-PC-S-96	T
Corinne Stover	PC-S84-1	R1-PC-S-47	R1-PC-S-96	E
Louise Stover	PC-S85-1	R1-PC-S-47	R1-PC-S-96	E
	PC-S85-2	R1-PC-S-47	R1-PC-S-96	D
Louise Stover	PC-S86-1	R1-PC-S-48	R1-PC-S-96	E
	PC-S86-2	R1-PC-S-48	R1-PC-S-97	D
Vivian Strabala	PC-S87-1	R1-PC-S-48	R1-PC-S-97	E/D/T
Charles and Susan Stratton	PC-S88-1	R1-PC-S-49	R1-PC-S-97	D
Scott Stubble	PC-S89-1	R1-PC-S-49	R1-PC-S-97	E
Robert Stwalley	PC-S90-1	R1-PC-S-49	R1-PC-S-97	E
Schelly Sustarsic	PC-S91-1	R1-PC-S-49	R1-PC-S-98	T
	PC-S91-2	R1-PC-S-49	R1-PC-S-98	A
	PC-S91-3	R1-PC-S-50	R1-PC-S-98	T
	PC-S91-4	R1-PC-S-50	R1-PC-S-99	T
	PC-S91-5	R1-PC-S-50	R1-PC-S-99	T
	PC-S91-6	R1-PC-S-50	R1-PC-S-99	T
	PC-S91-7	R1-PC-S-50	R1-PC-S-99	A
	PC-S91-8	R1-PC-S-50	R1-PC-S-99	T
	PC-S91-9	R1-PC-S-50	R1-PC-S-100	D
	PC-S91-10	R1-PC-S-51	R1-PC-S-100	E
	PC-S91-11	R1-PC-S-51	R1-PC-S-100	T
	PC-S91-12	R1-PC-S-51	R1-PC-S-100	T
B. Sutton	PC-S92-1	R1-PC-S-51	R1-PC-S-100	E
Ben Svensson	PC-S93-1	R1-PC-S-51	R1-PC-S-100	T
Tonia Svennson	PC-S94-1	R1-PC-S-52	R1-PC-S-101	T
Tamara Sverev	PC-S95-1	R1-PC-S-52	R1-PC-S-101	E
	PC-S95-2	R1-PC-S-52	R1-PC-S-101	D
	PC-S95-3	R1-PC-S-52	R1-PC-S-101	E
	PC-S95-4	R1-PC-S-52	R1-PC-S-101	E
Jeffrey M. Swain	PC-S96-1	R1-PC-S-53	R1-PC-S-101	E
Bobby Swan	PC-S97-1	R1-PC-S-53	R1-PC-S-102	E

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Jacqueline and Robert Sweeney, and Susan Browne	PC-S98-1	R1-PC-S-54	R1-PC-S-102	E
Bruce Switzky	PC-S99-1	R1-PC-S-54	R1-PC-S-102	E
	PC-S99-2	R1-PC-S-54	R1-PC-S-102	T
	PC-S99-3	R1-PC-S-55	R1-PC-S-102	E
	PC-S99-4	R1-PC-S-55	R1-PC-S-103	D
	PC-S99-5	R1-PC-S-55	R1-PC-S-103	E
Kristina Tackett	PC-T1-1	R1-PC-T-1	R1-PC-T-23	T
	PC-T1-2	R1-PC-T-1	R1-PC-T-23	E
Fatu Talolo	PC-T2-1	R1-PC-T-1	R1-PC-T-23	E
Rex Tam	PC-T3-1	R1-PC-T-2	R1-PC-T-23	D
	PC-T3-2	R1-PC-T-2	R1-PC-T-24	D
	PC-T3-3	R1-PC-T-2	R1-PC-T-24	D
Linda Tam	PC-T4-1	R1-PC-T-2	R1-PC-T-24	D
	PC-T4-2	R1-PC-T-2	R1-PC-T-24	D
Jose Luis Tapia	PC-T5-1	R1-PC-T-3	R1-PC-T-24	E
J. Rocky Tarchione	PC-T6-1	R1-PC-T-4	R1-PC-T-25	T
Debbie Tenpenny	PC-T7-1	R1-PC-T-4	R1-PC-T-25	T
Jon Theriault	PC-T8-1	R1-PC-T-4	R1-PC-T-26	D
Merlin and Delores Thimlar	PC-T9-1	R1-PC-T-5	R1-PC-T-26	D
Mary Thobe	PC-T10-1	R1-PC-T-6	R1-PC-T-26	D
Isaac Thomas	PC-T11-1	R1-PC-T-6	R1-PC-T-27	E
Thomas and Elizabeth Thomas	PC-T12-1	R1-PC-T-7	R1-PC-T-27	E
	PC-T12-2	R1-PC-T-7	R1-PC-T-27	D
	PC-T12-3	R1-PC-T-7	R1-PC-T-27	T
	PC-T12-4	R1-PC-T-7	R1-PC-T-28	E
	PC-T12-5	R1-PC-T-7	R1-PC-T-28	T
	PC-T12-6	R1-PC-T-7	R1-PC-T-28	E/D
Don Thompson	PC-T13-1	R1-PC-T-7	R1-PC-T-28	D
	PC-T13-2	R1-PC-T-7	R1-PC-T-28	T
	PC-T13-3	R1-PC-T-7	R1-PC-T-28	N
	PC-T13-4	R1-PC-T-7	R1-PC-T-29	D
Don Thompson	PC-T14-1	R1-PC-T-8	R1-PC-T-29	D
	PC-T14-2	R1-PC-T-8	R1-PC-T-29	T
Joan D. Thompson	PC-T15-1	R1-PC-T-8	R1-PC-T-29	D

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Troy and Lois Thompson	PC-T16-1	R1-PC-T-9	R1-PC-T-30	E
S.P. Thornton*	PC-T17-1	R1-PC-T-9	R1-PC-T-30	E
Greg Thunell	PC-T18-1	R1-PC-T-9	R1-PC-T-30	E/D/T
	PC-T18-2	R1-PC-T-9	R1-PC-T-30	E
Yasmine Tifrit	PC-T19-1	R1-PC-T-10	R1-PC-T-30	D
Jeff Tilson	PC-T20-1	R1-PC-T-11	R1-PC-T-31	D
Jose Tinoco	PC-T21-1	R1-PC-T-12	R1-PC-T-31	E
Jose Luis Tirado	PC-T22-1	R1-PC-T-13	R1-PC-T-31	E
Bert W. Tolbert	PC-T23-1	R1-PC-T-13	R1-PC-T-32	E
Jean and Michael Toole	PC-T24-1	R1-PC-T-14	R1-PC-T-32	E
Michael and Jean Toole	PC-T25-1	R1-PC-T-14	R1-PC-T-32	E
	PC-T25-2	R1-PC-T-14	R1-PC-T-32	N/A
	PC-T25-3	R1-PC-T-14	R1-PC-T-33	E
	PC-T25-4	R1-PC-T-14	R1-PC-T-33	E
Shaun Torbati	PC-T26-1	R1-PC-T-14	R1-PC-T-33	D
Staci Torbati	PC-T27-1	R1-PC-T-15	R1-PC-T-33	D
Carlos Torres	PC-T28-1	R1-PC-T-16	R1-PC-T-34	E
Lupe Torres	PC-T29-1	R1-PC-T-17	R1-PC-T-34	E
Hector Toscano	PC-T30-1	R1-PC-T-17	R1-PC-T-34	E
Khoi Tran	PC-T31-1	R1-PC-T-18	R1-PC-T-34	E
Danielle Triana	PC-T32-1	R1-PC-T-18	R1-PC-T-34	T
Yvonne Troutman	PC-T33-1	R1-PC-T-19	R1-PC-T-35	N
	PC-T33-2	R1-PC-T-19	R1-PC-T-35	A/N
	PC-T33-3	R1-PC-T-19	R1-PC-T-35	E
	PC-T33-4	R1-PC-T-19	R1-PC-T-35	E
	PC-T33-5	R1-PC-T-19	R1-PC-T-36	E
Bill Tuggle	PC-T34-1	R1-PC-T-19	R1-PC-T-36	N
	PC-T34-2	R1-PC-T-20	R1-PC-T-38	D
	PC-T34-3	R1-PC-T-20	R1-PC-T-38	D/R
	PC-T34-4	R1-PC-T-21	R1-PC-T-38	T
	PC-T34-5	R1-PC-T-21	R1-PC-T-38	R
Roger Tyler	PC-T35-1	R1-PC-T-22	R1-PC-T-38	N/R
	PC-T35-2	R1-PC-T-22	R1-PC-T-40	D/T
	PC-T35-3	R1-PC-T-22	R1-PC-T-40	T
Janet Underwood	PC-U1-1	R1-PC-U-1	R1-PC-U-2	E

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Ray and Joy Urata	PC-U2-1	R1-PC-U-1	R1-PC-U-2	E
	PC-U2-2	R1-PC-U-1	R1-PC-U-2	D
Jesus Vaca	PC-V1-1	R1-PC-V-1	R1-PC-V-15	E
Jose Valcarcel	PC-V2-1	R1-PC-V-1	R1-PC-V-15	E
Ramon Valcarcel	PC-V3-1	R1-PC-V-2	R1-PC-V-15	E
Jonathan Valdez	PC-V4-1	R1-PC-V-2	R1-PC-V-15	E
Paul Valdovinos	PC-V5-1	R1-PC-V-3	R1-PC-V-16	E
Rafael Valencia	PC-V6-1	R1-PC-V-3	R1-PC-V-16	E
Victor Valencia	PC-V7-1	R1-PC-V-4	R1-PC-V-16	E
Carol Vanderree	PC-V8-1	R1-PC-V-5	R1-PC-V-17	D/E
Antonio Vazquez	PC-V9-1	R1-PC-V-5	R1-PC-V-17	E
Francisco Velazquez	PC-V10-1	R1-PC-V-6	R1-PC-V-17	E
Nancy Velazquez	PC-V11-1	R1-PC-V-6	R1-PC-V-17	E
Ray and Jeanette Vella	PC-V12-1	R1-PC-V-7	R1-PC-V-18	D
Cherie Verderber	PC-V13-1	R1-PC-V-7	R1-PC-V-18	E/T
	PC-V13-2	R1-PC-V-7	R1-PC-V-18	T
Ashton Vergo	PC-V14-1	R1-PC-V-7	R1-PC-V-18	E
Ruben Villagno	PC-V15	R1-PC-V-8	R1-PC-V-19	E
Dick Vincent	PC-V16-1	R1-PC-V-8	R1-PC-V-19	D/T
	PC-V16-2	R1-PC-V-8	R1-PC-V-19	T
Shannon Vincent	PC-V17-1	R1-PC-V-9	R1-PC-V-19	D
Clif and Jane Vineyard	PC-V18-1	R1-PC-V-9	R1-PC-V-20	D/T
	PC-V18-2	R1-PC-V-9	R1-PC-V-20	T
	PC-V18-3	R1-PC-V-9	R1-PC-V-20	E
	PC-V18-4	R1-PC-V-9	R1-PC-V-20	D
	PC-V18-5	R1-PC-V-9	R1-PC-V-21	D
	PC-V18-6	R1-PC-V-9	R1-PC-V-21	D
	PC-V18-7	R1-PC-V-9	R1-PC-V-21	D
	PC-V18-8	R1-PC-V-10	R1-PC-V-21	D
	PC-V18-9	R1-PC-V-10	R1-PC-V-21	D/R
	PC-V18-10	R1-PC-V-10	R1-PC-V-21	D
Traci Vitug	PC-V19-1	R1-PC-V-10	R1-PC-V-21	D
Anne Vo and Phil Han	PC-V20-1	R1-PC-V-11	R1-PC-V-22	D/E
Hugh Vo	PC-V21-1	R1-PC-V-11	R1-PC-V-22	D/E
Hugh Vo	PC-V22-1	R1-PC-V-12	R1-PC-V-22	D/T

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H – Hazardous Waste/Materials; T – Traffic; A – Air Quality; V – Visual

Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	PC-V22-2	R1-PC-V-12	R1-PC-V-23	T
Hugh Vo	PC-V23-1	R1-PC-V-12	R1-PC-V-23	D/T
	PC-V23-2	R1-PC-V-12	R1-PC-V-23	T
Lan Vo	PC-V24-1	R1-PC-V-13	R1-PC-V-23	D
Lan Vo	PC-V25-1	R1-PC-V-14	R1-PC-V-24	D
John Vong	PC-V26-1	R1-PC-V-14	R1-PC-V-24	D
Droshun Wade	PC-W1-1	R1-PC-W-1	R1-PC-W-18	E
Mr. and Mrs. Robert M. Walker	PC-W2-1	R1-PC-W-1	R1-PC-W-18	E/D
Harriett and James Walker	PC-W3-1	R1-PC-W-2	R1-PC-W-18	E/A/T
Davis E. Walner	PC-W4-1	R1-PC-W-2	R1-PC-W-19	D
	PC-W4-2	R1-PC-W-2	R1-PC-W-19	A
	PC-W4-3	R1-PC-W-2	R1-PC-W-19	T
	PC-W4-4	R1-PC-W-2	R1-PC-W-19	E
	PC-W4-5	R1-PC-W-2	R1-PC-W-19	D
Kimberly Walton	PC-W5-1	R1-PC-W-3	R1-PC-W-20	T
Kathleen Wang	PC-W6-1	R1-PC-W-3	R1-PC-W-20	T
Joan M. Ward	PC-W7-1	R1-PC-W-3	R1-PC-W-21	E/D/T
William H. Ward Jr.	PC-W8-1	R1-PC-W-4	R1-PC-W-21	E/D/T
Monica Warrick*	PC-W9-1	R1-PC-W-4	R1-PC-W-21	E/D/T
Casey Weber, P.E.	PC-W10-1	R1-PC-W-4	R1-PC-W-22	E
Harold Webster	PC-W11-1	R1-PC-W-5	R1-PC-W-22	D
Alex Weddle	PC-W12-1	R1-PC-W-5	R1-PC-W-22	E
David Kahn and Nancy Weintraub	PC-W13-1	R1-PC-W-6	R1-PC-W-22	E/D
David Kahn and Nancy Weintraub	PC-W14-1	R1-PC-W-6	R1-PC-W-23	D
	PC-W14-2	R1-PC-W-6	R1-PC-W-23	D
David Kahn and Nancy Weintraub	PC-W15-1	R1-PC-W-6	R1-PC-W-23	D
	PC-W15-2	R1-PC-W-6	R1-PC-W-23	D/T
	PC-W15-3	R1-PC-W-6	R1-PC-W-24	E
	PC-W15-4	R1-PC-W-6	R1-PC-W-24	E/R
Walter F. and Darlene A. Welch	PC-W16-1	R1-PC-W-7	R1-PC-W-24	D
	PC-W16-2	R1-PC-W-7	R1-PC-W-24	E
	PC-W16-3	R1-PC-W-7	R1-PC-W-24	T
Ryan Welday	PC-W17-1	R1-PC-W-7	R1-PC-W-24	E
Sean Wells	PC-W18-1	R1-PC-W-8	R1-PC-W-25	E
Willie Lee Wells	PC-W19-1	R1-PC-W-8	R1-PC-W-25	E

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Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Jay Wexler	PC-W20-1	R1-PC-W-9	R1-PC-W-25	E
Andy and Jean Wiblemo	PC-W21-1	R1-PC-W-9	R1-PC-W-25	E
Jeff Wilcox	PC-W22-1	R1-PC-W-9	R1-PC-W-25	E
Stacey Wilder	PC-W23-1	R1-PC-W-9	R1-PC-W-26	E
	PC-W23-2	R1-PC-W-9	R1-PC-W-26	A
	PC-W23-3	R1-PC-W-9	R1-PC-W-26	D
Steve Wilder	PC-W24-1	R1-PC-W-10	R1-PC-W-26	E
	PC-W24-2	R1-PC-W-10	R1-PC-W-27	A
	PC-W24-3	R1-PC-W-10	R1-PC-W-27	D
Cynthia Williams	PC-W25-1	R1-PC-W-10	R1-PC-W-27	D
Gavin Williams	PC-W26-1	R1-PC-W-11	R1-PC-W-27	E/D/T
Joy Williams	PC-W27-1	R1-PC-W-11	R1-PC-W-27	D
Joy Williams	PC-W28-1	R1-PC-W-11	R1-PC-W-28	D/T
Herman L. Williamson	PC-W29-1	R1-PC-W-12	R1-PC-W-28	D
	PC-W29-2	R1-PC-W-12	R1-PC-W-28	D
	PC-W29-3	R1-PC-W-12	R1-PC-W-28	D
	PC-W29-4	R1-PC-W-12	R1-PC-W-28	D
Nancy Williamson	PC-W30-1	R1-PC-W-12	R1-PC-W-29	E
	PC-W30-2	R1-PC-W-12	R1-PC-W-29	A
	PC-W30-3	R1-PC-W-12	R1-PC-W-29	D
April Wilsak	PC-W31-1	R1-PC-W-12	R1-PC-W-29	E
Chris Wilson	PC-W32-1	R1-PC-W-13	R1-PC-W-29	E
Steve Wilson	PC-W33-1	R1-PC-W-13	R1-PC-W-30	T
	PC-W33-2	R1-PC-W-13	R1-PC-W-30	D
Sylvester and Paulette Woinarowicz	PC-W34-1	R1-PC-W-13	R1-PC-W-30	N
	PC-W34-2	R1-PC-W-13	R1-PC-W-30	E
Joyce Wood	PC-W35-1	R1-PC-W-13	R1-PC-W-31	E
James Woods	PC-W36-1	R1-PC-W-14	R1-PC-W-31	E
Dale and Jeri Woodward	PC-W37-1	R1-PC-W-14	R1-PC-W-31	D
	PC-W37-2	R1-PC-W-14	R1-PC-W-31	T
Sam Wozniak	PC-W38-1	R1-PC-W-15	R1-PC-W-31	T
RD Wucetich	PC-W39-1	R1-PC-W-15	R1-PC-W-32	T
Linda Wulfing	PC-W40-1	R1-PC-W-15	R1-PC-W-32	E/D
Linda Wulfing	PC-W41-1	R1-PC-W-16	R1-PC-W-33	E/D/T
Carolyn Wyatt	PC-W42-1	R1-PC-W-16	R1-PC-W-33	E

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	PC-W42-2	R1-PC-W-16	R1-PC-W-33	E
	PC-W42-3	R1-PC-W-16	R1-PC-W-33	D
	PC-W42-4	R1-PC-W-16	R1-PC-W-33	E
	PC-W42-5	R1-PC-W-17	R1-PC-W-33	D
	PC-W42-6	R1-PC-W-17	R1-PC-W-34	T
	PC-W42-7	R1-PC-W-17	R1-PC-W-34	T
	PC-W42-8	R1-PC-W-17	R1-PC-W-34	E
	PC-W42-9	R1-PC-W-17	R1-PC-W-34	E
	PC-W42-10	R1-PC-W-17	R1-PC-W-34	E
	PC-W42-11	R1-PC-W-17	R1-PC-W-34	D
	PC-W42-12	R1-PC-W-17	R1-PC-W-34	D
	PC-W42-13	R1-PC-W-17	R1-PC-W-34	D
	PC-W42-14	R1-PC-W-17	R1-PC-W-35	D
	PC-W42-15	R1-PC-W-17	R1-PC-W-35	T
	PC-W42-16	R1-PC-W-17	R1-PC-W-35	T
	PC-W42-17	R1-PC-W-17	R1-PC-W-35	T
Danny Yneges	PC-Y1-1	R1-PC-Y-1	R1-PC-Y-3	E
Brian Young	PC-Y2-1	R1-PC-Y-1	R1-PC-Y-3	D
	PC-Y2-2	R1-PC-Y-1	R1-PC-Y-3	E
	PC-Y2-3	R1-PC-Y-1	R1-PC-Y-3	E
	PC-Y2-4	R1-PC-Y-1	R1-PC-Y-3	D
	PC-Y2-5	R1-PC-Y-1	R1-PC-Y-3	D
Andrew Yount	PC-Y3-1	R1-PC-Y-2	R1-PC-Y-4	D/T/E
Jose Zamora	PC-Z1-1	R1-PC-Z-1	R1-PC-Z-4	E
Casey Zaruba	PC-Z2-1	R1-PC-Z-1	R1-PC-Z-4	E
Javier Zavala	PC-Z3-1	R1-PC-Z-2	R1-PC-Z-4	E
David Zawolkow	PC-Z4-1	R1-PC-Z-2	R1-PC-Z-4	T
Robert Zordani	PC-Z5-1	R1-PC-Z-3	R1-PC-Z-5	N
	PC-Z5-2	R1-PC-Z-3	R1-PC-Z-5	T
	PC-Z5-3	R1-PC-Z-3	R1-PC-Z-5	T
Unidentified 1	PC-UN1-1	R1-PC-UN-1	R1-PC-UN-11	T
Unidentified 2	PC-UN2-1	R1-PC-UN-1	R1-PC-UN-11	D
Unidentified 3	PC-UN3-1	R1-PC-UN-2	R1-PC-UN-11	D
Unidentified 4	PC-UN4-1	R1-PC-UN-2	R1-PC-UN-12	D
Unidentified 5	PC-UN5-1	R1-PC-UN-3	R1-PC-UN-12	E

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Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Unidentified 6	PC-UN6-1	R1-PC-UN-3	R1-PC-UN-12	E
Unidentified 7	PC-UN7-1	R1-PC-UN-3	R1-PC-UN-12	E
Unidentified 8	PC-UN8-1	R1-PC-UN-4	R1-PC-UN-13	E
Unidentified 9	PC-UN9-1	R1-PC-UN-4	R1-PC-UN-13	E
Unidentified 10	PC-UN10-1	R1-PC-UN-5	R1-PC-UN-13	E
	PC-UN10-2	R1-PC-UN-5	R1-PC-UN-13	D
	PC-UN10-3	R1-PC-UN-5	R1-PC-UN-13	T
	PC-UN10-4	R1-PC-UN-5	R1-PC-UN-14	E
Unidentified 11	PC-UN11-1	R1-PC-UN-6	R1-PC-UN-14	E
Unidentified 12	PC-UN12-1	R1-PC-UN-6	R1-PC-UN-14	E/T
Unidentified 13	PC-UN13-1	R1-PC-UN-7	R1-PC-UN-15	E
Unidentified 14	PC-UN14-1	R1-PC-UN-7	R1-PC-UN-15	E
Unidentified 15	PC-UN15-1	R1-PC-UN-7	R1-PC-UN-15	E
Unidentified 16	PC-UN16-1	R1-PC-UN-8	R1-PC-UN-15	E
	PC-UN16-2	R1-PC-UN-8	R1-PC-UN-16	E
	PC-UN16-3	R1-PC-UN-8	R1-PC-UN-16	E
	PC-UN16-4	R1-PC-UN-8	R1-PC-UN-16	E
	PC-UN16-5	R1-PC-UN-8	R1-PC-UN-16	T
	PC-UN16-6	R1-PC-UN-8	R1-PC-UN-17	T
	PC-UN16-7	R1-PC-UN-8	R1-PC-UN-17	T
	PC-UN16-8	R1-PC-UN-8	R1-PC-UN-17	T
	PC-UN16-9	R1-PC-UN-8	R1-PC-UN-17	T
	PC-UN16-10	R1-PC-UN-8	R1-PC-UN-18	E
	PC-UN16-11	R1-PC-UN-8	R1-PC-UN-18	E
	PC-UN16-12	R1-PC-UN-8	R1-PC-UN-18	T
Unidentified 17	PC-UN17-1	R1-PC-UN-9	R1-PC-UN-18	E
Unidentified 18	PC-UN18-1	R1-PC-UN-9	R1-PC-UN-18	E
	PC-UN18-2	R1-PC-UN-9	R1-PC-UN-19	E
Unidentified 19	PC-UN19-1	R1-PC-UN-10	R1-PC-UN-19	E
PUBLIC HEARING COMMENTS – COSTA MESA				
Patricia Carlson	PH-CM1-1	R1-PH-CM-1	R1-PH-CM-14	T
	PH-CM1-2	R1-PH-CM-1	R1-PH-CM-14	T
	PH-CM1-3	R1-PH-CM-1	R1-PH-CM-14	T
Tim Chervenan	PH-CM2-1	R1-PH-CM-2	R1-PH-CM-15	E
Claydon	PH-CM3-1	R1-PH-CM-2	R1-PH-CM-15	E

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Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Elaine Dethlefsen	PH-CM4-1	R1-PH-CM-3	R1-PH-CM-15	E
John Feeney	PH-CM5-1	R1-PH-CM-3	R1-PH-CM-15	E
Kelly Gillis	PH-CM6-1	R1-PH-CM-4	R1-PH-CM-16	E
Charlotte Graham	PH-CM7-1	R1-PH-CM-4	R1-PH-CM-16	E
Sheila Koff	PH-CM8-1	R1-PH-CM-5	R1-PH-CM-16	E
Wendy Leece	PH-CM9-1	R1-PH-CM-6	R1-PH-CM-16	E
Kim Muller	PH-CM10-1	R1-PH-CM-6	R1-PH-CM-17	E
Mark Powers	PH-CM11-1	R1-PH-CM-7	R1-PH-CM-17	T
	PH-CM11-2	R1-PH-CM-7	R1-PH-CM-17	E
Beth Refanes	PH-CM12-1	R1-PH-CM-7	R1-PH-CM-17	T
	PH-CM12-2	R1-PH-CM-7	R1-PH-CM-18	T
	PH-CM12-3	R1-PH-CM-7	R1-PH-CM-18	E
Gay Gerser Sandoval	PH-CM13-1	R1-PH-CM-8	R1-PH-CM-18	E
Daniel L. Stacey	PH-CM14-1	R1-PH-CM-8	R1-PH-CM-18	D
	PH-CM14-2	R1-PH-CM-8	R1-PH-CM-18	T
Arthur Vanderree	PH-CM15-1	R1-PH-CM-9	R1-PH-CM-19	D
	PH-CM15-2	R1-PH-CM-9	R1-PH-CM-19	E
	PH-CM15-3	R1-PH-CM-9	R1-PH-CM-19	T
	PH-CM15-4	R1-PH-CM-9	R1-PH-CM-19	E
Carol La Rock	PH-CM16-1	R1-PH-CM-10	R1-PH-CM-19	E/D
Peter La Rock	PH-CM17-1	R1-PH-CM-10	R1-PH-CM-20	E
Debbie Hults	PH-CM18-1	R1-PH-CM-10	R1-PH-CM-20	E
	PH-CM18-2	R1-PH-CM-11	R1-PH-CM-20	E/AQ
	PH-CM18-3	R1-PH-CM-11	R1-PH-CM-20	D
	PH-CM18-4	R1-PH-CM-11	R1-PH-CM-20	T
	PH-CM18-5	R1-PH-CM-11	R1-PH-CM-21	E
	PH-CM18-6	R1-PH-CM-11	R1-PH-CM-21	E
Anna Reagan	PH-CM19-1	R1-PH-CM-12	R1-PH-CM-21	T
	PH-CM19-2	R1-PH-CM-12	R1-PH-CM-21	T
	PH-CM19-3	R1-PH-CM-13	R1-PH-CM-22	E
PUBLIC HEARING COMMENTS – WESTMINSTER				
Barbara Delgleize	PH-W1-1	R1-PH-W-1	R1-PH-W-11	E
Marilyn Edgar	PH-W2-1	R1-PH-W-1	R1-PH-W-11	D
Marilyn Edgar	PH-W3-1	R1-PH-W-2	R1-PH-W-11	E/A/N
	PH-W3-2	R1-PH-W-2	R1-PH-W-11	E

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
	PH-W3-3	R1-PH-W-2	R1-PH-W-11	N
	PH-W3-4	R1-PH-W-2	R1-PH-W-12	T
Robin Marcario	PH-W4-1	R1-PH-W-3	R1-PH-W-12	T
	PH-W4-2	R1-PH-W-3	R1-PH-W-12	E
Sue Morrow	PH-W5-1	R1-PH-W-3	R1-PH-W-12	T
William Plumlee	PH-W6-1	R1-PH-W-4	R1-PH-W-12	E
LaVon Plumlee	PH-W7-1	R1-PH-W-4	R1-PH-W-13	E
	PH-W7-2	R1-PH-W-4	R1-PH-W-13	E
Kim Powers	PH-W8-1	R1-PH-W-5	R1-PH-W-13	E/T
Kelly Powers	PH-W9-1	R1-PH-W-5	R1-PH-W-13	E/T
Craig Sandberg	PH-W10-1	R1-PH-W-6	R1-PH-W-14	E
	PH-W10-2	R1-PH-W-6	R1-PH-W-14	T
Sandra Tappen	PH-W11-1	R1-PH-W-6	R1-PH-W-14	T
Isabelle Teraoka	PH-W12-1	R1-PH-W-7	R1-PH-W-14	E
	PH-W12-2	R1-PH-W-7	R1-PH-W-15	E
	PH-W12-3	R1-PH-W-7	R1-PH-W-15	E/N
Mark Bird	PH-W13-1	R1-PH-W-8	R1-PH-W-16	E/N
Diana Clayton	PH-W14-1	R1-PH-W-9	R1-PH-W-16	E
Sandy Quintana	PH-W15-1	R1-PH-W-9	R1-PH-W-16	E/R
	PH-W15-2	R1-PH-W-9	R1-PH-W-16	A/N/E
	PH-W15-3	R1-PH-W-9	R1-PH-W-16	T
PUBLIC HEARING COMMENTS – ROSSMOOR				
Naomi Blackmore	PH-R1-1	R1-PH-R-1	R1-PH-R-21	E
	PH-R1-2	R1-PH-R-1	R1-PH-R-21	D
Naomi Blackmore	PH-R2-1	R1-PH-R-1	R1-PH-R-21	E
Naomi Blackmore	PH-R3-1	R1-PH-R-2	R1-PH-R-21	T
	PH-R3-2	R1-PH-R-2	R1-PH-R-21	E
Naomi Blackmore	PH-R4-1	R1-PH-R-2	R1-PH-R-22	A/N/E
Ruth Book	PH-R5-1	R1-PH-R-3	R1-PH-R-22	E/D/T
Chris Diaz	PH-R6-1	R1-PH-R-3	R1-PH-R-23	E
Fairbanks	PH-R7-1	R1-PH-R-4	R1-PH-R-23	N/R
Edward Foster	PH-R8-1	R1-PH-R-4	R1-PH-R-23	E
Barbara Ghoemley	PH-R9-1	R1-PH-R-5	R1-PH-R-24	E
Maureen Greenwood-Hamilton	PH-R10-1	R1-PH-R-5	R1-PH-R-24	T
	PH-R10-2	R1-PH-R-6	R1-PH-R-25	E

SUBJECT CODE KEY:
E – Environmental | C – Cultural Resources | D – Design | N – Noise | R – Right-of-Way
H – Hazardous Waste/Materials | T – Traffic | A – Air Quality | V – Visual

Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Lisa Gutierrez	PH-R11-1	R1-PH-R-6	R1-PH-R-25	D
Geoff Hall	PH-R12-1	R1-PH-R-7	R1-PH-R-25	E
Rich Hamilton	PH-R13-1	R1-PH-R-7	R1-PH-R-25	E
	PH-R13-2	R1-PH-R-7	R1-PH-R-26	D
	PH-R13-3	R1-PH-R-7	R1-PH-R-26	T
	PH-R13-4	R1-PH-R-7	R1-PH-R-26	E
Chris Ingalls	PH-R14-1	R1-PH-R-8	R1-PH-R-26	E
Dennis Jack	PH-R15-1	R1-PH-R-8	R1-PH-R-26	D
Tim James	PH-R16-1	R1-PH-R-9	R1-PH-R-27	E
Richard Jolly	PH-R17-1	R1-PH-R-9	R1-PH-R-27	E
	PH-R17-2	R1-PH-R-9	R1-PH-R-27	D
Mike Levitt	PH-R18-1	R1-PH-R-10	R1-PH-R-27	E
Fred Levy	PH-R19-1	R1-PH-R-11	R1-PH-R-27	E
Sanford Levy	PH-R20-1	R1-PH-R-11	R1-PH-R-28	D
Sanford Levy	PH-R21-1	R1-PH-R-12	R1-PH-R-28	E
Anne New	PH-R22-1	R1-PH-R-12	R1-PH-R-28	A/N
Jean Orland	PH-R23-1	R1-PH-R-13	R1-PH-R-29	E
Mike Orland	PH-R24-1	R1-PH-R-13	R1-PH-R-29	E
Barbara Parks	PH-R25-1	R1-PH-R-14	R1-PH-R-29	E
Patti and Bruce Pittman	PH-R26-1	R1-PH-R-14	R1-PH-R-29	D
	PH-R26-2	R1-PH-R-14	R1-PH-R-30	E
	PH-R26-3	R1-PH-R-14	R1-PH-R-30	E
Merlin Thimlar	PH-R27-1	R1-PH-R-15	R1-PH-R-30	T
Merlin Thimlar	PH-R28-1	R1-PH-R-15	R1-PH-R-30	N
Jeanette Vella	PH-R29-1	R1-PH-R-16	R1-PH-R-31	E/A
Ray Vella	PH-R30-1	R1-PH-R-16	R1-PH-R-31	D
Doris E. Wagner	PH-R31-1	R1-PH-R-17	R1-PH-R-31	E
Cynthia Williams	PH-R32-1	R1-PH-R-17	R1-PH-R-32	E
Unidentified	PH-R33-1	R1-PH-R-18	R1-PH-R-32	E
William Soule	PH-R34-1	R1-PH-R-19	R1-PH-R-32	D
	PH-R34-2	R1-PH-R-19	R1-PH-R-33	T
	PH-R34-3	R1-PH-R-19	R1-PH-R-33	E
PUBLIC HEARING COMMENTS – FOUNTAIN VALLEY				
Kenneth Arnold	PH-FV1-1	R1-PH-FV-1	R1-PH-FV-8	T
Kenneth Arnold	PH-FV2-1	R1-PH-FV-1	R1-PH-FV-8	T

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Table R1-1: Comment Letter Matrix

Commenter	ID	Comment Page Number	Response Page Number	Subject Code
Kenneth Arnold	PH-FV3-1	R1-PH-FV-2	R1-PH-FV-8	E
Gus Ayer	PH-FV4-1	R1-PH-FV-2	R1-PH-FV-9	E
Lynn Duncan	PH-FV5-1	R1-PH-FV-3	R1-PH-FV-9	E
	PH-FV5-2	R1-PH-FV-3	R1-PH-FV-9	E/R
	PH-FV5-3	R1-PH-FV-3	R1-PH-FV-10	E
Marianne Gentry	PH-FV6-1	R1-PH-FV-3	R1-PH-FV-10	E
John Hill	PH-FV7-1	R1-PH-FV-4	R1-PH-FV-10	E
Edmond Karam	PH-FV8-1	R1-PH-FV-4	R1-PH-FV-10	E
Mark Allen Korando	PH-FV9-1	R1-PH-FV-5	R1-PH-FV-11	E
A. Lucero	PH-FV10-1	R1-PH-FV-5	R1-PH-FV-11	E
	PH-FV10-2	R1-PH-FV-5	R1-PH-FV-11	E/R
Chris Morrow	PH-FV11-1	R1-PH-FV-6	R1-PH-FV-11	E
Tricia and Mike Paull	PH-FV12-1	R1-PH-FV-6	R1-PH-FV-12	E
Mervyn Simchowitz	PH-FV13-1	R1-PH-FV-7	R1-PH-FV-12	D/R
Scott Smith	PH-FV14-1	R1-PH-FV-7	R1-PH-FV-12	E

Note:
* Comment received after public review period.

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I-405 IMPROVEMENT PROJECT DEIR/EIS
COMMON RESPONSES

Common Response – Preferred Alternative Identification R1-78
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Common Response – Induced Demand R1-137

Common Response – Preferred Alternative Identification

Caltrans and OCTA thank you for your comment and participation in the environmental process for the I-405 Improvement Project. Your comment has been acknowledged and considered in identifying the preferred alternative for the Final EIR/EIS.

Caltrans and OCTA have made the final determination of the project's impact on the environment based on the comments and concerns expressed during the public review period and the results of the engineering and environmental technical analysis.

The preferred alternative (the alternative that will be advanced to construction) and the process used in its identification is described in the Final EIR/EIS in Section 2.2.7, Identification of the Preferred Alternative.

Common Response – Compensation for Property Acquisition

Several comments were received regarding impacts to businesses. Under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act), project impacts to individual properties will be evaluated during final design with regard to specifics, including parking spaces, landscaping, hardscape features, lighting features, driveway access, sign structures, parking lot circulation, delivery locations, and building access. For each property, the impacts will be determined and tabulated. Once the individual property owner and OCTA agree to the impacts, OCTA's Right-of-Way (ROW) Agents will investigate ways to minimize, eliminate, address, and/or compensate for those impacts. The ROW Agents will use City codes, site engineers, and feedback from the property owner on how to minimize effects of the project on an individual property.

Where property acquisition is required, OCTA will follow a step-by-step acquisition process defined by the Uniform Act administered through Caltrans. Refer also to Appendix D, Summary of Relocation Benefits, in the Final EIR/EIS. OCTA will provide a summary of the property acquisition process to each affected property owner and tenant prior to beginning the purchase. An overview of the process and the rights and benefits of affected property owners and tenants is described in Appendix D. Property needs for the project will include permanent effects (i.e., partial acquisition of parcels and permanent easements on some parcels) and temporary effects (i.e., temporary use of parts of parcels for temporary construction easements [TCEs] and other short-term temporary uses).

OCTA will work directly with the property owner(s) and tenant(s) to assist with the acquisition process. Before making an offer, OCTA will obtain an appraisal of the property to establish its fair market value. The owner of the property will be given an opportunity to accompany the

appraiser during the inspection and provide information to the appraiser that may be relevant to the value of the property.

Although not anticipated, if it is necessary to purchase the property in full, relocation advisory assistance and benefits are available, including identification of comparable replacement properties, assistance with purchase of replacement property, moving expenses and related payments, payment of transaction fees, and assignment of an acquisition/relocation agent to each owner and tenant. Property owners and tenants will not be required to move until the property is needed for project construction.

Common Response – Air Quality

Several comments were received regarding air quality. The air quality analysis was conducted consistent with Caltrans protocols and guidance and addresses both construction and operational impacts. The air quality analysis for the project has been prepared in accordance with the requirements under the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA), as well as those of the Clean Air Acts, Transportation Conformity Regulations, and policies and guidance by the United States Environmental Protection Agency (EPA), Federal Highway Administration (FHWA), and Caltrans, as appropriate. A mobile source air toxics (MSAT) analysis has been prepared following the latest FHWA MSAT Interim Guidance, and a carbon monoxide (CO) analysis has been prepared based on the EPA-approved CO Protocol developed by the Institute of Transportation Studies at the University of California, Davis, in cooperation with Caltrans. A particulate matter (PM) analysis has been conducted based on the joint EPA/FHWA guidance released on March 10, 2006, titled "Transportation Conformity Guidance for Qualitative Hot-Spot Analysis in $PM_{2.5}$ and PM_{10} Non-Attainment and Maintenance Areas."

The principal intent of the air quality analysis is to show that the project is included in area plans that take into account the air quality effects of all regional transportation projects. In general, improvement projects, such as this project, will reduce air quality impacts due to reduced traffic congestion. Vehicles, including diesel-fueled trucks, produce greater emissions when moving slowly through a heavily congested area because the vehicles' engines operate less efficiently at low speeds, and because the vehicles remain in a congested area much longer. For example, in 2020, it was estimated based on EMFAC2011 that a passenger vehicle traveling 12 miles per hour (mph) would generate approximately 0.055 grams per mile of particulate matter less than 10 microns in diameter (PM_{10}) emissions. In comparison, a passenger vehicle traveling 25 mph would generate approximately 0.025 grams per mile of PM_{10} emissions.

A regional emissions analysis was completed based on vehicle miles traveled (VMT) and vehicle speeds. Regional criteria pollutant and volatile organic compound (VOC) emissions are presented in Tables 3.2.6-5 through 3.2.6-7 of the Final EIR/EIS. Tables 3.2.6-6 and 3.2.6-7 show that emissions for the build alternatives are generally less than the existing and future no-build conditions. This decrease is due to higher vehicle speeds, which generally result in lower emission rates; therefore, the project would result in a beneficial effect related to regional operational emissions.

The regional operational emissions analysis was completed for the build alternatives, showing that criteria pollutant emissions would be less than the future no-build conditions in years 2020 and 2040 (see Tables 3.2.6-5 through 3.2.6-7 of the EIR/EIS). Future emissions (2020 and 2040) for all build alternatives would be less than existing for VOCs, nitrogen oxides (NO_X), and CO and higher than existing for sulfur oxides (SO_X), particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), and PM_{10}. OCTA has coordinated with the Southern California Association of Governments (SCAG) to incorporate the design concept, scope, and description of the Preferred Alternative into the Regional Transportation Plan (RTP) and Federal Transportation Improvement Plan (FTIP) and their air quality conformity analysis.

As described in Section 3.2.6 of the EIR/EIS, short-term degradation of air quality may occur during construction. Implementation of the measures in Section 3.2.6.4 will reduce any air quality impacts resulting from construction activities.

Common Response – Health Risks

Several comments were received regarding health risks. Caltrans has adopted FHWA guidance for evaluating MSAT emissions. FHWA has indicated that quantitative analysis (i.e., dispersion modeling) cannot provide any meaningful comparison of alternatives and, in fact, may provide misleading information as to the current understanding of MSATs and the capabilities of current tools. As part of the development of the FHWA interim MSAT guidance,[1] FHWA conducted a thorough review of the scientific information related to MSATs from transportation sources. As a result of that review, FHWA concluded that the available technical tools do not enable us to reliably estimate pollutant exposure concentrations or predict the project-specific health impacts of the emissions changes associated with transportation project alternatives; therefore, at this time, FHWA does not support dispersion modeling.

The FHWA Interim Guidance for MSAT Analysis indicates that available technical tools do not reliably predict the project-specific health impacts of the MSAT emission changes associated with project alternatives. Limitations of the tools include the following:

[1] http://www.fhwa.dot.gov/environmental/airtoxic/100109guidememo.htm, accessed September 14, 2011.

- **Emissions:** The tools available from EPA and the California Air Resources Board (CARB) to estimate MSAT emissions from motor vehicles are not sensitive to key variables that determine emissions of MSATs in the context of highway projects.
- **Dispersion:** The tools to predict how MSATs disperse are also limited. The current EPA and California line-source regulatory models, such as CALINE3, CAL3QHC, and CALINE4, were developed and validated for the purpose of predicting episodic concentrations of CO to determine compliance with the National Ambient Air Quality Standards (NAAQS). The performance of these dispersion models is adequate for predicting maximum concentrations that can occur over short time periods. Alternative dispersion models, such as EPA's AERMOD, were not developed for use with line sources, requiring adaptation and approximation of line emission sources such as roads. Along with these general limitations of dispersion models, FHWA is also faced with a lack of monitoring data in most areas for use in establishing project-specific MSAT background concentrations.
- **Exposure Levels and Health Effects:** Even if emission levels and concentrations of MSATs could be accurately predicted, shortcomings in current techniques for exposure assessment and risk analysis preclude the analysis from reaching meaningful conclusions about project-specific health impacts. Exposure assessments are difficult because it is difficult to accurately calculate annual concentrations of MSATs near roadways and to determine the portion of a year that people are actually exposed to those concentrations at a specific location. These difficulties are magnified for 70-year cancer assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology, which affects emissions rates, over a 70-year period. A worst-case analysis approach does not mitigate these concerns because it replaces uncertainty with assumptions that lead to risk estimates that almost certainly are far in excess of anything realistic.

In 2020, based on the methodology provided by FHWA, the various build alternatives would generate between 8 and 72 percent less MSAT emissions than existing conditions and the No Build Alternative, as shown in Tables 3.2.6-13 and 3.2.6-14. In 2040, the various build alternatives would generate between 19 and 82 percent less MSAT emissions than existing conditions and the No Build Alternative. A detailed Health Risk Assessment (HRA) was not completed and is not necessary because the build alternatives would reduce MSAT emissions in the study area.

The primary pollutant of concern for health risk is diesel particulate matter (DPM). When compared to existing conditions and the No Build Alternative, the various build alternatives would reduce DPM emissions in the study area between 8 and 17 percent in 2020 and between

19 and 27 percent in 2040; therefore, each of the build alternatives would reduce long-term health risks along the project segments.

Health effects of diesel vehicles and equipment are evaluated over a 70-year period. No phase of construction activity would last more than 5 years. In addition, onsite equipment would not be located in the vicinity of any one location for the entire duration of a phase; therefore, the short-term exposure to construction activities would not result in long-term health risks.

Common Response – Property Values

Several comments were received regarding property values. Some commenters have expressed a general belief that the proposed project would result in decreased property values due to various reasons, including temporary construction impacts, property acquisitions, and/or project features being located closer to properties than they were previously.

There are varied patterns in the effect of freeways on residential property values. Most studies recognize that freeway construction can produce conflicting influences on property values. They show both appreciation and loss in value for properties due to freeway construction. Some properties abutting the freeway or in very close proximity to it appear to suffer most of the adverse effects from the freeway, whereas, net gain is shown in value in the general vicinity of the freeway due to increased accessibility.

Due to the variability in the potential project effects on property values, it is difficult to assess the potential effect of a transportation project on the values of individual properties. Six factors related to transportation projects may affect property values: accessibility, safety, noise, visual quality, community cohesion, and business productivity. For residential properties, only the first five factors are applicable. Changes in these factors may, but not necessarily would, result in a change in property values. Additionally, the degree to which a transportation project will affect property values depends in part on the location of the property (i.e., either adjacent to or in the vicinity of a project) and the land use (i.e., residential, commercial, or industrial). The analyses in the environmental consequences sections in the Draft EIR/EIS indicate the project build alternatives will result in effects on community character and cohesion within the corridor cities (Section 3.1.4.1.3, page 3.1.4-19), will improve mobility and potentially reduce congestion in areas in the corridor cities (Section 3.1.6.3, page 3.1.6-35), will result in changes in views of the area along I-405 (Section 3.1.7.3, page 3.1.7-27), and will result in noise impacts along the project segment of I-405 (Section 3.2.7.3, page 3.2.7-6). Avoidance, minimization, and mitigation measures included in the project would substantially reduce the effects of the build alternatives related to community character and cohesion (Section 3.1.4.1.4, page 3.1.4-28),

traffic (Section 3.1.6.4, page 3.1.6-108), visual/aesthetics (Section 3.1.7.4, page 3.1.7-84), and noise (Section 3.2.7.4, page 3.2.7-43).

The environmental document does not specifically discuss property values as part of the CEQA/NEPA analysis. Real estate market prices are mainly based on comparative sales in the area. There are many factors that contribute to market values, including location, the neighborhood, current real estate sales in the area, school system, crime, taxes, government services, parks/recreational, and the features of the home. The I-405 Improvement Project may have an effect on the property values, but it is not likely to be a major change because I-405 is an existing facility within Orange County. In addition, Caltrans has found no literature, studies, or evidence that property values decreased because a freeway was widened near a home. To the extent that a perceived decrease in property values or decline in quality of life would be caused by or result in degradation in the physical environment, the Final EIR/EIS discusses measures that will be adopted as conditions of project approval to mitigate environmental impacts.

Common Response – Compensation for Construction Impacts

Several comments were received regarding compensation for construction impacts. Chapter 3 of the Draft EIR/EIS provides a summary of the construction impacts expected from the project. Efforts will be made during the design/construction phase to minimize disruption to local traffic and access to and visibility of existing properties. This will allow businesses to remain open and residents to access their homes during construction of the project. An extensive public outreach campaign is planned to ensure that residents and businesses are informed of details of the type and duration of construction impacts to be expected. For properties that will require a partial acquisition or a TCE, compensation will be provided per the Uniform Act. Measures COM-1 through COM-12 and T-1 would minimize potential construction-related temporary effects.

If you feel that you have lost money or property as a result of any action or inaction by Caltrans and your claim is for $5,000 or less, you can file your claim directly with Caltrans. No fee is required for Caltrans claims less than $5,000.

If your claim is for more than $5,000, you must file a claim with the Victim Compensation and Government Claims Board. This program gives you the opportunity to formally demand compensation for your loss and may lead to a settlement of your claim without the need to file a lawsuit. For more information about the Government Claims Program or to request a claim form, write to: California Board of Control, Government Claims Division, P.O. Box 3035, Sacramento, CA 95812-3035. You may also call the Government Claims Program toll-free at 1-800-955-0045.

To present a claim for $5,000 or less, fill out Form LD0274, Claim against Department of Transportation for Amounts $5,000.00 and Less and present it to the appropriate District Claims Office. This form is in Adobe PDF format, and Adobe Acrobat Reader to view and print the form can be downloaded and installed. To determine the proper place to file your form, you must know the county in which your incident occurred. Each county is covered by a specific District Claims Office. Orange County is covered by Caltrans District 12 at 3347 Michelson Drive, Suite 100, Irvine, CA 92612-8894, 949-724-2484.

Common Response – Relocation of Gas Lines

Several comments specified concerns for relocation of gas lines. Within the project area, there are natural gas and petroleum lines owned by Southern California Gas Company (SCG), Chevron, City of Seal Beach, City of Westminster, Paramount Petroleum, Plains All-American Pipeline, and City of Long Beach Gas and Oil. The major gas lines within the project area include a 14-inch high-pressure gas transmission line owned by the City of Long Beach and a 16-inch medium-pressure pipeline owned by SCG, which are located just north of the Naval Weapon Station (NAVWPNSTA) Seal Beach perimeter security fence in the Caltrans I-405 ROW in Seal Beach.

Once the project is approved, Caltrans and OCTA will work with the owners of gas/petroleum lines to ensure that relocation of the utilities are conducted and relocated in the safest possible manner. Agreements will be made between Caltrans, OCTA, and the owners of gas/petroleum lines once the relocations have been agreed upon. The schedule of the utility relocation will occur prior to construction of the I-405 Improvement Project. Relocations of the utilities will be conducted by a contractor on behalf of the utility owner. For the major gas lines, as discussed on pages 3.1.5-15 through 3.1.5-17 of Section 3.1.5.2, Environmental Consequences, of the Draft EIR/EIS, three options were evaluated for relocation of the gas lines in the Caltrans ROW just north of the NAVWPNSTA Seal Beach. The option that retains the gas/petroleum lines on the south side of I-405 within Navy jurisdiction (Option 1) is the preferred option and will be pursued. This process will include coordination and approval by the Navy. Measures COM-8, UT-1, and UT-2 would minimize potential construction-related temporary effects during utility relocation.

Common Response – Relocating Utilities Underground

Several comments were received requesting that overhead utilities impacted by the project be relocated underground. As discussed on pages 3.1.5-14 through 3.1.5-17 of the Draft EIR/EIS in Section 3.1.5.2, Environmental Consequences, and shown in Section K2 of Appendix K of the Draft EIR/EIS, there are several overhead utilities that exist within the project area that may need to be relocated. These utilities include electrical and communications. Caltrans and OCTA

understand that relocating utilities underground may provide an aesthetic and safety benefit to communities; however, Caltrans' current policy on relocation of overhead utilities is to only pay for relocating in kind, overhead utilities for overhead utilities. This means that Caltrans cannot use State or federal money to relocate overhead utilities into an underground location, unless there is a compelling engineering need for the project or it is more cost effective.

Upon project approval, Caltrans and OCTA will work together with the utility agencies to identify the specific overhead utilities that need to be relocated and determine if "undergrounding" utilities is the best option from an engineering and cost perspective. Measures COM-8, UT-1, and UT-2 would minimize potential construction-related temporary effects during utility relocation.

Common Response – Impacts to Businesses

Several comments were received regarding impacts to businesses. Under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act), project impacts to individual properties will be evaluated during final design with regard to specifics, including parking spaces, landscaping, hardscape features, lighting features, driveway access, sign structures, parking lot circulation, delivery locations, and building access. For each property, the impacts will be determined and tabulated. Once the individual property owner and OCTA agree to the impacts, OCTA's ROW Agents will investigate ways to minimize, eliminate, address, and/or compensate for those impacts. The ROW Agents will use City codes, site engineers, and feedback from the property owner on how to minimize effects of the project on an individual property.

As part of the evaluation process under the Uniform Act used in ROW acquisitions, a major consideration is whether a property can continue to function effectively if only part of the property is acquired for the project. The definition of a property to function is proper accessibility (e.g., driveways) and the ability to develop according to the local jurisdiction's zoning laws. As the specifics of the property impacts are evaluated, the portion to be acquired, and how that affects the function of the business, will be determined.

As part of compliance with the Uniform Act for loss of parking on individual properties, OCTA's ROW Agents may conduct a detailed parking study to investigate the use of adjacent acquisitions for replacement parking, reconfiguring parking lots on the property, restriping parking spaces, enlarging parking lots, and reconfiguring delivery locations to avoid and minimize damages to the property owners and tenants. Measure COM-10 of the Draft EIR/EIS in Section 3.1.4.1.4, Environmental Consequences, includes conducting parking studies for properties where parking is impacted by the project.

If impacts to a property cannot be minimized or mitigated to allow the business to remain in operation, then OCTA's ROW Agents will work with the property owner in an attempt to find a replacement location first within the same vicinity and, if not in the same vicinity, then in the same city, and then in adjacent cities. The property owner will be compensated for the relocation costs, loss of business, and other losses. Refer to Common Response – Compensation for Property Acquisition (above) related to the property acquisition process and to Appendix D, Summary of Relocation Benefits, in the Final EIR/EIS for additional information regarding the ROW acquisition process and relocation benefits for affected property owners and tenants.

Caltrans/OCTA will make every effort to provide access to businesses during construction. A detailed stage construction plan will be developed during the construction phase of the project. The stage construction and detour plans will detail how access will be provided to each property and for how long, if at all, the access will be restricted. Measures COM-1 through COM-12 and T-1 would minimize potential construction-related temporary effects to businesses.

In Westminster, the proposed impacts to the parking lot of El Torito Restaurant along Goldenwest Street approaching Bolsa Avenue, as shown in the Draft EIR/EIS, have been reduced. The street cross-sectional widths have been reduced, similar to existing conditions, which allows for a reduction of impacts to the parking lot to approximately three spaces. The proposed impacts to 20 parking spaces along the roadway between the I-405 southbound off-ramp and Bolsa Avenue adjacent to the Sears Auto Center have been eliminated through redesign.

Magnolia/Warner Interchange on the Southbound Side of I-405

The comments expressing concerns about full acquisition of the properties where Sports Authority, Days Inn, and Fountain Valley Skating Center are located, along with the partial acquisition of the property where Boomers is located, have been considered. A design option has been developed for all three build alternatives to eliminate full acquisitions to these ROW impacts. If this design option is included in the Preferred Alternative presented in the Final EIR/EIS, none of these properties would require full acquisition but partial acquisitions to Boomers is inevitable.

In the southbound direction of I-405, the braided ramps included in the Draft EIR/EIS, which grade separate the Magnolia Street loop on-ramp and the Warner Avenue loop off-ramp, would be eliminated by the design option. In lieu of the braided ramp configuration, the Magnolia Street loop on-ramp would terminate at I-405 into a new auxiliary lane adjacent to the general purpose (GP) lanes, which would accommodate traffic exiting I-405 onto the Warner Avenue loop off-ramp. The auxiliary lane would terminate south of the off-ramp to Warner Avenue and avoid ROW impacts south of the Warner Avenue interchange. Provision of an auxiliary lane

from the Magnolia Street on-ramp south beyond the Warner Avenue off-ramp represents an improvement over the existing condition, which provides an extra-wide outside GP lane between the Magnolia Street on-ramp to the Warner Avenue off-ramp.

Because it has one less freeway lane in each direction, the traffic analysis presented below for Alternative 1 is considered a worst-case condition. Alternatives 2 and 3 are assumed to be generally similar to Alternative 1.

Under this design option, the weave between the on-ramp to southbound I-405 from Magnolia Street and the off-ramp from southbound I-405 to Warner Avenue would be treated with an auxiliary lane extending from the Magnolia Street on-ramp beyond the Warner Avenue off-ramp for a distance of approximately 1,688 feet (ft), where it would be dropped with a taper extending an additional 600 ft as shown in Figure R1-1. The auxiliary lane and taper would end approximately 481 ft north of the 6-ft separation between the Warner Avenue on-ramp and southbound I-405.

The on-ramp to southbound I-405 from Magnolia Street would have two lanes from the Magnolia Street intersection to the ramp meter, a distance of 754 ft. Downstream of the ramp meter, the ramp would taper to a single lane entering I-405 at the beginning of the auxiliary lane described in the preceding paragraph.

If the amount of storage upstream of the ramp meter limit line on the on-ramp to southbound I-405 from Magnolia Street is inadequate to contain ramp meter queuing, the project condition lane configuration at the intersection of the I-405 southbound ramps and Magnolia Street would be reconfigured from the configuration included in the Draft EIR/EIS. The reconfiguration would provide three exclusive northbound through lanes, two exclusive southbound through lanes, one exclusive southbound right-turn lane, dual left-turn lanes eastbound, and dual right-turn lanes eastbound. The intersection would be signalized.

Traffic analysis of the design options consists of two components:

- Weaving analysis on southbound I-405 between the Magnolia Street on-ramp and the Warner Avenue off-ramp; and
- Intersection level of service (LOS) analysis of the Magnolia/southbound I-405 ramps intersection.

The Highway Capacity Software (HCS) weaving analysis worksheets and Synchro intersection LOS analysis worksheets are presented in Appendix L5 of the Final EIR/EIS.

Weaving Analysis

Weaving analysis was conducted for the proposed auxiliary lane between the on-ramp to southbound I-405 from Magnolia Street and the off-ramp from southbound I-405 to Warner Avenue. Analysis was conducted for both AM and PM peak hours in both the opening year (2020) and the design year (2040). The traffic volumes used for the analysis are those reported in the Traffic Study in Figures 2.5.1 and 2.5.2.

The analysis shows that the weaving section is anticipated to operate at LOS E and D during the AM and PM peak hours, respectively, in 2020 and LOS F and E in 2040. Figures 2.5.1 and 2.5.2 of the Traffic Study show the minimum southbound mainline peak-hour volume under Alternative 1 in the vicinity of the Magnolia Street/Warner Avenue interchange is 9,593. A volume of 9,593 exceeds the capacity of the Alternative 1 southbound GP lanes (1,850 vehicles per lane per hour x 5 GP lanes = 9,250). Given this overcapacity condition, it is unlikely that the weaving segment will operate better than LOS F. For comparison purposes, Table R1-2 presents the weaving segment LOS without the braided ramps and the LOS in the corresponding segment of I-405 with the braided ramps as reported in the Traffic Study.

Consistent with Section 2.1.3, Weaving Analysis Methodology, of the Traffic Study, an additional weaving analysis was conducted for year 2040 using mainline freeway volumes constrained to a maximum volume per lane of 1,850 vehicles per hour (vph). By constraining the mainline volumes, the second analysis provides an evaluation of the weaving without being overshadowed by oversaturated (i.e., jammed) conditions on I-405. This analysis of constrained freeway volumes provides an analysis of how well the weaving section is anticipated to operate when the I-405 mainline is congested but not jammed, as in shoulder hours (i.e., hours just before or after the peak hours) rather than peak hours. When traffic is oversaturated (i.e., jammed), weaving is done at extremely low speeds and would not contribute substantially to additional congestion; weaving analysis of shoulder hours, when speeds are higher, is more informative about how well the weaving section can be expected to operate. Consistent with the Traffic Study, the ramp volumes used in the constrained analysis were the peak-hour volumes. The constrained analysis shows that the weaving segment is anticipated to operate at LOS E and D, respectively, during the AM and PM shoulder hours. Table R1-2 presents the weaving segment LOS without the braided ramps using the constrained mainline freeway volumes and the LOS in the corresponding segment of I-405 with the braided ramps as reported in the Traffic Study using the constrained mainline freeway volumes.

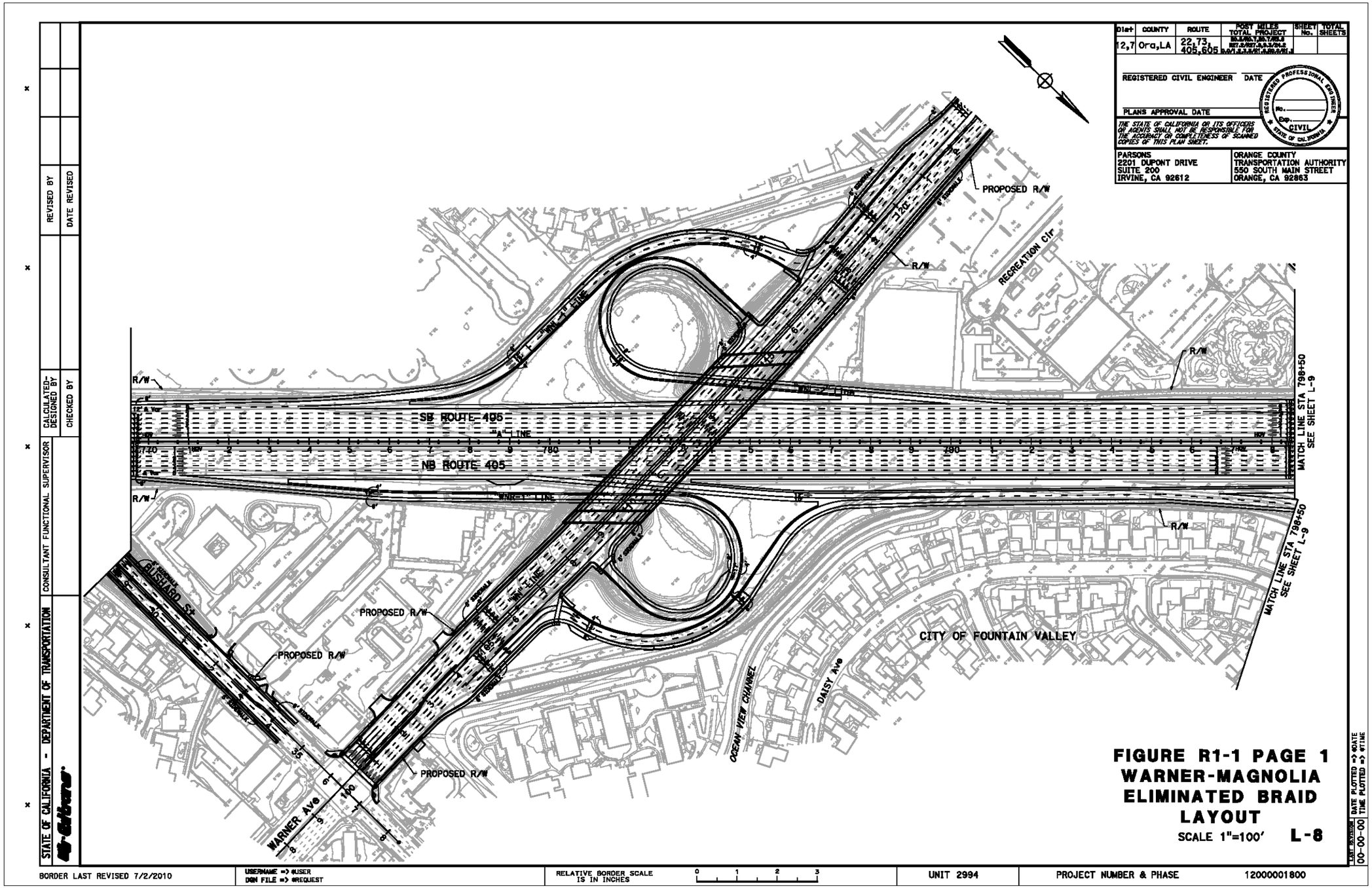

FIGURE R1-1 PAGE 1
WARNER-MAGNOLIA
ELIMINATED BRAID
LAYOUT
SCALE 1"=100' **L-8**

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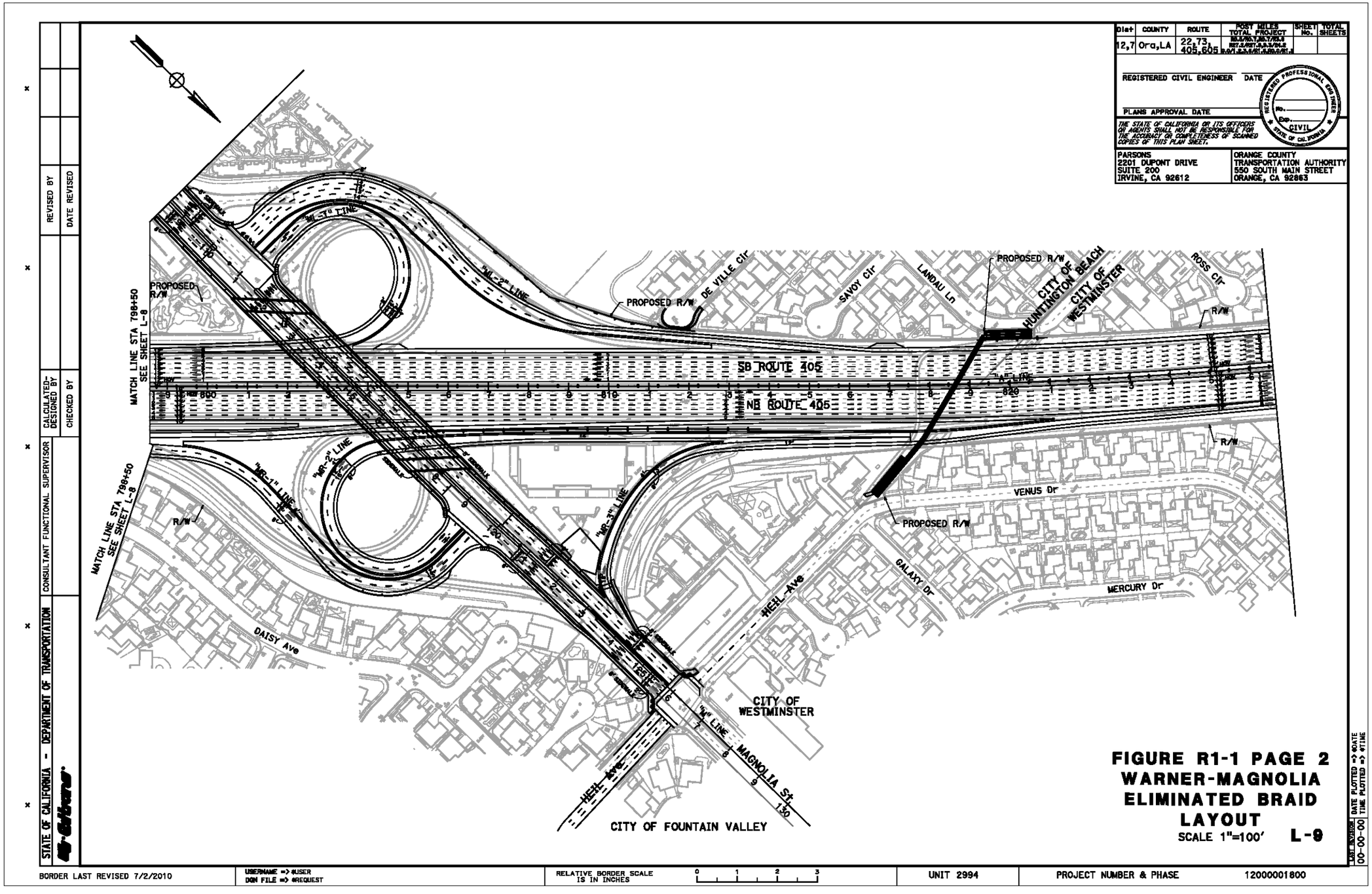
Dist
COUNTY
ROUTE
POST MILES
TOTAL PROJECT
SHEET No.
TOTAL SHEETS
12,7
Ora,LA
22,73,
405,605
REGISTERED CIVIL ENGINEER
DATE
PLANS APPROVAL DATE
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SUITE 200
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DATE REVISED
CALCULATED-DESIGNED BY
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CONSULTANT FUNCTIONAL SUPERVISOR
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
MATCH LINE STA 798+50
SEE SHEET L-8
PROPOSED R/W
"WL-1" LINE
"WL-2" LINE
DE VILLE Cir
SAVOY Cir
LANDAU Ln
CITY OF HUNTINGTON BEACH
CITY OF WESTMINSTER
ROSS Cir
SB ROUTE 405
NB ROUTE 405
"A" LINE
R/W
"MR-1" LINE
"MR-2" LINE
"MR-3" LINE
VENUS Dr
GALAXY Dr
MERCURY Dr
HEIL Ave
DAISY Ave
CITY OF WESTMINSTER
"M" LINE
MAGNOLIA St
CITY OF FOUNTAIN VALLEY
FIGURE R1-1 PAGE 2
WARNER-MAGNOLIA
ELIMINATED BRAID
LAYOUT
SCALE 1"=100'
L-9
BORDER LAST REVISED 7/2/2010
USERNAME => $USER
DGN FILE => $REQUEST
RELATIVE BORDER SCALE IS IN INCHES
UNIT 2994
PROJECT NUMBER & PHASE
12000001800
DATE PLOTTED => $DATE
TIME PLOTTED => $TIME

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Table R1-2: Comparison of Operations with and without the Southbound Braided Ramps at the Magnolia/Warner Interchange

	2020		2040	
	AM	PM	AM	PM
Unconstrained Mainline Freeway Volumes				
With Braided Ramps[1]				
Ramp Junction: On-ramp from Magnolia Street	F	C	F	C
Ramp Junction: Off-ramp to Warner Avenue	E	E	F	F
Without Braided Ramps				
Weaving: Magnolia Street to Warner Avenue	D	D	E	D
Constrained Mainline Freeway Volumes[2]				
With Braided Ramps[1]				
Ramp Junction: On-ramp from Magnolia Street			C	C
Ramp Junction: Off-ramp to Warner Avenue			E	E
Without Braided Ramps				
Weaving: Magnolia Street to Warner Avenue			D	C
Intersection				
Southbound Ramps at Magnolia Street				
With Braided Ramps[1]	A	B	B	C
Without Braided Ramps	A	B	A	B
No Build	D	B	F	C

[1] Data with braided ramps are from the Traffic Study in Tables 2.5.3, 2.5.4, 2.5.5, 3.8.2, 3.8.3, 3.8.4, and 3.8.5. Consistent with the Traffic Study constrained analysis is only provided for the horizon year.

Intersection LOS Analysis

The amount of available storage on the Magnolia Street on-ramp to southbound I-405 upstream of the ramp meter limit line is 754 ft per lane for each of the two lanes. Table 3.8.6 in the Traffic Study shows the ramp meter queues for a two-lane on-ramp upstream of the ramp meter under project conditions. The table shows that a maximum queue length of approximately 25 ft per lane is anticipated with a metering rate of 650 vph (using a meter cycle length of approximately 5.5 seconds).

If a metering rate is selected that causes traffic to queue beyond the ramp onto southbound Magnolia Street, intersection LOS analysis was conducted to determine if the ramp intersection with Magnolia Street would operate acceptably with the curb lane dedicated to exclusively serving ramp traffic. The analysis shows that the intersection is anticipated to operate at LOS A during the AM peak hour and LOS B during the PM peak hour in years 2020 and 2040.

For comparison purposes, Table R1-2 summarizes LOS, v/c ratios, and average delays with project traffic under project geometrics with and without the braided ramps. As shown in Table

R1-2, the proposed intersection geometrics under the project condition allows the I-405 southbound off-ramp/Magnolia Street intersection to operate at LOS B or better compared to LOS F or better under the 2040 no-build condition. The intersection does not meet the significant impact criteria, and there are no significant traffic impacts at the intersection.

Nonstandard Features

Nonstandard features are associated with the design option without the southbound braided ramps. The Caltrans HDM 504.7 weaving LOS standard for the southbound weaving section in which the proposed auxiliary lane is located is LOS C or D, while the proposed LOS is E during shoulder hours as explained above. LOS is F during peak hours as a result of the I-405 mainline being over capacity. HDM 504.7 standard weaving section length is 1,600 ft compared to the 1,465 ft proposed without the braided ramps. Other nonstandard features that are distinct from those in Alternative 1 are related to superelevation transitions, tangent lengths between reversing curves, and minimum grades.

Comparison of With and Without Braided Ramp Configurations

Table R1-2 provides a comparison of the southbound interchange configuration with the braided ramps using data presented in the Draft EIR/EIS and without the braided ramps using data presented above. During the peak hours (i.e., unconstrained analysis) the I-405 mainline in the area between the Magnolia Street on-ramp and the Warner Avenue off-ramp is anticipated to operate without the braided ramps as well or better than with the braided ramps, except that during the PM peak hour, the ramp junction of the on-ramp from Magnolia Street is anticipated to operate at LOS C with the braided ramps compared to LOS D in the weaving area without the braided ramps in 2020 and LOS E in 2040. During shoulder peak hours (i.e., constrained analysis), the I-405 mainline is anticipated to operate better without the braided ramps in the area near the Warner Avenue off-ramp and better with the braided ramps near the Magnolia Street on-ramp.

With or without the braided ramps, the intersection of Magnolia Street and the I-405 southbound ramps is anticipated to operate at LOS C or better.

Noise Analysis

Noise analysis in the Draft EIR/EIS resulted in recommendations for no noise walls or other attenuation because all of the parcels abutting I-405 between Warner Avenue and Magnolia Street on the southbound side of I-405 would be acquired. Noise analysis was conducted for the design option that does not provide braided ramps in the southbound direction and does not

permanently acquire property on the southbound side of I-405. The analysis is presented in Noise Study Report Amendment #3 and the Supplemental NADR and provides for Soundwall S795 under all of the build alternatives. The soundwall would run along the outside edge of shoulder and would be 14 ft high.

Common Response – Northbound Braided Ramps at the Magnolia/Warner Interchange

The interchange design published in the Draft EIR/EIS for northbound I-405 at the Warner Avenue and Magnolia Street interchanges would replace the existing collector-distributor (C-D) road and ramp configuration with a set of braided ramps. Braided ramps are used to fully separate traffic streams from adjacent on- and off-ramps. For example, traffic currently entering northbound I-405 from Warner Avenue must merge with and weave across traffic exiting northbound I-405 to Magnolia Street. By using braided ramps, the Warner Avenue on-ramp would be separated from the Magnolia Street off-ramp by bridging the on-ramp over the off-ramp; this eliminates the existing high-speed traffic "weave" that takes place on the C-D road in the 425 ft between the on-ramp and off-ramp. The braided ramps would reduce the potential for congestion and collisions associated with the existing high-speed weave.

The proposed braided ramps are fully within the existing State-owned freeway ROW, and no permanent acquisition of adjacent private property is required to implement the proposed braided ramps.

Noise was evaluated and covered in Section 3.2.7, Noise, and Appendix N, Noise Information, of the Draft EIR/EIS. Soundwalls in the Magnolia Street/Warner Avenue interchange area are discussed in the Final Noise Study Report (dated May 2011) on pages 49 (Soundwalls S788 and S792), 50 (Receivers R2.81, R2.82, and R2.85), 73 (Soundwalls S786, S788, and S792), 75 (Receivers R2.82, R2.84, and R2.85), 101 (Soundwalls S786, S788, and S792), and 102 (Receivers R2.82, R2.84, and R2.85), and data regarding those walls is shown in numerous figures and tables referenced on those pages. Soundwalls in the Magnolia Street/Warner Avenue interchange area are also reviewed in the Noise Abatement Decision Report (dated September 2011) with information on pages 12 (Barrier Nos. S788 and S792), 17 (Barrier Nos. S786, S788, and S792), 22 (Barrier Nos. S786, S788, and S792), 29 (Soundwalls S788 and S792), 39 (Barrier Nos. S788 and S792), 45 (Soundwalls S786, S788, and S792), 55 (Barrier Nos. S786, S788, and S792), 62 (Soundwalls S786, S788, and S792), and 72 (Barrier Nos. S786, S788, and S792), as well as in the appendices of the report. Those reports provide that the existing wall between the properties on Daisy Avenue and I-405 will be replaced in-kind with a 12-ft-high wall that will be extended approximately 300 ft to the southeast across the drainage channel that passes under I-405. Consideration could be given to increasing the height of soundwalls to a maximum of 16

ft and providing a soundwall along the Warner Avenue on-ramp upstream of its bridge over the Magnolia Street off-ramp. See also Common Response – Noise/Noise Analysis.

Air quality was evaluated and covered in Section 3.2.6, Air Quality, and Appendix J, Air Quality, of the Draft EIR/EIS. Air quality is anticipated to be better under any of the build alternatives than under the No Build Alternative. The information on air quality contained in the Draft EIR/EIS summarizes more extensive information and air quality analysis results presented in the Air Quality Report – San Diego Freeway (I-405) Improvement Project SR-73 to I-605 dated June 2011. See also Common Response – Air Quality.

In terms of privacy and visual concerns, the soundwall and the retaining wall along the north edge of the ramp will shield many views into and from backyards along I-405. Additional privacy screening along the Warner Avenue on-ramp could be considered to further shield views of the ramp and into backyards. In the area of the existing soundwall and C-D road, the proposed ramp will be approximately 30 ft from property lines and descending to the grade of I-405 with the soundwall on the property line between the ramp and backyards. In the area of the existing Warner Avenue on-ramp, the proposed ramp will be in approximately the same location as the existing ramp, rising on a retaining wall located approximately 100 ft from the property wall along the Daisy Avenue backyards. Consideration could be given to minimizing the height of the retaining wall and ramp by minimizing the elevation of the proposed bridge carrying the Warner Avenue on-ramp over the Magnolia Street off-ramp.

In terms of safety of the adjacent private property owners as it relates to the potential for vehicles to leave the driving surface of the braid and end up in back yards of adjacent properties, safety of the public is of paramount concern to Caltrans and OCTA. Although it would not be impossible for a vehicle to leave the driving surface of the braided ramp, it would be highly improbable, and even less probable that it would result in property damage to private property for the following reasons: (1) No design exceptions are anticipated at this time and the ramp will be designed to the full Caltrans standards; (2) The outside shoulder of the ramp includes a protective concrete barrier designed to redirect vehicle collisions, minimizing any potential for vehicles to leave the ramp; (3) Adjacent private properties are located 50 to 150 ft away from the elevated braid and will have a soundwall up to 16 ft tall along the property; and (4) Based on the geometric design of the braided ramps, curves would direct vehicles leaving the surface toward the freeway and not toward the adjacent residences.

For information regarding property values, see Common Response – Property Values.

For information regarding potential health risks, see Common Response – Health Risks.

Design Option

A design option has been developed for all three build alternatives to eliminate the braided ramps. If this design option is included in the Preferred Alternative presented in the Final EIR/EIS, the braided ramps would not be included in the project. Under this design option, a C-D road serving the Warner Avenue on-ramp to and the Magnolia Street off-ramp from northbound I-405 would be provided, as shown in Figure R1-1. The off-ramp to Warner Avenue from northbound I-405 would be served by a separate ramp departing the I-405 mainline 1,000 ft upstream of the exit to the proposed C-D road. The on-ramp from southbound Magnolia Street would be served by a separate ramp entering the I-405 mainline 2,078 ft downstream of the C-D road entrance to the I-405 mainline.

Weaving Analysis

Operationally, the ramps and their volumes entering and exiting the I-405 northbound mainline are the same as those evaluated in the Traffic Study; therefore, the ramp junction analysis presented in Tables 2.5.3, 2.5.4, and 2.5.5 of the Traffic Study apply to this design option. The only operational difference between this design option and the braided ramp design analyzed in the Traffic Study and presented in the Draft EIR/EIS is that the traffic volumes using the Warner Avenue on-ramp and the Magnolia Street off-ramp from northbound I-405 would weave across each other on the proposed C-D road. In the Traffic Study, these ramps are braided so that there is no weaving maneuver.

Weaving analysis was conducted for the volumes weaving on the proposed C-D road. The HCS weaving analysis worksheets are presented in Appendix L6. The worksheets for year 2020 show that the weaving section is anticipated to operate at LOS B and C during the AM and PM peak hours, respectively. The worksheets for year 2040 show that the weaving section is anticipated to operate at LOS B and D during the AM and PM peak hours, respectively.

Nonstandard Features

Nonstandard features are associated with the design option without the braided ramps. Caltrans HDM 504.7 standard weaving distance is 1,600 ft, and approximately 920 ft is proposed on the C-D road in the design option without the braided ramps. The weaving section is located on the C-D road.

Comparison of With and Without Braided Ramp Configurations

As noted above, the only operational difference northbound between the configurations with and without the braided ramps is that there is no weave required with the braided ramps and there is a

weave required without the braided ramps. The weave is anticipated to operate at LOS D or better during peak hours in 2020 and 2040.

Noise Analysis

Noise analysis was conducted for the design option that does not provide braided ramps in the northbound direction. The analysis is presented in Noise Study Report Addendum #3 and the Supplemental NADR and provides for:

- Retention of the existing 12-ft-high soundwall along the north side of I-405 behind residences along Daisy Avenue that are north of the Ocean View Channel;
- Replacement of a portion of the existing 12-ft-high soundwall (S790) that crosses the Ocean View Channel. The proposed Soundwall S790 is 115 ft long, crosses the channel, and would be 14 ft high; and
- New soundwall (S786), extending the soundwall system in the bullet above for a distance of approximately 332 ft to the south and along the ROW line between the freeway on-ramp from Warner Avenue and the Ocean View Channel. Soundwall S786 is 16 ft high under Alternative 1 and 14 ft high under Alternatives 2 and 3.

Common Response – Noise/Noise Analysis

Some public comments have indicated concern regarding a permanent increase in noise, the approach/methodologies used to evaluate noise impacts, and mitigation. The following text provides a brief explanation of regulations and procedures used for the traffic noise impact analysis and recommendation of abatement measures.

Regulations

The Noise Study Report prepared for the proposed project evaluated potential traffic noise impacts in accordance with the guidelines and requirements of CEQA and NEPA. The Noise Study Report was prepared between December 2009 and June 2011. Because the project is on a State highway facility, traffic noise impacts and noise abatement measures were evaluated for NEPA in accordance with FHWA's Title 23 *Code of Federal Regulations* (CFR) 772 regulations and the August 2006 Caltrans' Traffic Noise Analysis Protocol (Protocol). Under NEPA, traffic noise impacts occur when the future peak noise hour equivalent continuous traffic noise level (L_{eq}) at frequent outdoor use areas approach or exceed the Noise Abatement Criteria (NAC) or the future predicted traffic noise levels exceed by 12 decibels (dB) or more the existing traffic noise levels. An increase of 12 dB was considered substantial for this project.

Traffic Noise Prediction

FHWA's Traffic Noise Model (TNM) was utilized for the prediction of future traffic noise levels. Outdoor traffic noise measurements were conducted at representative locations throughout the project study corridor to evaluate existing noise levels and to calibrate the TNM computer model. Specific measurement sites were chosen to be representative of receiver sites with similar topography, orientation to the highway, exposure angles, etc., with respect to frequent outdoor use areas adjacent to I-405. Locations that are expected to receive the greatest traffic noise impacts, such as the first row of houses from I-405, are generally chosen; however, noise measurements at second-row residences were also conducted in several areas. Noise measurements were conducted at 92 representative locations, but future traffic noise levels were predicted at almost 600 receiver locations that represent frequent outdoor use areas along the project alignment.

Determination of Traffic Noise Impacts

Frequent outdoor use areas of different land use within the project limits were identified through land use maps, aerial photography, and site inspection. NAC for different land uses are listed in the Protocol. These land uses include single- and multi-family residences, picnic areas, recreation areas, playgrounds, motels, hotels, schools, churches, libraries, and hospitals. If existing noise levels are high, traffic noise impacts can occur even when there is no project-related increase in noise.

Traffic noise impacts are considered to occur at receiver locations where predicted design-year traffic noise levels are at least 12 dB greater than existing noise levels or where predicted design year traffic noise levels approach or exceed the NAC for applicable activity categories. Typically, a 12-dB increase is for projects where a new freeway is planned. Noise increase due to the proposed project would be much less than 12 dB because doubling the traffic volumes increases noise levels by 3 dB. Even though the proposed project would not double the traffic volumes, there may be an increase of more than 3 dB at some locations because the proposed project may eliminate certain existing features or add lanes closer to receivers, which could expose nearby outdoor use areas to higher traffic noise levels.

Abatement Measures

Noise abatement measures must be considered where traffic noise impacts are identified. Abatement measures are recommended if they are considered feasible and reasonable as required by Title 23 CFR 772 and the Protocol. Soundwalls with heights ranging from 8 to 16 ft were considered at the State ROW line or at the shoulder of I-405 to provide abatement for frequent outdoor use areas with predicted traffic noise impacts.

According to the Protocol, abatement measures are considered acoustically feasible if a minimum noise reduction of 5 dB at the receiver locations is predicted with implementation of the abatement measures. The overall reasonableness of noise abatement is determined by considering factors such as cost; absolute predicted noise levels; predicted future increase in noise levels; expected noise abatement benefits; build date of surrounding residential development along the highway; environmental impacts of abatement construction; opinions of affected residents; input from the public and local agencies; and social, legal, and technological factors.

Each noise barrier was evaluated for feasibility based on achievable noise reduction of 5 dB or more. In accordance with the regulations, the existing soundwalls could only be replaced by higher soundwalls if an additional 5-dB noise reduction can be achieved. Most of the time, increasing the height of a 10- or 12-ft-high soundwall to the maximum height of 16 ft would not provide an additional 5-dB noise reduction. This is the main reason why the heights of some existing soundwalls were not increased or were replaced in-kind at a new location at the original height.

The Protocol defines the procedure for assessing reasonableness of noise barriers from a cost perspective. A cost-per-residence allowance is calculated for each benefited residence (i.e., residences that receive at least 5 dB of noise reduction from a noise barrier). The 2009 base allowance of $31,000 is used for this project. Additional allowance dollars are added to the base allowance based on absolute noise levels, the increase in noise levels resulting from the project, achievable noise reduction, and the date of building construction in the area. Total allowances are calculated by multiplying the cost allowance-per-residence by the number of benefited residences.

Benefited residences behind a recommended soundwall will be given the opportunity to voice their opinion about the proposed soundwalls. This process will occur after the Final EIR/EIS is completed. Letters will be sent to all property owners and non-owner occupants of benefited noise receptors asking them to vote either in favor of or in opposition to the proposed noise abatement by a specified deadline. If more than 50 percent of the votes from respondents oppose the abatement, the abatement will not be considered reasonable. Meetings will be held by Caltrans and OCTA to assist those voting in understanding the proposed walls and the voting process.

Special Considerations

Based on the Protocol, unusual and extraordinary noise abatement is considered if noise-sensitive land uses would experience an hourly equivalent continuous traffic noise level of 75 A-weighted decibels (dBA) or higher. Noise abatement measures for consideration under this

category can include constructing soundwalls that are not reasonable or providing interior noise abatement measures such as building façade upgrades (e.g., double-paned windows and air-conditioning so that windows can be closed for a prolonged period of time). For all cases in this project, receivers with noise levels 75 dBA or higher were able to be provided with feasible and reasonable abatement in the form of soundwalls.

Noise reflections may occur when there are soundwalls or retaining walls on both sides of I-405 that have a width-to-height ratio smaller than 15:1. Soundwalls and retaining walls proposed for the project and located on both sides of I-405 will have a width-to-height ratio larger than 15:1; therefore, the proposed noise barriers and retaining walls would not cause an increase in the noise levels within the project area or degrade the performance of the soundwalls as a result of reflection.

Common Response – Almond Avenue Soundwall

Several comments were received opposing relocation of the soundwall that is located adjacent to Almond Avenue in Seal Beach. These comments addressed potential design changes to avoid impacts to the soundwall, as well as noise, air quality, health, and property value impacts of the proposed project. These comments were considered during identification of the Preferred Alternative.

Design Options

Alternative 1 would not require relocation of the soundwall. Design options to avoid relocation of the soundwall were evaluated for Alternatives 2 and 3. It is anticipated that all of the design options discussed below would reduce temporary construction effects on adjacent residents.

Alternative 2

One design option for Alternative 2 to avoid relocation of the soundwall consisted of:

- Introducing reduced design features to the right-hand curve from an 8,000-ft radius to 4,600 ft;
- Providing a nonstandard 8-ft-wide inside shoulder where the Caltrans standard minimum width is 10 ft;
- Providing nonstandard 11-ft-wide high-occupancy vehicle (HOV) and GP lanes along northbound I-405 for a distance of 5,565 ft where the Caltrans standard minimum requirement for lane width is 12 ft wide; and

- Providing 11-ft-wide lanes on the two approach lanes from the westbound SR-22/northbound I-405 GP branch connector where the Caltrans standard minimum requirement for lane width is 12 ft.

With these design options for Alternative 2, the impacts to the soundwall would be avoided. The reduced design features were found to be unacceptable, and the design included in the Draft EIR/EIS has been retained. The extent of the design revisions was found to be too extensive when balanced against reducing the width of Almond Avenue and relocating the soundwall. I-405 currently carries 185,000 vehicles per day (vpd) in the northbound direction adjacent to the Almond Avenue soundwall with speeds as high as 75 miles per hour (mph). Almond Avenue carries less than 5,000 vpd at speeds of 25 to 35 mph. Given these data, narrowing Almond Avenue and providing 12-ft-wide travel lanes on both I-405 and Almond Avenue is the more prudent and balanced solution.

In those areas where the wall would be relocated for Alternative 2 as presented in the Draft EIR/EIS, Almond Avenue will be narrowed to a minimum of 36 ft, except for approximately 100 ft immediately east of Almond Park where the minimum width will become 35 ft. One travel lane in each direction and a parking lane on both sides of the street will be provided after the widening, except for approximately 100 ft immediately east of Almond Park, where parking will be provided on only one side of the street. A sidewalk will be maintained on the north side of the street. The soundwall will be replaced with a wall of equal height.

Another design option for Alternative 2 to avoid relocation of the soundwall consisted of terminating the second new northbound GP lane at Valley View Street. This design option was found to be unacceptable due to the bottleneck created by the lane drop. Substantial traffic queuing from the lane drop is anticipated. Providing the lane north to the 7th Street/I-605 interchange provides a match between the number of lanes approaching the Los Angeles County line on I-405 and the number of lanes entering Los Angeles County, as explained in Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Alternative 3

The design option for Alternative 3 to avoid relocation of the soundwall consists of:

- Reducing the length of the acceleration lane from 1,000 ft to 500 ft where the Express Lane direct connector from SR-22 westbound joins the northbound I-405 Express Lanes;
- Reducing the radius of the right-hand approach curve prior to Almond Avenue/Shappell Park along northbound I-405; this approach curve was revised from a 5,000-ft-long radius right-

hand curve to a 4,010-ft-long radius right-hand curve measured along the left edge of the traveled way of the Number 1 Express Lane from I-405; and

- Reducing the left shoulder adjacent to the median concrete barrier where the Express Lane direct connector from SR-22 westbound joins the northbound I-405 Express Lanes from the Caltrans standard 10 ft wide to a variable 5 to 10 ft wide for a distance of 677 ft.

In those areas where the wall will be relocated under Alternative 3 as presented in the Draft EIR/EIS, Almond Avenue will be narrowed for a distance of approximately 175 ft east of Almond Park and have a minimum width of 36 ft, which is sufficient to accommodate one travel lane in each direction and a parking lane on both sides of the street.

West of Almond Park for a distance of 975 ft, Almond Avenue will be narrowed under Alternative 3 as presented in the Draft EIR/EIS. For approximately 725 ft of the 975 ft, the minimum width of Almond Avenue will be 36 ft, which is sufficient to accommodate one travel lane in each direction and a parking lane on both sides of the street. For the remaining 250 ft of the 975 ft, the minimum width of Almond Avenue will be 35 ft, which is sufficient to accommodate one travel lane in each direction and a 7.5-foot parking lane on both sides of the street or one travel lane in each direction and an 8-foot parking lane on one side of the street.

Under Alternative 3 as presented in the Draft EIR/EIS, a sidewalk will be maintained on the north side of the street. The soundwall will be replaced with a wall of equal height.

Design Option Summary

In summary, if Alternative 1 is identified as the Preferred Alternative, there will be no impacts to the Almond Avenue soundwall. If Alternative 2 is identified, the wall will be relocated as indicated in the Draft EIR/EIS, and the height of the new wall will be equal to that of the existing wall. If Alternative 3 is identified, either the design in the Draft EIR/EIS that requires relocation of portions of the wall or the design option that avoids relocation of the wall will be selected as part of the Preferred Alternative.

Noise

A comparison between existing and future noise conditions for all alternatives is provided in Appendix N (N1). The locations of the receptors along Almond Avenue (R5.19 through R5.38) are shown in Figures 21 and 22 in Sections N3, N4, and N5 of Appendix N. The maximum predicted increase in noise between the existing condition and the future no-build condition for all receptors along Almond Avenue is 1 dBA. The maximum predicted increase in noise between the future no-build and build condition for all receptors along Almond Avenue is 2 dBA. The maximum predicted increase in noise between the existing condition and the future build

condition for all receptors along Almond Avenue is 3 dBA; however, noise levels represented by most of the receptor locations would experience no change or decreased noise levels under all of the future build conditions. As discussed in Section 4.2.2.9 of the Draft EIR/EIS, 3 dBA is generally considered the minimum noise increase perceptible to the human ear, and none of the build alternatives would result in a substantial increase in noise at any of the representative receptor locations along Almond Avenue. Also see Common Response – Noise/Noise Analysis.

Air Quality and Health

MSATs have the greatest potential to affect health of the residents along Almond Avenue. As shown in Tables 3.1.6-13 and 3.1.6-14, all of the build alternatives would have lower MSAT emissions compared to the No Build Alternative for the years 2020 and 2040. In 2020, the various build alternatives would generate between 8 and 72 percent less MSAT emissions than existing conditions and the No Build Alternative. In 2040, the various build alternatives would generate between 19 and 82 percent less MSAT emissions than existing conditions and the No Build Alternative. Although the various alternatives would place travel lanes closer to some residences, it is anticipated that MSAT exposure, including DPM, would be less than existing conditions. MSAT emissions are likely lower than existing levels in the design year as a result of EPA and California's control programs that are projected to further reduce MSAT emissions. See also Common Response – Air Quality and Common Response – Health Risks.

Property Values

Caltrans has found no literature, studies, or evidence that property values decrease because of freeway widening near a residence. See also Common Response – Property Values.

Common Response – Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes

Several comments were received opposing replacement of the Fairview Road Overcrossing or any construction of the additional lanes associated with Alternative 3 in Costa Mesa. Several design options were considered in response to these comments; the design options are reviewed below.

Comments were also received that the limited access to the Express Lanes in Alternative 3 would restrict direct access between local interchange ramps in Costa Mesa (including the Fairview Road and Harbor Boulevard interchanges) and the Express Lanes. For a response to these comments, see Common Response – Opposition to Tolling under Item 5. Although the common response is directed principally at concerns expressed with respect to access to businesses along the I-405 corridor, the response applies equally to access to all.

Design Option – Truncation of Express Lanes

A design option for Alternative 3 was considered that would eliminate new lanes south of Euclid Street, except for extension of the southbound auxiliary lane approaching the Harbor Boulevard exit ramp north to Euclid Street. Except for signing and striping that will extend as far south as SR-73, no improvements are included south of the northbound entrance ramp from Hyland Avenue. The Fairview Road overcrossing would not be replaced. No improvements would be included at the Harbor Boulevard interchange. The direct connector between the medians of I-405 and SR-73 would not be constructed. Table 2.4.1 of the Traffic Study forecasts congestion on I-405 in Costa Mesa under the no-build condition; these conditions are anticipated under Alternative 3 if the design option is included in the Preferred Alternative and under Alternatives 1 and 2. None of the proposed Build Alternatives is expected to eliminate congestion on I-405 in Costa Mesa or elsewhere in the corridor.

Lane Layout

The proposed design option of Alternative 3 compared to the design presented in the Draft EIR/EIS would consist of terminating the Express Lanes and Alternative 3 north of both the Fairview Road Overcrossing and the Harbor Boulevard Undercrossing in the vicinity of the Santa Ana River and Euclid Street. This termination location would be similar to the termination location of Alternatives 1 and 2.

In the southbound direction under the design option, Alternative 3 would be the same as presented in the Draft EIR/EIS north of the Talbert Avenue on-ramp. Under the design option, the southbound GP lane in the Draft EIR/EIS Alternative 3 design starting at the Talbert Avenue on-ramp would become an auxiliary lane that would terminate at the southbound Euclid Street off-ramp. Under the design option, the Express Lanes would terminate at the Euclid Street interchange where a transition area of approximately 2,000 ft would be provided to reinstate the HOV lane. In this area, the design option would include transitioning the southbound Number 1 and Number 2 Express Lanes into the HOV and Number 1 GP lanes, respectively, as shown in Figure R1-2. Within the transition area, vehicles in the median lane not meeting the occupancy requirement for use of the downstream HOV lane would merge right before the lane HOV restriction is imposed. The length of the transition area could be adjusted as necessary. South of the transition area, the lane layout would be the same as Alternatives 1 and 2, matching the existing condition near Hyland Avenue.

In the northbound direction, the existing condition would be retained until 1,200 ft south of the Santa Ana River. At that point, the HOV lane restriction would terminate and a 4,830-ft transition area would be provided between the termination of the HOV lane and the start of Express Lanes to allow motorists to change lanes as desired to continue north in the Express

Lanes or GP lanes. Within this area, the HOV lane would transition into the Number 2 Express Lane. Vehicles entering the transition area in the HOV lane and not continuing northbound in the Express Lanes would merge right into the GP lanes in the transition area. Vehicles entering the transition area not in the HOV lane and continuing northbound in the Express Lanes would merge left. A new lane would be created as the Number 1 Express Lane in the median within the body of the Euclid Street interchange. The northbound lanes would shift outward (away from the centerline) to create space for the Number 1 Express Lane, as shown in Figure R1-2. The Express Lane access restriction would start opposite the on-ramp from Euclid Street. North of this point, Alternative 3 would be the same as presented in the Draft EIR/EIS.

Express Lane Operating Policies

The operating policies presented in the Draft EIR/EIS in Section 2.2.2, Unique Features of the Build Alternatives, under the heading "Preliminary Tolled Express Lane Operating Policies," would not be changed under the design option.

Traffic Operations

Traffic operations analysis was prepared for the portion of I-405 affected by the design option. In the southbound direction, this is the area south of the Talbert Avenue on-ramp; in the northbound direction, this is the area south of the Euclid Street on-ramp. North of these areas, traffic operations are the same as under Alternative 3 as presented in the Draft EIR/EIS in Section 3.1.6.3, Traffic and Transportation/Pedestrian and Bicycle Facilities, on pages 3.1.6-94 through 3.1.6-103, and in the Traffic Study in Section 2.7, Alternative 3 Analysis. South of, and including the Harbor Boulevard interchange, traffic operations are the same as under the No Build Alternative as presented in the Draft EIR/EIS in Section 3.1.6.3 on pages 3.1.6-39 through 3.1.6-78 and in the Traffic Study in Section 2.4, No Build Alternative Analysis. Analysis of traffic operations for the design option was prepared and is presented below for the area along I-405 between, but excluding, the Harbor Boulevard interchange and the Brookhurst Street/Talbert Avenue interchange.

Table R1-3 shows that the GP and HOV lanes are anticipated to operate at LOS F in year 2020 between Harbor Boulevard and Euclid Street under the design option. Between Euclid Street and Brookhurst Street, the table shows that peak-hour LOS will range from LOS C to F in the GP lanes. Table R1-4 shows that, by 2040, GP operations during peak hours are anticipated to be LOS F between Harbor Boulevard and Brookhurst Street. Both tables show that the Express Lanes will provide LOS C.

Tables R1-5, R1-6, and R1-7 show that the ramp junction areas (i.e., merges and diverges) along I-405 at the Euclid Street interchange are anticipated to operate in the LOS B to F range in 2020 and 2040 under the design option, depending on direction and time of day.

Tables R1-8 and R1-9 show that the transition area between the HOV and Express Lane (where vehicles merge in and out of the managed lanes) is anticipated to operate in the range of LOS D to F in 2020 and at LOS F in 2040. The operations within the transition area are heavily influenced by the LOS of the GP lanes. Because the GP lanes are anticipated to operate at LOS F in 2040 (see Table R1-4) both upstream and downstream of the transition area, LOS F operations in the transition area would also be expected. Because the GP lanes upstream of the transition area are anticipated to operate at LOS F in 2020 and in the range of LOS C to F downstream of the transition area (see Table R1-3), LOS D to F in the transition area would also be expected.

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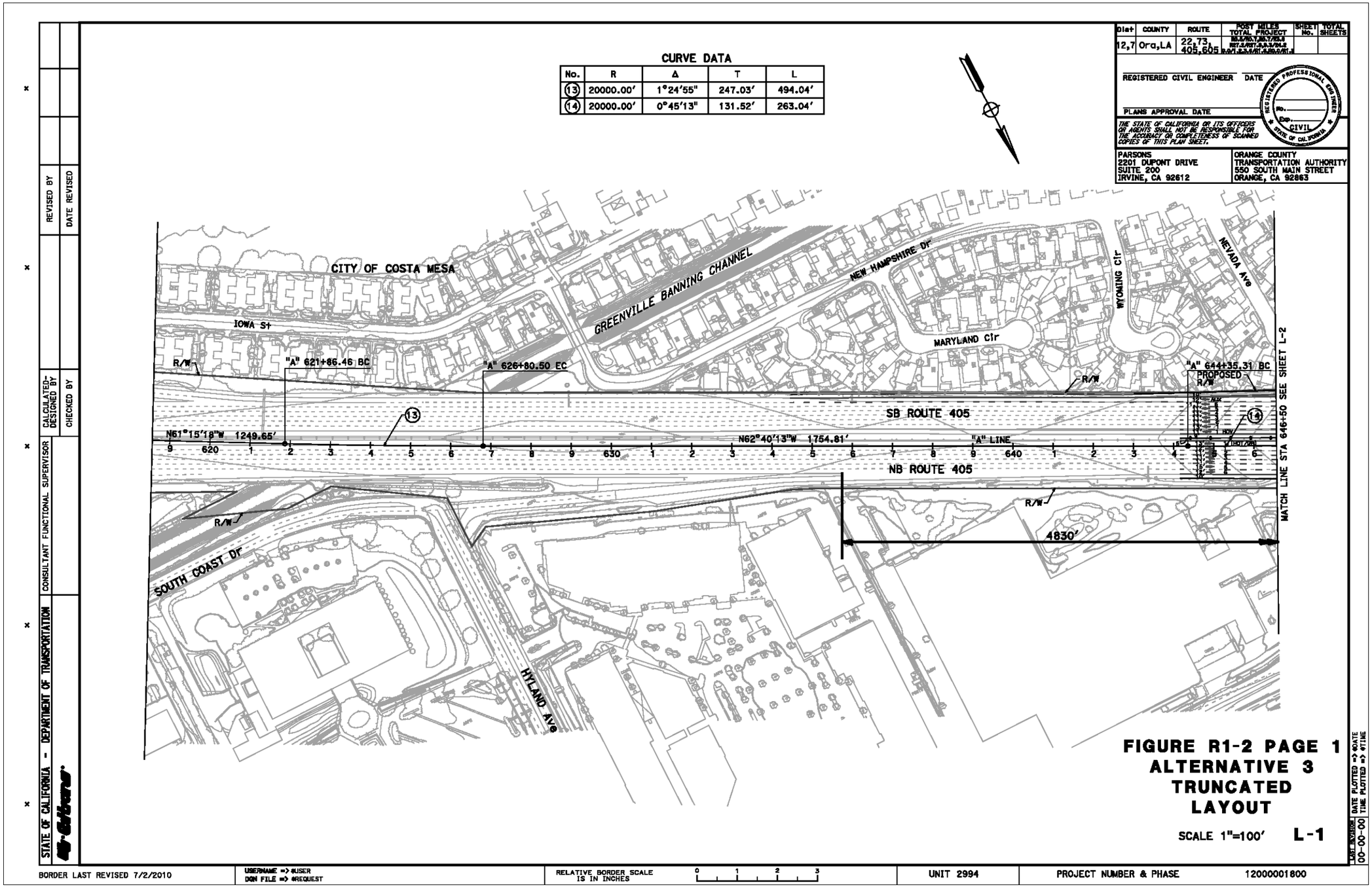
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12,7 Ora,LA 22,73, 405,605
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
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ORANGE COUNTY
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ORANGE, CA 92863
CITY OF COSTA MESA
GREENVILLE BANNING CHANNEL
NEW HAMPSHIRE Dr
WYOMING Cir
NEVADA Ave
IOWA St
MARYLAND Cir
R/W
"A" 621+66.46 BC
"A" 626+80.50 EC
"A" 644+35.31 BC
PROPOSED R/W
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N61°15′18"W 1249.65′
N62°40′13"W 1754.81′
"A" LINE
NB ROUTE 405
4830′
SOUTH COAST Dr
HYLAND Ave
MATCH LINE STA 646+50 SEE SHEET L-2
FIGURE R1-2 PAGE 1
ALTERNATIVE 3
TRUNCATED
LAYOUT
SCALE 1"=100′
L-1
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY
CHECKED BY
REVISED BY
DATE REVISED
BORDER LAST REVISED 7/2/2010
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RELATIVE BORDER SCALE IS IN INCHES
UNIT 2994
PROJECT NUMBER & PHASE 12000001800
LAST REVISION 00-00-00
DATE PLOTTED => $DATE
TIME PLOTTED => $TIME

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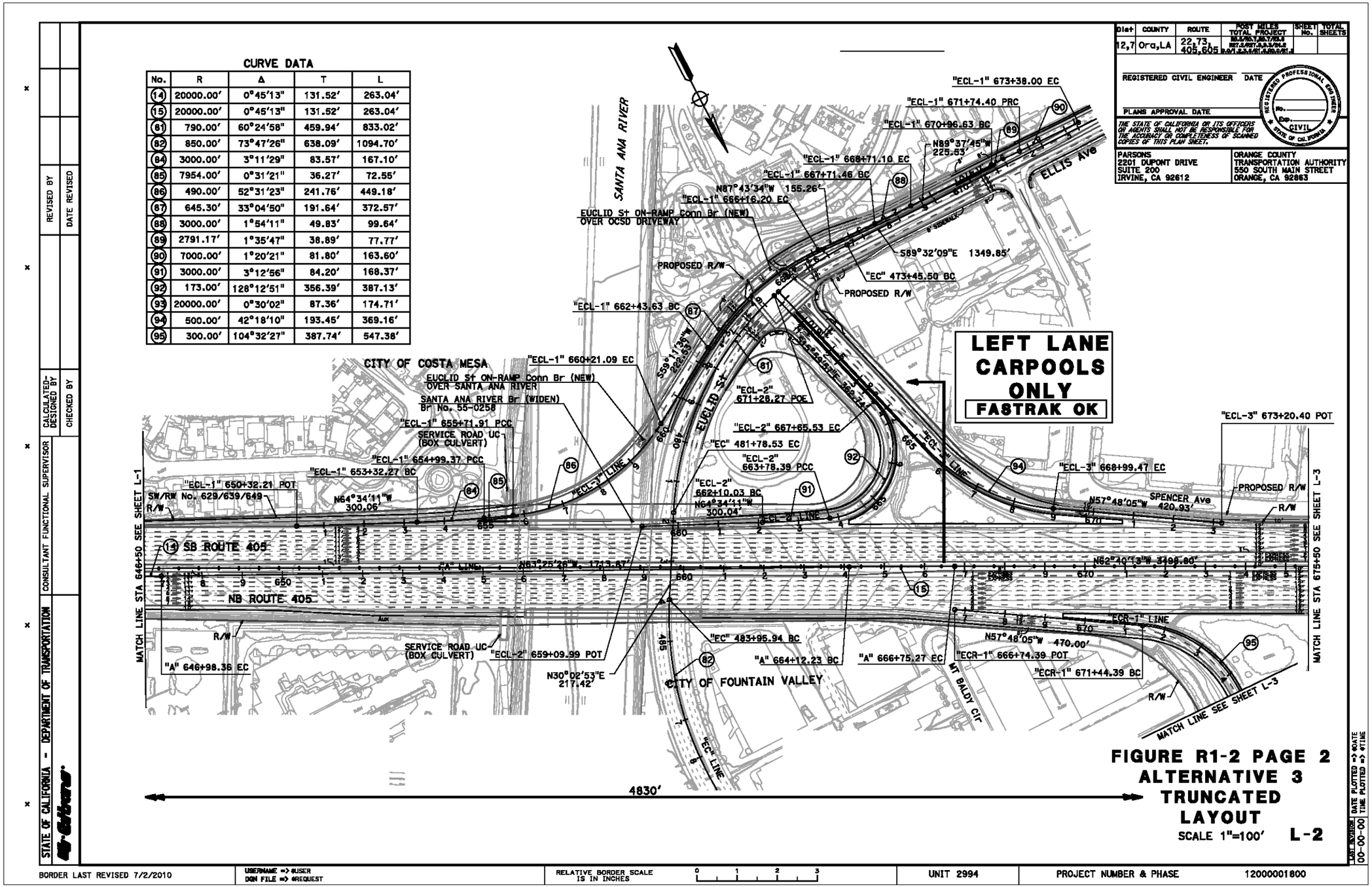
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82 850.00′ 73°47′26" 638.09′ 1094.70′
84 3000.00′ 3°11′29" 83.57′ 167.10′
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89 2791.17′ 1°35′47" 38.89′ 77.77′
90 7000.00′ 1°20′21" 81.80′ 163.60′
91 3000.00′ 3°12′56" 84.20′ 168.37′
92 173.00′ 128°12′51" 356.39′ 387.13′
93 20000.00′ 0°30′02" 87.36′ 174.71′
94 500.00′ 42°18′10" 193.45′ 369.16′
95 300.00′ 104°32′27" 387.74′ 547.38′
Dist COUNTY ROUTE POST MILES TOTAL PROJECT SHEET No. TOTAL SHEETS
12,7 Ora,LA 22,73, 405,605
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
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IRVINE, CA 92612
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TRANSPORTATION AUTHORITY
550 SOUTH MAIN STREET
ORANGE, CA 92863
"ECL-1" 673+38.00 EC
"ECL-1" 671+74.40 PRC
"ECL-1" 670+96.63 BC
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"ECL-1" 669+71.10 EC
"ECL-1" 667+71.46 BC
N87°43′34"W 155.26′
"ECL-1" 666+16.20 EC
EUCLID St ON-RAMP Conn Br (NEW) OVER OCSD DRIVEWAY
S89°32′09"E 1349.85′
"EC" 473+45.50 BC
PROPOSED R/W
"ECL-1" 662+43.63 BC
SANTA ANA RIVER
ELLIS Ave
LEFT LANE CARPOOLS ONLY
FASTRAK OK
CITY OF COSTA MESA
"ECL-1" 660+21.09 EC
EUCLID St ON-RAMP Conn Br (NEW) OVER SANTA ANA RIVER
SANTA ANA RIVER Br (WIDEN) Br No. 55-0258
"ECL-1" 655+71.91 PCC
SERVICE ROAD UC (BOX CULVERT)
"ECL-1" 654+99.37 PCC
"ECL-1" 653+32.27 BC
"ECL-1" 650+32.21 POT
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"ECL-3" 668+99.47 EC
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MATCH LINE STA 675+50 SEE SHEET L-3
SB ROUTE 405
NB ROUTE 405
N62°40′13"W 3498.60′
"ECR-1" LINE
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"EC" 483+95.94 BC
"A" 664+12.23 BC
"A" 666+75.27 EC
"ECR-1" 666+74.39 POT
"ECR-1" 671+44.39 BC
"A" 646+98.36 EC
SERVICE ROAD UC (BOX CULVERT)
"ECL-2" 659+09.99 POT
N30°02′53"E 217.42′
CITY OF FOUNTAIN VALLEY
MT BALDY Cir
MATCH LINE SEE SHEET L-3
4830′
FIGURE R1-2 PAGE 2
ALTERNATIVE 3
TRUNCATED
LAYOUT
SCALE 1"=100′ L-2
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY
CHECKED BY
REVISED BY
DATE REVISED
BORDER LAST REVISED 7/2/2010
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UNIT 2994
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LAST REVISION 00-00-00
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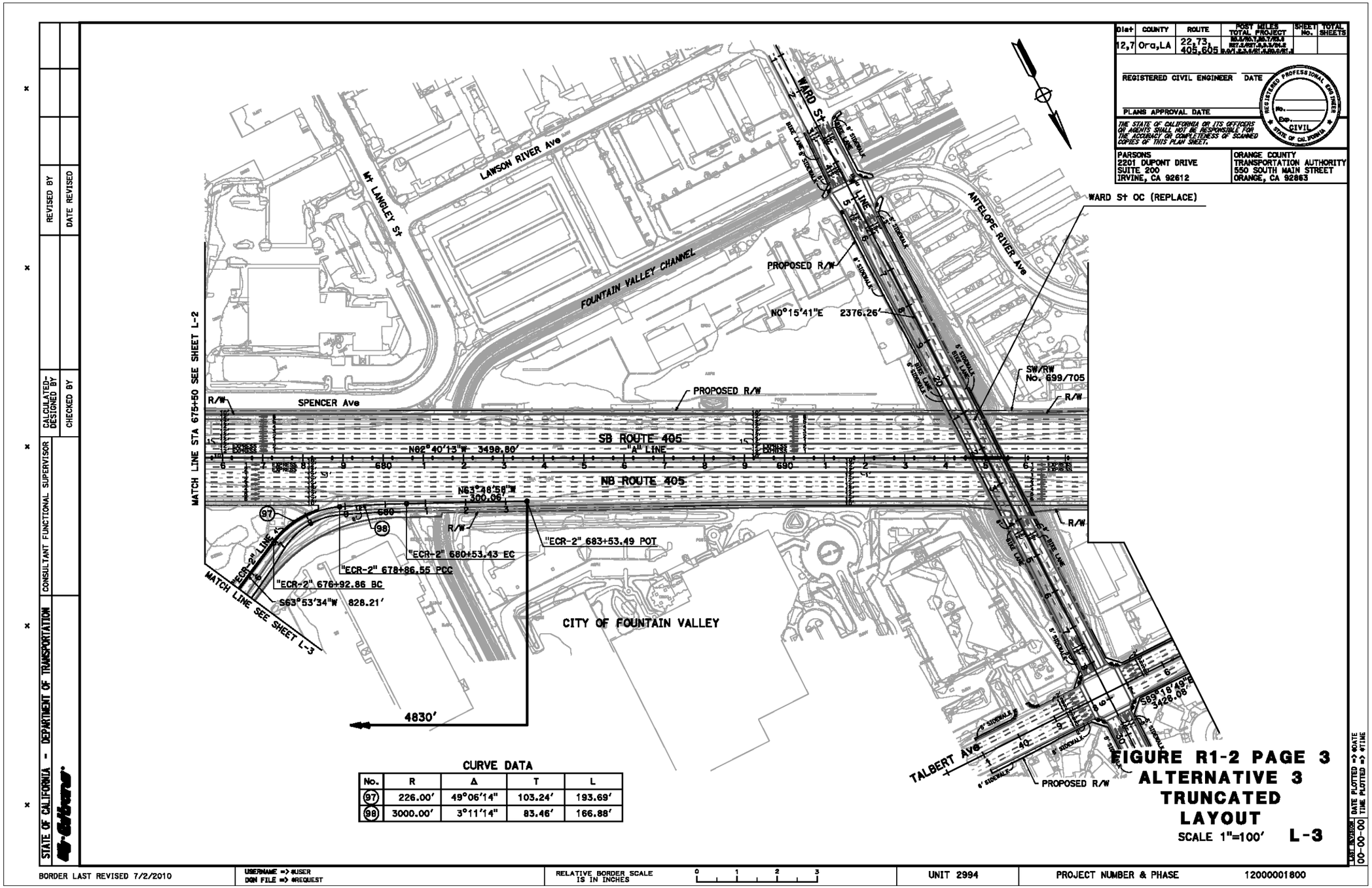
Dist
COUNTY
ROUTE
POST MILES TOTAL PROJECT
SHEET No.
TOTAL SHEETS
12,7
Ora,LA
22,73,
405,605
REGISTERED CIVIL ENGINEER
DATE
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THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
PARSONS
2201 DUPONT DRIVE
SUITE 200
IRVINE, CA 92612
ORANGE COUNTY
TRANSPORTATION AUTHORITY
550 SOUTH MAIN STREET
ORANGE, CA 92863
WARD St OC (REPLACE)
WARD St
LAWSON RIVER Ave
Mt LANGLEY St
FOUNTAIN VALLEY CHANNEL
ANTELOPE RIVER Ave
PROPOSED R/W
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SW/RW
No. 699/705
R/W
SPENCER Ave
SB ROUTE 405
"A" LINE
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NB ROUTE 405
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MATCH LINE STA 675+50 SEE SHEET L-2
"ECR-2" 683+53.49 POT
"ECR-2" 680+53.43 EC
"ECR-2" 678+86.55 PCC
"ECR-2" 676+92.86 BC
S63°53'34"W 828.21'
MATCH LINE SEE SHEET L-3
CITY OF FOUNTAIN VALLEY
4830'
TALBERT Ave
S89°18'49"E
1428.08'
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FIGURE R1-2 PAGE 3
ALTERNATIVE 3
TRUNCATED
LAYOUT
SCALE 1"=100'
L-3
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CONSULTANT FUNCTIONAL SUPERVISOR
CALCULATED-DESIGNED BY
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REVISED BY
DATE REVISED
BORDER LAST REVISED 7/2/2010
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UNIT 2994
PROJECT NUMBER & PHASE
12000001800
LAST REVISED
DATE PLOTTED => $DATE
TIME PLOTTED => $TIME

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Table R1-3: Alternative 3 Design Option (2020) I-405 Mainline Peak-Hour Level of Service

Location	Lane Type	Direction	Mainline		Alternative 3 Design Option Condition (2020)							
					AM Peak Hour				PM Peak Hour			
			Lanes	Capacity[1,4]	Traffic Demand Volume[1]	d/c	Density[2]	LOS[3]	Traffic Demand Volume[1]	d/c	Density[2]	LOS[3]
Harbor Boulevard/Hyland Avenue to Euclid Street/Ellis Avenue	GP	NB	6	11,100	11,927	1.07	34.4	F	13,470	1.21	*	F
		SB	6	11,100	15,486	1.40	*	F	12,596	1.13	38.3	F
	HOV	NB	1	1,850	1,988	1.07	34.4	F	2,245	1.21	*	F
		SB	1	1,850	2,581	1.40	*	F	2,099	1.13	38.3	F
Euclid Street/Ellis Avenue to Brookhurst Street/Talbert Avenue	GP	NB	6	11,100	11,015	0.88	25.5	C	12,515	1.00	30.5	D
		SB	5	9,250	13,266	1.43	*	F	10,224	1.11	36.3	E
	Express	NB	2	3,700	2,900	0.78	22.3	C	3,200	0.86	24.6	C
		SB	2	3,700	3,200	0.86	24.6	C	2,900	0.78	22.3	C

Notes:

1. Peak-hour capacity and traffic volumes are shown in vehicles per hour (vph).
2. Density is shown in passenger cars/mile/lane (pc/mi/ln).
3. Level of Service (LOS): General Purpose (GP) lane, High-Occupancy Vehicle (HOV) lane, and Express Toll lane LOS is based on density except when demand-to-capacity (d/c) ratio is greater than or equal to 1.0, which is LOS F.
4. Peak-hour capacities for freeway lanes include 1,850 vph for each GP lane and a single HOV/Express lane and 3,700 vph for dual HOV/Express lanes.
5. * Density is in excess of 45 pc/mi/ln; therefore, LOS is F.

Table R1-4: Alternative 3 Design Option (2040) I-405 Mainline Peak-Hour Level of Service

Location	Lane Type	Direction	Mainline		Alternative 3 Design Option Condition (2040)							
					AM Peak Hour				PM Peak Hour			
			Lanes	Capacity[1,4]	Traffic Demand Volume[1]	d/c	Density[2]	LOS[3]	Traffic Demand Volume[1]	d/c	Density[2]	LOS[3]
Harbor Boulevard/Hyland Avenue to Euclid Street/Ellis Avenue	GP	NB	6	11,100	13,635	1.23	*	F	15,597	1.41	*	F
		SB	6	11,100	18,069	1.63	*	F	14,196	1.28	*	F
	HOV	NB	1	1,850	2,273	1.23	*	F	2,600	1.41	*	F
		SB	1	1,850	3,012	1.63	*	F	2,366	1.28	*	F
Euclid Street/Ellis Avenue to Brookhurst Street/Talbert Avenue	GP	NB	6	11,100	11,647	1.05	33.0	F	13,316	1.20	43.8	F
		SB	5	9,250	15,955	1.72	*	F	11,836	1.28	*	F
	Express	NB	2	3,700	2,900	0.78	22.3	C	3,200	0.86	24.6	C
		SB	2	3,700	3,200	0.86	24.6	C	2,900	0.78	22.3	C

Notes:

1. Peak-hour capacity and traffic volumes are shown in vehicles per hour (vph).
2. Density is shown in passenger cars/mile/lane (pc/mi/ln).
3. Level of Service (LOS): General Purpose (GP) lane, High-Occupancy Vehicle (HOV) lane, and Express Toll lane LOS is based on density except when demand-to-capacity (d/c) ratio is greater than or equal to 1.0, which is LOS F.
4. Peak-hour capacities for freeway lanes include 1,850 vph for each GP lane and a single HOV/Express lane and 3,700 vph for dual HOV/Express lanes.
5. * Density is in excess of 45 pc/mi/ln; therefore, LOS is F.

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Table R1-5: Alternative 3 Design Option (2020) I-405 Ramp Junction Peak-Hour Level of Service

Interchange	Ramp Type	Ramp Lanes	Ramp[1,4] Capacity	Alternative 3 Design Option Condition (2020)							
				AM Peak				PM Peak			
				Ramp		Ramp Junction		Ramp		Ramp Junction	
				Traffic Volume[1]	d/c	Density[2]	LOS[3,5]	Traffic Volume[1]	d/c	Density[2]	LOS[3,5]
Euclid Street & Ellis Avenue	NB Off Loop	2	3,000	1,573	0.52	15.9	B	2,097	0.70	21.8	C
	NB On Direct	1	1,500	273	0.18	20.8	C	668	0.45	23.5	C
	SB Off Direct	1	1,500	474	0.32	--	F	429	0.29	25.6	C
	SB On Loop	1	1,500	949	0.63	--	F	1,230	0.82	28.3	D
	SB On Direct	1	1,500	1,126	0.75	--	F	770	0.51	24.7	C

Notes:

1. Peak-hour capacity and traffic demand forecast volumes are shown in vehicles per hour (vph).
2. Density is shown in passenger cars/mile/lane (pc/mi/ln).
3. Level of Service (LOS) is based on density (pc/mi/ln); d/c - demand-to-capacity ratio.
4. Peak-hour capacities for freeway ramps include 1,500 vph for each freeway ramp lane and 1,800 vph for each freeway-to-freeway branch connector lane.
5. LOS F if the total flow of the merge/diverge area exceeds the capacity of the freeway segment; the density is not applicable and is not calculated in this case.

Table R1-6: Alternative 3 Design Option (2040) I-405 Ramp Junction Peak-Hour Level of Service - AM

Interchange	Ramp Type	Ramp Lanes	Ramp[1,4] Capacity	Alternative 3 Design Option Condition (2040) - AM							
				Peak Condition (Unconstrained Mainline Volume)				Non-Peak Condition (Constrained Mainline Volume)			
				Ramp		Ramp Junction		Ramp			
				Traffic Volume[1]	d/c	Density[2]	LOS[3,5]	Traffic Volume[1]	d/c	Density[2]	LOS[3]
Euclid Street & Ellis Avenue	NB Off Loop	2	3,000	1,679	0.56	19.8	B	1,679	0.56	16.7	B
	NB On Direct	1	1,500	318	0.21	25.7	C	318	0.21	25.1	C
	SB Off Direct	1	1,500	639	0.43	--	F	639	0.43	23.5	C
	SB On Direct	1	1,500	1,479	0.99	--	F	1,479	0.99	23.3	C
	SB On Loop	1	1,500	1,086	0.72	--	F	1,086	0.72	28.7	D

Notes:

1. Peak-hour capacity and traffic demand forecast volumes are shown in vehicles per hour (vph).
2. Density is shown in passenger cars/mile/lane (pc/mi/ln).
3. Level of Service (LOS) is based on density (pc/mi/ln); d/c - demand-to-capacity ratio.
4. Peak-hour capacities for freeway ramps include 1,500 vph for each freeway ramp lane and 1,800 vph for each freeway-to-freeway branch connector lane.
5. LOS F as the total flow of the merge/diverge area exceeds the capacity of the freeway segment; the density is not applicable in this case.

Table R1-7: Alternative 3 Design Option (2040) I-405 Ramp Junction Peak-Hour Level of Service - PM

Interchange	Ramp Type	Ramp Lanes	Ramp[1,4] Capacity	Alternative 3 Design Option Condition (2040) - PM							
				Peak Condition (Unconstrained Mainline Volume)				Non-Peak Condition (Constrained Mainline Volume)			
				Ramp		Ramp Junction		Ramp			
				Traffic Volume[1]	d/c	Density[2]	LOS[3,5]	Traffic Volume[1]	d/c	Density[2]	LOS[3]
Euclid Street & Ellis Avenue	NB Off Loop	2	3,000	2,395	0.80	--	F	2,395	0.80	21.6	C
	NB On Direct	1	1,500	714	0.48	28.8	D	714	0.48	25.2	C
	SB Off Direct	1	1,500	504	0.34	--	F	504	0.34	22.9	C
	SB On Direct	1	1,500	897	0.60	--	F	897	0.60	23.2	C
	SB On Loop	1	1,500	1,433	0.96	--	F	1,433	0.96	28.8	D

Notes:

1. Peak-hour capacity and traffic demand forecast volumes are shown in vehicles per hour (vph).
2. Density is shown in passenger cars/mile/lane (pc/mi/ln).
3. Level of Service (LOS) is based on density (pc/mi/ln); d/c - demand-to-capacity ratio.
4. Peak-hour capacities for freeway ramps include 1,500 vph for each freeway ramp lane and 1,800 vph for each freeway-to-freeway branch connector lane.
5. LOS F as the total flow of the merge/diverge area exceeds the capacity of the freeway segment; the density is not applicable in this case.

Table R1-8: Alternative 3 Design Option (2020) I-405 Mainline Transition Areas Peak-Hour Level of Service

Location	Direction	Mainline		Alternative 3 Design Option Condition (2020)							
				AM Peak Hour				PM Peak Hour			
		Lanes	Capacity[1,4]	Traffic Demand Volumes[1]	d/c	Density[2]	LOS[3]	Traffic Demand Volumes[1]	d/c	Density[2]	LOS[3]
I-405 - Harbor Boulevard to Euclid Street	NB	7	12,950	13,915	1.07	34.4	D	15,715	1.21	*	F
	SB	7	12,950	18,067	1.40	*	F	14,695	1.13	38.3	E

Notes:
1. Peak-hour capacity and traffic volumes are shown in vehicles per hour (vph).
2. Density is shown in passenger cars/mile/lane (pc/mi/ln).
3. Level of Service (LOS) is based on density except when demand-to-capacity (d/c) ratio is greater than or equal to 1.0, which is LOS F.
4. Peak-hour capacities for freeway lanes include 1,850 vph for each lane.
5. *Density is in excess of 45 pc/mi/ln; therefore, LOS is F.

Table R1-9: Alternative 3 Design Option (2040) I-405 Mainline Transition Areas Peak-Hour Level of Service

Location	Direction	Mainline		Alternative 3 Design Option Condition (2020)							
				AM Peak Hour				PM Peak Hour			
		Lanes	Capacity[1,4]	Traffic Demand Volumes[1]	d/c	Density[2]	LOS[3]	Traffic Demand Volumes[1]	d/c	Density[2]	LOS[3]
I-405 - Harbor Boulevard to Euclid Street	NB	7	12,950	15,908	1.23	*	F	18,197	1.41	*	F
	SB	7	12,950	21,081	1.63	*	F	16,562	1.28	*	F

Notes:
1. Peak-hour capacity and traffic volumes are shown in vehicles per hour (vph).
2. Density is shown in passenger cars/mile/lane (pc/mi/ln).
3. Level of Service (LOS) is based on density except when demand-to-capacity (d/c) ratio is greater than or equal to 1.0, which is LOS F.
4. Peak-hour capacities for freeway lanes include 1,850 vph for each lane.
5. *Density is in excess of 45 pc/mi/ln; therefore, LOS is F.

If Alternative 3 is identified as the Preferred Alternative, either the design in the Draft EIR/EIS that requires replacement of the Fairview Road Overcrossing or the design option that avoids that replacement by terminating the Express Lanes near the Santa Ana River would be selected as part of the Preferred Alternative.

Design Option – Avoid Fairview Replacement

Design options to avoid replacement of the Fairview Road Overcrossing and retain the Express Lanes as far south as SR-73 were considered. Currently, seven GP lanes plus one HOV lane travel beneath the Fairview Road bridge in each direction. The Alternative 3 design under the bridge in the Draft EIR/EIS proposes seven GP lanes and two Express Lanes along southbound I-405 and six GP lanes and two Express Lanes along northbound I-405.

One design option to Alternative 3 would consist of terminating one southbound I-405 Express Lane north of the Fairview Road Overcrossing, thereby matching the same number of lanes as currently exist under the Fairview Road bridge. Another design option consists of eliminating an existing southbound auxiliary lane (one of the seven existing GP lanes) and providing dual Express Lanes, thereby matching the same number of lanes as currently exist under the Fairview Road Bridge. The existing geometric cross section across both northbound and southbound I-405 under the bridge consists of lane and shoulder widths that are nonstandard based on Caltrans design standards, less than 12 ft wide and 10 ft wide, respectively. The design options would match the existing widths and configuration and avoid replacement of the Fairview Road Overcrossing. These design options were considered unacceptable and eliminated because they would not provide additional capacity beneath the Fairview Road Overcrossing.

A third design option was considered that would relocate the I-405 southbound exit to SR-73 north of Fairview Road and provide a two-lane branch connector under the Fairview Road Overcrossing beneath the southernmost bridge span. Auxiliary lanes leading to the existing branch connector under the Fairview Road Overcrossing are currently beneath the second span from the southern end of the bridge. Removing the auxiliary lanes leading to the branch connector from the second span would provide additional width beneath the bridge for the additional lane on southbound I-405 proposed in Alternative 3; however, the southernmost span of the existing bridge is of sufficient length only to permit a two-lane branch connector. This design option was considered unacceptable and eliminated because it would provide only a two-lane branch connector and substantially shorten the distance motorists entering southbound I-405 from Harbor Boulevard would have to weave left to continue southbound on I-405.

Common Response – Opposition to Tolling

Several comments were received indicating opposition to the tolled element of the Express Lanes in Alternative 3. Several reasons were provided, such as:

1. General opposition to payment of tolls for use of roadways or freeways.
2. Opposition to the imposition of a price for a previously free good.
3. Lack of explicit language in the Renewed Measure M Funding (Measure M2) for implementation of tolled facilities.
4. Claims that tolls imposed on the existing HOV lanes amount to double taxation because those lanes have already been paid for and in use for more than 20 years.
5. Claims that the toll lanes would restrict access to businesses along the project corridor.

Items 1 and 2 – Caltrans and OCTA acknowledge that the imposition of tolls on freeways not previously requiring a direct usage fee is highly controversial. It should be noted that both State and federal law make provisions for the imposition of tolls on previously free interstate highways under certain conditions and circumstances, which apply to this project.

Authority to operate a toll facility has been granted under a Public-Private Partnership (P3) arrangement. In addition, Section 129 (MAP-21, Subsection 1512) allows the construction new toll lanes in the interstate system.

Item 3 – Measure M2 neither explicitly endorses nor explicitly prohibits tolling; however, OCTA has indicated that Measure M2 revenues would only be used to fund construction of a single GP lane in each direction. The additional increment of cost for the additional improvements proposed in Alternative 3 would not be funded with Measure M2 funds but by using the toll revenues collected from users of the Express Lanes and/or other state and federal funds.

Item 4 – The Draft EIR/EIS states on page 1-9 that the "existing HOV lanes also experience congestion during the peak hours. The HOV lane volumes are exceeding the capacity of the HOV lanes in the corridor and throughout southern California as explained in the California HOV/Express Lane Business Plan (Department, March 31, 2009). The travel time advantage of the HOV lanes on I-405 within the project limits is anticipated to be completely lost by the time the proposed project is open to traffic, except along the northernmost 3 miles of the corridor." The HOV lanes on I-405 currently fail to meet the FHWA or Caltrans operating criteria for HOV lanes. To address this failure, HOV lane volume will need to be reduced; the most effective method to accomplish that reduction is raising the occupancy requirement for use of the HOV lanes from two persons per vehicle to three persons per vehicle.

Should the Express Lanes be opened as HOV3+, there are so few carpools with a minimum of three persons per vehicle that the capacity in the HOV lane would be heavily underutilized. To take full advantage of the available capacity in the HOV lane, vehicles not meeting the occupancy requirement could be permitted to enter the lanes for a fee or toll. (This type of lane is referred to as a HOT or High-Occupancy Toll lane.) The amount of the toll would be adjusted to keep the volume in the lane from reaching the point at which congestion becomes severe and speeds degrade, such that the State and federal performance criteria are not met. The Express Lanes accomplish these objectives.

Another option is to open the toll facility as HOV2+ and the added capacity would allow vehicles not meeting the occupancy requirement to be permitted.

The objective is to open the tolled Express Lanes with a HOV2+ occupancy free to encourage rideshare and transit usage. Operational adjustments to the tolled Express Lanes may be implemented based on demand, rates of speed, traffic volumes, and to meet financial covenants, maintenance and operational obligations. Potential operational adjustments include, but are not limited to:

- adjusting to HOV3+ free with HOV2s discounted tolls
- adjusting to HOV3+ free with HOV2s full tolls
- adjusting to tolling HOV2s on individual tolling segments such as direct connectors to or from other freeways
- periodic adjustments of tolling rates to maintain operations on individual tolling segments

While it is true that the existing HOV lanes were paid for previously, there was never a commitment to maintain their occupancy requirement of two persons per vehicle in the face of degraded speeds and performance in the HOV lanes in perpetuity. On the contrary, there is a requirement to adjust the occupancy to meet the performance standards. Avoiding the “double taxation” issue and meeting the performance standards for HOV lanes could be accomplished by simply raising the HOV lane occupancy requirement to three persons per vehicle; however, it does so by forcing HOVs with two occupants into the GP lanes, thereby degrading speeds and increasing congestion in the GP lanes.

By allowing vehicles not meeting the occupancy requirement for free use of the Express Lane the opportunity to utilize the Express Lanes for a toll, the full capacity of the original HOV lanes can be utilized, while maintaining the travel time advantage for HOVs meeting the occupancy requirement and reducing the traffic demand and congestion in the GP lanes. The Express Lanes with a policy under which HOVs meeting a required minimum number of occupants travel free represents a reasonable approach to addressing the failure of the current HOV condition to

provide good travel time performance; at the same time, the Express Lanes also represent a reasonable approach to avoiding underutilizing the capacity of the existing HOV lane by reserving it exclusively for HOVs meeting a required minimum number of occupants.

Item 5 – The intermediate access provided for the Express Lanes near the Magnolia Street/ Warner Avenue interchange and near the Bolsa Avenue/Goldenwest Street interchange provides the opportunity for traffic on the Express Lanes to exit the Express Lanes upstream of the ramp needed to exit I-405 to access a local business. Compared to the No Build Alternative and Alternatives 1 and 2, traffic using the Express Lanes would be able to drive to local businesses more quickly by avoiding portions of the I-405 GP lanes that are heavily congested and exiting the Express Lanes into the GP lanes upstream of the exit ramp serving the desired business.

Common Response – Measure M Funding

Several comments were received regarding the Renewed Measure M Sales Tax Initiative (Measure M2). Some commenters have expressed opposition to Measure M2 funds being used for Alternative 3 because Alternative 3 includes tolled Express Lanes that are not specifically identified in Measure M2.

OCTA has indicated that Measure M2 revenues would only be used to construct a single GP lane in each direction. Funding for construction of additional incremental improvements proposed in Alternative 2, the second GP lane in each direction, is currently unidentified but would be obtained from other federal, state, and/or local sources. Funding for construction of additional incremental improvements proposed in Alternatives 3 (i.e., Express Lane and toll support facilities) would be funded from public private partnership, state/federal dollars, bonds, and/or TIFIA loan.

Subsequent to publication of the Draft EIR/EIS, OCTA completed a financial analysis of Measure M2 revenues. Table 1-9 in the Final EIR/EIS has been revised, as shown in Table R1-10, to include the results of that analysis, which indicates that the $1.3 billion cost of Alternative 1 would be fully funded by Measure M2. The table indicates that the additional costs associated with Alternatives 2 and 3 would be funded from other sources.

Table R1-10: Proposed Funding and Shortfall

Alternative	Full Cost[1] (billion $)	Measure M2 Revenue (billion $)	Funding Shortfall (million $)	Needed Innovative Financing[2] Phase 2 (million $)
1	$1.3	$1.3	$0	$0
2	$1.4	$1.3	$100	$0

3	$1.7	$1.3	$394-$589[3]	$358-$589[3]

[1] *2014 costs include program management, public awareness & outreach, and environmental process.*
[2] *Innovative financing could be addressed with state or federal funds, TIFIA loan and equity from a public - public or public-private partnership.*
[3] *The differing amounts noted are dependent on amounts necessary to avoid impacting properties twice and avoiding throw-away costs.*

Common Response – Comparison of Tolled Express Lane Operation of SR-91 to I-405

Several commenters asked about the comparison of operations of the existing tolled Express Lanes on SR-91 with what is proposed on I-405. As described in the Final EIR/EIS, the operations would be similar in some respects and different in others. Operation of the facilities is similar in that:

- Express Lane facilities with two lanes in each direction are provided in the median of the freeway;
- Access to the Express Lanes in both facilities is controlled and divided from the GP lanes with striping and pavement delineators;
- Both Express Lane facilities are tolled to limit the number of vehicles in the lanes to a target volume that limits the potential for congestion and speed reductions in the Express Lanes;
- Tolls are determined using methods under which tolls vary, with tolls adjusted periodically based on traffic levels, although the adjustments on SR-91 are according to a predetermined published schedule and the adjustments proposed on I-405 would be in real time in response to minute-by-minute fluctuations in traffic volumes;
- HOVs meeting occupancy criteria that may change from time to time and other specified vehicles, such as zero emission vehicles, motorcycles, vehicles with disabled license plates, and disabled veterans, enjoy a free or reduced toll;
- The Express Lanes would be available for carpools, California Highway Patrol (CHP) vehicles, Caltrans vehicles, emergency vehicles (e.g. police, fire, and ambulance), vanpools, and buses at no cost.
- Tolls would only be collected electronically, and all Express Lane users must have and use a valid transponder (e.g., FasTrak) regardless of whether they enjoy toll-free use of the Express Lanes;
- Vehicle occupancy checks of HOVs by CHP officers in the field would be used to apprehend violators claiming but not entitled to reduced tolls for HOVs;
- Service Patrol would be provided between the hours of 5:00 a.m. and 9:00 p.m. Between 9:00 p.m. and 5:00 a.m., motorists would rely on commercially available roadside service providers. The service patrol would be available to assist motorists with a disabled vehicle,

move disabled vehicles out of Express Lanes onto the shoulder, and assist CHP in removing vehicles from the Express Lanes following a collision; and

- The Toll Operations Office would administer the tolling operation. The Toll Operations Office would determine the toll amounts and display them on variable message signs near the ingress points to the Express Lanes. Among the principal duties of the Toll Operations Office would be distribution of transponders to motorists, establishing and maintaining toll accounts for Express Lane users receiving transponders, charging toll accounts based on transponder readings along the Express Lanes, and providing periodic account statements to account holders. The Toll Operations Office would also be responsible for using the digital images collected at toll gantries of vehicles not utilizing a transponder to identify vehicle owners to be sent a toll violation notice, along with a bill for the unpaid toll and toll violation penalty.

Operation of the I-405 and SR-91 Express Lane facilities would be dissimilar in that:

- Intermediate access would be provided on the I-405 facility, whereas no intermediate access is provided between the terminal points of the SR-91 Express Lanes at SR-55 and the Orange/Riverside county line;
- The HOV policy currently in force on SR-91, which can change if revenues exceed a specified threshold, provides free passage to carpools of three or more occupants during all but the most congested hours when carpools of three or more are charged half of the toll for single-occupant vehicles, whereas the policy currently proposed for the I-405 Express Lanes is to operate with a HOV2+ occupancy free to encourage rideshare and transit usage. Caltrans may implement operational adjustments to managed lanes based on corridor demand, rates of speed, transit operational improvements and overall congestion levels and to meet financial covenants, maintenance and operational obligations. Operational revisions include, but are not limited to:
    - adjusting to HOV3+ free with HOV2s discounted tolls
    - adjusting to HOV3+ free with HOV2s full tolls
    - adjusting to tolling HOV2s on specific segments such as direct connectors to or from other freeways
    - periodic adjustments of tolling rates to maintain operations on individual tolling segment
- The maximum target volume per lane on the SR-91 Express Lanes is 1,564, whereas on I-405 it is proposed to be 1,700; and

- Motorists on SR-91 claiming free or reduced toll status as HOVs are required to use a special lane at the toll plaza, whereas those claiming free HOV status on I-405 would be required to use a transponder with a manual switch that would "self-identify" the vehicle occupancy.

Common Response – Substantiation of Reported Corridor Travel Times for Build Alternatives

Several commenters asked about verification of the reported corridor travel times for the build alternatives.

Table 3.1.6-7 in the Draft EIR/EIS shows the corridor travel times. The data for the existing condition are based on field surveys. The data for the 2040 conditions are based on forecast speeds derived from the relationship between corridor demand volume (as shown in the Draft EIR/EIS in Figures 3.1.6-9 through 3.1.6-12) and corridor capacity of each build alternative. For a given roadway capacity, speeds fall as demand increases; a number of statistically defined curves model the relationship among roadway capacity, traffic volume or demand, and speeds. A study was conducted to determine the curve that best fits the I-405 study corridor. The study findings and the relationship among roadway capacity, traffic volume or demand, and speeds are presented in Appendix A1 of the *Traffic Study Report: San Diego Freeway (I-405) Improvement Project SR-73 to I-605* (May 2011). That study provides a graph showing speed for the ratio between the forecast traffic demand volume and traffic capacity on I-405. The graph, in conjunction with the forecast traffic volumes and the traffic capacity under the alternatives, was used to forecast speeds for each of the alternatives. Forecast speeds were then converted to travel time.

With respect to travel time in the Express Lanes of Alternative 3, the traffic volume in those lanes will be controlled through adjustment of the toll to a target volume that would minimize congestion and maintain high-speed travel in the lanes, as explained in the Draft EIR/EIS on page 2-20. By comparison, traffic volume in the GP and HOV lanes in Alternatives 1 and 2 would not be controlled in any way, and heavy congestion and slow speeds are anticipated during peak hours.

Common Response – Insufficient Environmental Document/Mitigation Measures

The proposed project is subject to federal, as well as State, environmental review requirements. Caltrans, as assigned by FHWA, has prepared this joint EIR/EIS in compliance with both CEQA and NEPA. Caltrans is the Lead Agency for compliance with CEQA and NEPA. The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being or has been carried out by Caltrans under its assumption of responsibility pursuant to 23 United States Code (U.S.C.) 327. OCTA is the local agency sponsor and a Participating Agency under CEQA and NEPA; the United States Army Corps of Engineers

(USACE) is a Cooperating Agency under NEPA. Prior to certification of the Final EIR/EIS, Caltrans, as the lead agency, must certify that the Final EIR/EIS has been completed in conformance with NEPA and CEQA and adequately discloses the environmental effects of the proposed project, and that the decision-making bodies independently reviewed and considered the information contained in the Final EIR/EIS prior to taking action on the project.

One of the primary differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an EIS, or some lower level of documentation, will be required. NEPA requires that an EIS be prepared when the proposed federal action (project) *as a whole* has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision is made regarding the need for an EIS, it is the magnitude of the impact that is evaluated, and no judgment of its individual significance is deemed important for the text. Avoidance and minimization measures for each resource are provided throughout Chapter 3 of the Draft EIR/EIS.

CEQA, on the other hand, does require Caltrans to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an EIR must be prepared. Each and every significant effect on the environment must be disclosed in the EIR and mitigated if feasible. In addition, the CEQA Guidelines list many mandatory findings of significance that also require preparation of an EIR. There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA. In the Draft EIR/EIS, Chapter 4, California Environmental Quality Act (CEQA) Evaluation, discusses the effects of this project and CEQA significance.

Technical studies were prepared in the environmental areas including but not limited to air quality, noise, traffic, hazardous waste, water quality, floodplain/hydraulics, biological resources, cultural and paleontological resources, geotechnical resources, community, visual, and right of way impacts. These studies supported the detailed analysis of every possible potential impact of the project and the conclusions were presented in the Draft EIR/EIS which was circulated for public review. Public hearings were conducted and comments were solicited. In response to public comments regarding traffic impacts, a Supplemental Draft EIR/EIS was prepared, circulated for public review, and public comments were solicited as a result of a public hearing and a public review. Responses have been written for all substantive environmental comments and are included in the Final EIR/EIS.

Mitigation measures for all significant environmental effects have been included in Section 4.2.3, Significant Environmental Effects of the Proposed Project, of the Draft EIR/EIS. With incorporation of these mitigation measures, impacts identified in Section 4.2.3 would be less than significant. Mitigation measures for all unavoidable significant environmental effects have been included in Section 4.2.5, Unavoidable Significant Environmental Effects, of the Draft EIR/EIS. Even with incorporation of these mitigation measures, impacts identified in Section 4.2.5 would remain significant. All CEQA mitigation measures for significant and unavoidable significant environmental impacts are listed in Section 4.2.8, Mitigation Measures for Significant Impacts under CEQA, of the Draft EIR/EIS.

Common Response – Coordination between Caltrans Districts 7 and 12, OCTA, Los Angeles Metro, Gateway City Council of Governments, and the City of Long Beach

Some commenters have expressed concern with the amount of coordination between Caltrans, OCTA, Los Angeles Metro, Gateway Cities Council of Governments (COG), and the City of Long Beach regarding the proposed project and projects in Los Angeles County.

Coordination occurs regularly between the agencies listed above regarding projects that cross county lines. In 2008, OCTA and Los Angeles Metro collaborated with the Caltrans districts regarding the "Intercounty Transportation Study," which included evaluation of necessary transportation and service infrastructure improvements. The study concluded in 2009, but ongoing coordination continues.

The majority of the I-405 project improvements will occur in Orange County, with some minor improvements (i.e., striping, signage) within Los Angeles County. As part of the Draft EIR/EIS, Caltrans District 12 and OCTA involved public agencies that would be affected by the proposed project, including Los Angeles Metro, Caltrans District 7, COG, and the City of Long Beach.

Coordination efforts with the City of Long Beach, Los Angeles Metro, and COG included the following:

<u>Coordination with the City of Long Beach</u>

The City of Long Beach Public Works staff participated in a meeting at the early stage of design for the I-405 Improvement Project in June 2009. In fall 2009, an invitation to be a participating agency was sent to the City of Long Beach, and no response was provided. OCTA sent the City of Long Beach a courtesy invitation in August 2011 to again be a participating agency, which the City accepted that same month.

City Public Works staff participated in the scoping meeting held in Rossmoor and provided comments. Long Beach City Council Member Patrick O'Donnell's staff attended the Westminster scoping meeting on September 30, 2009. Long Beach City Council Member Gerrie Schipske's staff attended the OCTA Policy Working Group (PWG) meetings in December 2010 and October 2011.

In October 2011, OCTA contacted the City of Long Beach Public Works Department to update them on the project status and offered a presentation to City Council. Two dates were set in January and February 2012 for City Council presentations; both meetings were cancelled by the City. OCTA, the Long Beach City Traffic Engineer, and other Public Works staff met on April 5, 2012, to discuss the project. In May and June 2012, OCTA offered to participate in a public meeting in Council Member Patrick O'Donnell's district; however, a meeting was not scheduled. Council staff attended the public hearing in Rossmoor during the Draft EIR/EIS public circulation. OCTA provided a presentation at the "Chat with Pat" meeting held at the Los Altos Library on August 1, 2012 and attended a subsequent "Chat" on June 5, 2013, following attendance at a meeting hosted by Long Beach City Council Member Schipske on June 3.

On April 15 and August 15, 2014, OCTA staff met with City of Long Beach staff to provide a project update.

Meetings with the COG

OCTA has participated with the COG on the "Congestion Hot Spots for the SR-91/I-605/I-405 Corridor Study" since June 2011. On February 1, 2012, OCTA staff made a presentation to the COG Transportation Committee, which is made up of elected officials from Long Beach, South Gate, Cerritos, Paramount, and Norwalk. In that presentation, OCTA highlighted lane transitions at the Orange/Los Angeles county line. OCTA was asked if they were coordinating with Los Angeles Metro and the City of Long Beach, which had been occurring. Another presentation on I-405 was given on February 22, 2012, to the COG, and an additional I-405 presentation was given on March 27, 2012, to the COG Technical Advisory Committee (TAC). Both the City of Long Beach and Los Angeles Metro were in attendance.

Meetings with Los Angeles Metro

OCTA provided a presentation to the OC Metro Gateway Cities Service Council on July 12, 2012. On August 17, 2012, Deputy OCTA CEO, Darrell Johnson, met with Los Angeles Metro Executive Staff. OCTA staff met with Metro staff on July 19, 2013, for a project briefing.

Other Meetings

OCTA met with the technical staff of the City of Long Beach, Caltrans Districts 7 and 12, and the COG on August 27, 2012, to discuss technical aspects of the I-405 Improvement Project. An ad hoc Technical Working Group was formed that has met on several subsequent occasions to

address coordination of plans for transportation improvements at and across the county line, and to address comments received from both the City of Long Beach and the COG regarding expansion of the traffic study to include portions of the City of Long Beach. Those meetings were partially responsible for the preparation of a Supplemental Traffic Study containing analysis of traffic in portions of the City of Long Beach. The ad hoc group continued meeting through September 18, 2013, to address topics related to the I-405 Improvement Project, as well as other topics affecting transportation across and at the county line.

OCTA's former CEO, Will Kempton, and the OCTA Board Chair met with the Gateway leadership, Los Angeles Metro Chair, and Los Angeles Metro CEO, Art Leahy, to continue the discussion regarding resolving issues at the county boundaries.

A meeting was held on August 29, 2012, including OCTA, Los Angeles County Supervisor Don Knabe, and representatives of both the COG and the City of Long Beach.

Common Response – Shifting Improvements away from Residential Properties onto NAVWPNSTA Seal Beach Property

Some commenters have expressed concerns about impacts to residential properties in the College Park East neighborhood of Seal Bach and suggest shifting improvements away from residential properties and onto NAVWPNSTA Seal Beach property.

The priority of the design team was to minimize the residential impacts, including ROW. OCTA, Caltrans, and FHWA have worked extensively with the Navy to move I-405 toward and into the Navy property to avoid impacting the residential areas on the northbound side of I-405.

The NAVWPNSTA Seal Beach maintains and transports explosives. A protective area around areas with explosive potential is provided to protect military personnel and the public. The areas inside the Base's outer security fence and immediately south of the existing I-405 ROW are part of that protective area and may not be used for a roadway without major impacts to public safety and/or Base facilities. The proposed alternatives utilize the ROW up to the Base's security fence, including existing areas that are not paved.

The proposed alternatives use all available ROW on the south side of I-405 abutting the Base without sacrificing the safety of the public or Navy personnel. OCTA, Caltrans, and FHWA have held meetings with representatives of NAVWPNSTA Seal Beach and confirmed that freeway expansion onto their property would require extensive military review and potential legislative action. OCTA, Caltrans, and FHWA were advised during the discussions that the conditions under which a freeway encroachment onto the Base would be allowed would be extremely costly, would delay the project schedule, and would likely not be approved.

Common Response – Traffic Flow at the Orange County/Los Angeles County Line

Several comments were received regarding preparation of the traffic analysis. Some commenters have expressed a general belief that the proposed project would disrupt the traffic flow at the Orange and Los Angeles county line, create a bottleneck, increase noise, and increase air pollution and associated health risks. These concerns were analyzed and reported in the Draft EIR/EIS.

Bottleneck

Several comments indicated that the additional northbound lanes provided by the build alternatives along I-405 approaching the SR-22/7th Street/I-605 interchange, coupled with no increase in lanes on I-405 in Los Angeles County, would create a bottleneck as the additional lanes are terminated.

Currently, there are 7 lanes (1 HOV and 6 GP) on northbound I-405 as it approaches the SR-22/7th Street/I-605 interchange near the Los Angeles county line. Under the no-build condition, there will be 8 lanes (2 HOV and 6 GP) on northbound I-405 as it approaches the SR-22/7th Street/I-605 interchange when the current construction of the West County Connectors (WCC) project along SR-22, I-405, and I-605 is complete. Under Alternatives 1 and 3, there will be 9 lanes (2 HOV or Express plus 7 GP) on northbound I-405 as it approaches the SR-22/7th Street/I-605 interchange. Under Alternative 2, there will be 10 lanes (2 HOV and 8 GP) on northbound I-405 as it approaches the SR-22/7th Street/I-605 interchange. Among the proposed alternatives, Alternative 2 has the most lanes (10) on northbound I-405 as it approaches the SR-22/7th Street/I-605 interchange.

As part of the WCC project, there will be 10 lanes departing from I-405 at the SR-22/7th Street/I-605 interchange and going into Los Angeles County in the northbound and westbound directions. The 10 lanes departing I-405 at the SR-22/7th Street/I-605 interchange and going into Los Angeles County in the northbound and westbound directions include 2 GP lanes departing to westbound SR-22/7th Street, 2 GP and 1 HOV lane departing to northbound I-605, and 4 GP and 1 HOV lane departing to I-405 northbound. These 10 departing lanes in the northbound and westbound directions match the 10 approaching lanes under Alternative 2 and provide 1 more departing lane than approaching lane under Alternatives 1 and 3.

In short, under any of the proposed build alternatives, there are at least as many lanes carrying traffic into Los Angeles County from northbound I-405 at the SR-22/7th Street/I-605 interchange as would be approaching that interchange on I-405. Under Alternatives 1 and 3, there would be one more lane carrying traffic into Los Angeles County from northbound I-405 than there would be on I-405 approaching the SR-22/7th Street/I-605 interchange. Under Alternative 2, there would be the same number of lanes carrying traffic into Los Angeles County from northbound I-405 as there would be on I-405 approaching the SR-22/7th Street/I-605 interchange.

Traffic

Table 2.3.1 of the Traffic Study shows the traffic volume, volume-to-capacity (V/C) ratio, vehicle density, and LOS during the AM and PM peak hours in each direction for each mainline freeway link along I-405 within the project area. These links include the northbound links of I-405 as they approach the SR-22/7th Street/I-605 interchange near the Los Angeles county line. These links are from Bolsa Chica Road/Valley View Street (where westbound SR-22 merges into I-405 northbound) to Seal Beach Boulevard, from Seal Beach Boulevard to I-605, and from I-605 to the San Gabriel River. The data are provided separately for the GP and HOV or Express Lanes.

Tables 2.4.1 and 2.4.2 of the Traffic Study show the same data for the No Build Alternative in 2020 and 2040, respectively. Tables 2.5.1 and 2.5.2 of the Traffic Study show the same data for Alternative 1 in 2020 and 2040, respectively. Tables 2.6.1 and 2.6.2 of the Traffic Study show the same data for Alternative 2 in 2020 and 2040, respectively. Tables 2.7.1 and 2.7.2 of the Traffic Study show the same data for Alternative 3 in 2020 and 2040, respectively.

The tables show that, for the existing (2009) condition, the northbound GP lane links approaching the SR-22/7th Street/I-605 interchange near the Los Angeles county line operate at LOS F during peak hours, except the link from the I-605 diverge to the San Gabriel River that operates at LOS C during the PM peak hour. Under the No Build Alternative and all of the proposed build alternatives in 2020 and 2040, these northbound GP lane links approaching the SR-22/7th Street/I-605 interchange near the Los Angeles County line are anticipated to operate at LOS F.

The tables also show that, for the existing condition, the northbound HOV lane links approaching the SR-22/7th Street/I-605 interchange near the Los Angeles county line operate between LOS C and F during peak hours depending on the link and time of day. Under the No Build Alternative and Alternative 1 in 2020 and 2040, these northbound HOV lane links approaching the SR-22/7th Street/I-605 interchange near the Los Angeles county line are anticipated to operate at LOS F. Under Alternative 2 in 2020, these northbound HOV lane links are anticipated to operate at LOS D. Based on a comparison of demand-volume-to-capacity (d/c) Alternative 2 ratios in the HOV lanes for 2020 and 2040, deterioration to LOS F (i.e., d/c greater than 1.00) is anticipated by 2026 in the HOV lanes under Alternative 2. Under Alternative 3, the Express Lanes would be managed to operate at LOS D in both 2020 and 2040.

D/C ratios in the GP lanes exceed 1.00 under all future conditions along all links, indicating that heavy congestion will occur regardless of alternative (see Table R1-11). In general, the d/c ratios drop in the GP lanes as the number of GP lanes increases. More congestion will be reduced with the increase in number of lanes. D/C ratios between Seal Beach Boulevard and I-605, where the additional lanes terminate, are highest under the No Build Alternative. All of the build

alternatives show d/c ratios lower than the No Build Alternative for both 2020 and 2040, indicating some improvements in traffic flow under the build alternatives.

Table R1-11: General Purpose Lane Demand-Volume-to-Capacity Ratios Anticipated on I-405 Northbound Approaching the SR-22/7th Street/I-605 Interchange near the Los Angeles County Line

	2020		2040	
	AM	PM	AM	PM
No Build Alternative				
Bolsa Chica/Valley View/SR-22 Westbound Merge to Seal Beach Boulevard	1.30	1.30	1.50	1.52
Seal Beach Boulevard to I-605	1.31	1.29	1.51	1.51
I-605 to San Gabriel River	1.29	1.07	1.50	1.20
Alternative 1				
Bolsa Chica/Valley View/SR-22 Westbound Merge to Seal Beach Boulevard	1.14	1.14	1.32	1.33
Seal Beach Boulevard to I-605	1.14	1.13	1.32	1.33
I-605 to San Gabriel River*	1.29	1.07	1.50	1.20
Alternative 2				
Bolsa Chica/Valley View/SR-22 Westbound Merge to Seal Beach Boulevard	1.03	1.03	1.19	1.20
Seal Beach Boulevard to I-605	1.03	1.02	1.19	1.19
I-605 to San Gabriel River*	1.29	1.07	1.50	1.20
Alternative 3				
Bolsa Chica/Valley View/SR-22 Westbound Merge to Seal Beach Boulevard	1.18	1.18	1.41	1.43
Seal Beach Boulevard to I-605	1.19	1.18	1.42	1.42
I-605 to San Gabriel River	1.29	1.07	1.50	1.20

*Data from No Build Alternative, which has the same volume and geometry.

Source: Traffic Study Tables 2.4.1, 2.4.2, 2.5.1, 2.5.2, 2.6.1, 2.6.2, 2.7.1, and 2.7.2.

Since all of the d/c ratios are in excess of 1.00, improvement in traffic flow would be reflected principally in reduction of the duration of the peak period of congestion. A comparison of the d/c ratios of the build alternatives with the No Build Alternative for the link from Seal Beach Boulevard to I-605 indicates that the build alternatives would reduce the duration of congestion by 6 to 21 percent depending on the build alternative, year, and time of day, as shown in Table R1-12. The link from Seal Beach Boulevard to I-605 is used for this analysis because it is the link at the north end of which all additional new lanes have been terminated.

Table R1-12: Reduction in Duration* of Peak-Period Congestion

	2020		2040	
	AM	PM	AM	PM
No Build Alternative				
Seal Beach Boulevard to I-605 d/c Ratio	1.31	1.29	1.51	1.51
Alternative 1				
Seal Beach Boulevard to I-605 d/c Ratio	1.14	1.13	1.32	1.33
Reduction in Duration of Peak-Period Congestion	13%	12%	13%	12%
Alternative 2				
Seal Beach Boulevard to I-605 d/c Ratio	1.03	1.02	1.19	1.19
Reduction in Duration of Peak-Period Congestion	21%	21%	21%	21%
Alternative 3				
Seal Beach Boulevard to I-605 d/c Ratio	1.19	1.18	1.42	1.42
Reduction in Duration of Peak-Period Congestion	9%	9%	6%	6%

*The reduction in duration under a build alternative is calculated by dividing the build alternative d/c ratio by the No Build Alternative d/c ratio and subtracting the resulting quotient from 1.00.

Source: Parsons.

Noise

Noise was evaluated and covered in Section 3.2.7, Noise, and Appendix N, Noise Information, of the Draft EIR/EIS. The noise evaluation and analysis use the traffic conditions described above under the "Traffic" section of this Common Response, as well as the other traffic data contained in the Traffic Study.

Air Quality

Air quality was evaluated and covered in Section 3.2.6, Air Quality, and Appendix J, Air Quality, of the Draft EIR/EIS. The air quality evaluation and analysis uses the traffic conditions described above under the "Traffic" section of this Common Response, as well as the other traffic data contained in the Traffic Study. Air quality is anticipated to be better under any of the build alternatives than under the No Build Alternative. The information on air quality contained in the Draft EIR/EIS summarizes more extensive information and air quality analysis results presented in the Air Quality Report – San Diego Freeway (I-405) Improvement Project SR-73 to I-605 dated June 2011. See also Common Response – Air Quality.

For information regarding potential health risks, see Common Response – Health Risks.

Widening of I-405 in Los Angeles County

The proposed project does not include any widening of I-405 within Los Angeles County. Project improvements within Los Angeles County are limited to signing and striping for

Alternative 3 only. The 2012 RTP includes Express/Managed Lanes on I-405 north of Orange County, which would presumably entail widening I-405 north of the Orange County/Los Angeles county line in both directions. The Express/Managed Lanes on I-405 north of the Orange/Los Angeles county line is in the portion of the RTP that is unfunded. In November 2013, the Gateway Cities COG released a plan entitled SR-91/I-605/I-405 Congestion Hot Spots, which proposes alternatives that would add lanes in both directions on I-405 north of the Orange County/Los Angeles county line. The project is not funded, and the next step in the project development process would be preparation of a Project Study Report, which would identify the funding necessary for the project. The timing of the Project Study Report and the funding of a project is not certain. In addition, Metro is currently studying provision of Express/Managed Lanes on I-405 from I-605 to LAX. In June 2014, Metro issued a report entitled "Metro Express Lanes – Metro I-405 Freeway (OC Line to LAX) HOV to HOT Conversion Feasibility Study Final Preliminary Concept of Operations. That report recommends a HOT lane connection from the I-405 Express Lanes, if implemented, to LAX that would utilize the HOV lanes on I-605 and I-105. The report considered and rejected providing HOT lane linkage from Orange County to LAX along I-405. There is currently no funding for the recommended alternative along I-605 and I-105.

Common Response – Elimination of Light-Rail Transit (LRT) and Bus Rapid (BRT) Transit Alternatives

Alternatives with LRT and BRT are included in the Draft EIR/EIS in Section 2.2.7, Alternatives Considered but Eliminated from Consideration. LRT was considered in four such alternatives, and BRT was considered in two such alternatives. For a graphic summary of those alternatives, see Figure 2-39 of the Draft EIR/EIS. BRT and LRT in the project corridor would not be feasible or reasonable without extensions and connections north and south of the project limits. For LRT or BRT projects to be successful, extensions to the north into Los Angeles County and to the south at least as far as John Wayne Airport would be essential. The proper means to plan and implement such projects would be through the regional transportation planning process, which does not currently include consideration of such facilities in either the RTP or the FTIP, nor are any such facilities included in the Orange County Long Range Transportation Plan. Section 2.2.7 of the Draft EIR/EIS explains each of the alternatives with BRT and LRT components and why the alternative was eliminated.

Consideration was also given to the provision of other transit options in the project corridor. These options are also included in the Draft EIR/EIS in Section 2.2.7, Alternatives Considered but Eliminated from Consideration. None of these options was deemed by the Project Development Team (PDT) as appropriate to meet the needs of the corridor for the reasons cited in Section 2.2.7 of the Draft EIR/EIS.

Common Response – Induced Demand

Section 3.1.2, Growth, of the Draft EIR/EIS covers induced growth. Anticipated growth in the region is reflected in the forecast traffic demand based on the Orange County Transportation Analysis Model (OCTAM) use of forecasts to 2035 of population and employment data identified on page 3.1.2-1 of the Draft EIR/EIS. On page 3.1.2-9 of the Draft EIR/EIS, the conclusion is stated that "the proposed project would have no substantial potential for stimulating the location, rate, timing, or amount of growth locally or regionally." In part, this is because communities within the study area are almost entirely built out or contain few large, undeveloped parcels where land development would be encouraged by the additional access provided by the proposed project. It is not anticipated that the proposed alternatives would induce substantial traffic.

The increase in VMT for the build alternatives shown in Table 3.1.6-3 of the Draft EIR/EIS is a result of a combination of factors, including redevelopment and infill development within the corridor, new development outside the corridor, increasing VMT per person, and reduction in diversion away from I-405 due to increased capacity of the alternatives compared to the no-build condition. Additional traffic is expected to shift from the arterial system onto I-405 during other off-peak hours of the day due to the reduced congestion resulting from the combination of the lower demand during off-peak hours and the added capacity provided under the build alternatives.

GOVERNMENT (FEDERAL) COMMENTS (GF)

GF1

U.S. Department of Homeland Security
FEMA Region IX
1111 Broadway, Suite 1200
Oakland, CA. 94607-4052

FEMA

June 7, 2012

Smita Deshpande, Branch Chief
Caltrans District 12
"Attn: 405 DEIR-DEIS Comment Period
2201 Dupont Drive, Suite 200
Irvine, California 92612

Dear Ms. Deshpande:

This is in response to your request for comments on the Announcement of Public Hearing and Availability of the Draft Environmental Impact Report/Statement (DEIR/S) for the I-405 Improvement Project in Orange County.

Please review the current effective Flood Insurance Rate Maps (FIRMs) for the County of Orange (Community Number 060212), Maps revised December 3, 2009. Please note that the County of Orange, California is a participant in the National Flood Insurance Program (NFIP). The minimum, basic NFIP floodplain management building requirements are described in Vol. 44 Code of Federal Regulations (44 CFR), Sections 59 through 65.

A summary of these NFIP floodplain management building requirements are as follows:

- All buildings constructed within a riverine floodplain, (i.e., Flood Zones A, AO, AH, AE, and A1 through A30 as delineated on the FIRM), must be elevated so that the lowest floor is at or above the Base Flood Elevation level in accordance with the effective Flood Insurance Rate Map. **1**

- If the area of construction is located within a Regulatory Floodway as delineated on the FIRM, any ***development*** must not increase base flood elevation levels. **The term *development* means any man-made change to improved or unimproved real estate, including but not limited to buildings, other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, and storage of equipment or materials.** A hydrologic and hydraulic analysis must be performed *prior* to the start of development, and must demonstrate that the development would not cause any rise in base flood levels. No rise is permitted within regulatory floodways. **2**

www.fema.gov

GF1 Continued

Smita Deshpande, Branch Chief
Page 2
June 7, 2012

- All buildings constructed within a coastal high hazard area, (any of the "V" Flood Zones as delineated on the FIRM), must be elevated on pilings and columns, so that the lowest horizontal structural member, (excluding the pilings and columns), is elevated to or above the base flood elevation level. In addition, the posts and pilings foundation and the structure attached thereto, is anchored to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all building components. **3**

- Upon completion of any development that changes existing Special Flood Hazard Areas, the NFIP directs all participating communities to submit the appropriate hydrologic and hydraulic data to FEMA for a FIRM revision. In accordance with 44 CFR, Section 65.3, as soon as practicable, but not later than six months after such data becomes available, a community shall notify FEMA of the changes by submitting technical data for a flood map revision. To obtain copies of FEMA's Flood Map Revision Application Packages, please refer to the FEMA website at http://www.fema.gov/business/nfip/forms.shtm. **4**

Please Note:

Many NFIP participating communities have adopted floodplain management building requirements which are more restrictive than the minimum federal standards described in 44 CFR. Please contact the local community's floodplain manager for more information on local floodplain management building requirements. The Orange County floodplain manager can be reached by calling Penny Lew, Senior Civil Engineer, at (714) 834-2606. **5**

If you have any questions or concerns, please do not hesitate to call Robert Durrin of the Mitigation staff at (510) 627-7057.

Sincerely,

for Gregor Blackburn, CFM, Branch Chief
Floodplain Management and Insurance Branch

cc:
Penny Lew, Senior Civil Engineer, Orange County
Garret Tam Sing/Salomon Miranda, State of California, Department of Water Resources, Southern Region Office
Robert Durrin, NFIP Specialist, DHS/FEMA Region IX
Alessandro Amaglio, Environmental Officer, DHS/FEMA Region IX

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GF2

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT CORPS OF ENGINEERS
P.O. BOX 532711
LOS ANGELES, CALIFORNIA 90053-2325

September 10, 2012

REPLY TO
ATTENTION OF:

Regulatory Division

Smita Deshpande, Branch Chief
California Department of Transportation, District 12
3337 Michelson Drive, Suite 100
Irvine, California 92612-1692

Dear Ms. Deshpande:

This letter is in response to your request, dated May 18, 2012, for our comments on the Draft Environmental Impact Report/Environmental Impact Statement (DEIR/EIS) for the Interstate 405 (I-405) Improvement project ("Project"), located along the segment of the I-405 between State Route 73 (SR-73) and Interstate 605 (I-605), in Orange County, California.

On November 9, 2009, the Corps accepted Caltrans' invitation to become a cooperating agency in accordance with 40 C.F.R. §1501.6 and section 6002 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy of Users ("SAFETEA-LU"). As a cooperating agency under the National Environmental Policy Act (NEPA) for this project, we are reviewing and commenting pursuant to the NEPA regulations for 40 C.F.R. parts 1500-1508, our NEPA implementing regulations for the Regulatory Program at 33 C.F.R. 325, Appendix B, and the Clean Water Act (CWA) section 404(b)(1) Guidelines ("Guidelines") at 40 C.F.R. part 230. We note that the Corps responsibilities regarding your proposed project, in addition to having CWA section 404 permit jurisdictions, may include a determination under 33 U.S.C. section 408. The following comments are submitted for incorporation into this project to ensure that the resulting EIS may be adopted by our agency for the purposes of exercising our regulatory authority under section 404 of the CWA (33 U.S.C 1334). The Corps is in the process of reviewing the proposed project to verify whether further determination under 33 U.S.C. section 408 is applicable.

Proposed Project Purpose and Need

The purpose and need for a project should be broad enough to cover the full extent of a reasonable range of alternatives and specific enough that the range of alternatives can be appropriately focused. It is important that purpose and need focus on the underlying problems to address and the reasons a project is being considered, and should not be written in a way that

GF2 Continued

-2-

includes the solution itself. The purpose and need should not prescribe a solution nor should it imply a pre-determined solution such as one expansion of a freeway or an entirely new freeway to meet a future congestion need.

The project purpose statement currently presents five general goals/objectives without quantitative elements, range, or location. Based on the Guidelines, the Corps will consider whether all five goals/objectives are appropriate for inclusion in the overall project purpose statement. If some objectives are overly limiting such that they inappropriately constrain the development of a reasonable range of alternatives or they are not supported by the data and findings presented in the project's need statement, then such objectives should be modified or eliminated

We note the draft project purpose statement includes the following goals/objectives:

- Reduce congestion;
- Enhance operations;
- Increase mobility, improve trip reliability, maximize throughput, and optimize operations; and
- Minimize environmental impacts and ROW acquisition.

In furtherance of the project's purpose, the following fifth objective has also been established:
- To be consistent with regional plans and find a cost-effective early project solution for delivery.

According to information presented in the project's need statement, increased traffic congestion along the I-405 is attributed to insufficient capacity that becomes an issue during peak-period traffic; it is not the case during off-peak travel periods. Therefore, the purpose statement should specify the goal of reducing congestion during peak travel periods. In doing so, this may give rise to a range of different options or alternatives available to reduce traffic congestion during the problem or need period. Accordingly, we suggest that the first bullet be revised to state: "Reduce congestion during AM and PM peak-period traffic." In addition, it appears that the specific times for AM and PM peak-periods are not provided. The specific times referred to as the AM and PM peak-period should be included to the purpose statement. The third objective currently states: "Increase mobility, improve trip reliability, maximize throughput, and optimize operations". The objectives for bullets two and three both include improvement (enhance or optimize) to operations. We recommend removal of operations from the third bullet. In addition, we suggest rewording the third objective to "improve mobility, trip reliability, and throughput," as this would broaden the purpose statement and allow for consideration of a reasonable range of alternatives. 1 2 3

The fourth objective, involves minimizing right-of-way (ROW) acquisition. While we understand the potential fiscal and public interest impacts stemming from ROW acquisition and hence the desire for Caltrans to minimize ROW acquisitions, this objective is too narrow and may limit the analysis of a reasonable range of alternatives. The fifth objective should be modified to include "where feasible and in compliance with state and federal regulations" after "To be consistent with regional plans" to ensure that the intent to comply with local commitments is done 4 5

GF2 Continued

-3-

in a way that does not conflict with state and federal environmental regulations. The fifth objective also currently includes "find a cost-effective early project solution for delivery";- this portion of the objective is too vague and does not provide a basis for determining whether an alternative satisfies the purpose of the project. The Corps recommends removal of "find a cost-effective early project solution for delivery" from this objective. **5 cont.**

Project Alternatives

Compliance with the section 404(b)(1) Guidelines

This project may require a CWA section 404 Standard Individual Permit (SIP) for the discharge of dredged or fill material into waters of the United States. For our agency to adopt another agency's EIS under CEQ's NEPA implementing regulations, we must independently determine the sufficiency of the EIS in fulfilling our statutory and regulatory requirements, including, but not limited to, the alternative analysis under the Guidelines. Specifically, the NEPA alternatives analysis should be thorough enough to inform our public interest review determination and demonstrate Caltrans' compliance with the Guidelines. The Guidelines require a sequenced search for the least environmentally damaging practicable alternative (LEDPA), whereinby federal regulation, "practicable" is defined as available and capable of being done after taking into account cost, existing technology, and logistics in light of the overall project purpose(s) (40 C.F.R. section 230.3(q)). **6**

By letter, sent October 20, 2010, we submitted preliminary comments on the draft purpose and need statement and proposed range of alternatives (Caltrans, August 26, 2010). We commented that compliance with the Guidelines is required for all SIPs involving the discharge of dredged or fill material into waters of the U.S. and recommended the requirements of the Guidelines be incorporated into the EIS to reduce duplication and to avoid the potential need for supplemental documentation later in the NEPA and Corps permitting processes. We reiterate this recommendation and emphasize the importance of including the Corps no-Federal action alternative (i.e., no Corps permit issued, as well as off-site or geographic alternatives (e.g., changes in location and other site-specific variables), and functional alternatives or design options (e.g., project substitutes and design modifications) in the EIS. Although the proposed alternatives are currently limited to improvements to the I-405, under the Guidelines we must consider other practicable off-site alternatives that would fulfill the overall project purpose(s) and could be less environmentally damaging. **7**

Off-site/ geographic alternative:

The Draft EIS notes that the I-405 is considered a bypass route to Interstate 5 (I-5). This suggests that improvements implemented on I-5 may reduce capacity issues at I-405. In consideration of off-site/geographic alternatives, the Corps recommends Caltrans include an analysis where improvements are implemented on I-5 to address current and future capacity needs on the I-405. **8**

GF2 Continued

-4-

We look forward to continued coordination with you on this project. If you have any questions pertaining to 33 U.S.C. section 408 please contact Ms. Arnecia Williams, Value Engineer, Engineering Division. For questions regarding section 404 of the CWA (33 U.S.C 1334), please contact Sophia Huynh at (213) 452-3357 or via e-mail at Sophia.C.Huynh@usace.army.mil.

Sincerely,

Mark D. Cohen
Deputy Chief, Regulatory Division
Los Angeles District

GF3

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Pacific Southwest Region
333 Bush Street, Suite 515
San Francisco, CA 94104

IN REPLY REFER TO:
(ER 12/0364)

Filed Electronically

16 July 2012

Smita Deshpande, Branch Chief
Caltrans-District 12, "Attn: 405 DEIR-DEIS Comment Period"
2201 Dupont Drive, Suite 200
Irvine, CA, 92612

Subject: Draft Environmental Impact Statement for the San Diego Freeway (I-405) Improvement Project, Orange and Los Angeles Counties, CA

Dear Ms. Deshpande:

The Department of the Interior has received and reviewed the subject document and has no comments to offer. 1

Thank you for the opportunity to review this project.

Sincerely,

Patricia Sanderson Port

Patricia Sanderson Port
Regional Environmental Officer

cc:
Director, OEPC

GF4

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

July 17, 2012

Smita Deshpande
Caltrans-District 12
Attn: 405
2201 Dupont Drive, Suite 200
Irvine, California 92612

Subject: Comments on the Draft Environmental Impact Statement for the San Diego Freeway (Interstate 405) Improvement Project between State Route 73 and Interstate 605 in Orange County, California (CEQ #20120152)

Dear Ms. Deschpande:

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (Draft EIS) for the Interstate 405 (I-405) Improvement Project between State Route 73 (SR-73) and Interstate 605 (I-605) in Orange County, California. Our enclosed detailed comments were prepared pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality regulations (40 CFR Parts 1500-1508) and our NEPA review authority under Section 309 of the Clean Air Act. The State of California has assumed responsibilities under NEPA for this project pursuant to the Memorandum of Understanding between the Federal Highway Administration (FHWA) and the California Department of Transportation (Caltrans) Concerning the State of California's Participation in the Surface Transportation Project Delivery Pilot Program.

As described in the Draft EIS, this project aims to relieve congestion and improve operational efficiency on I-405 between SR 73 and I-605 through a combination of additional lanes and interchange enhancements. Three alternatives for I-405 improvement are presented. Alternatives 1 and 2 would add 1 and 2 general purpose lanes, respectively. Alternative 3 would add 1 general purpose lane and one express lane adjacent to the existing HOV lane to create a two-lane combined express HOV and toll facility. The Draft EIS does not identify a preferred alternative.

Based on our review, we have rated the Draft EIS as Environmental Concerns-Insufficient Information (EC-2; see enclosed Summary of EPA Rating Definitions) due to potential air quality impacts and a need to assess induced travel demand. EPA recommends an analysis of induced travel demand in order to disclose and quantify the reduced benefits to congestion relief that may occur in the future. An analysis of induced travel demand resulting from highway expansion will allow decision makers and the public to better understand when congestion will 1

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GF4 Continued

return to existing levels and potentially worsen. EPA is particularly concerned with adverse air quality impacts that could result at a future point when congestion returns. In addition, EPA recommends implementing more stringent Transportation Demand Management (TDM) measures and integrating increased transit options throughout the project corridor to reduce air quality impacts. EPA supports the assessment of options such as increased high occupancy vehicle and tolling lanes, as in Alternative 3, to meet long-term transportation needs while reducing emissions from single occupancy vehicles. Proceeding without such measures, as is proposed in Alternatives 1 and 2, may result in worsened long-term air quality impacts due to emissions from a higher number of single occupancy vehicles. 1 2

We appreciate the opportunity to review this Draft EIS. When the Final EIS is released for public review, please send one hard copy and one copy on disc to the address above (mail code: CED-2). If you have any questions, please contact me at 415-947-4161 or Clifton Meek, the lead reviewer for this project. Clifton can be reached at 415-972-3370 or meek.clifton@epa.gov.

Sincerely,

Connell Dunning, Transportation Team Supervisor
Environmental Review Office

Enclosures: EPA's Detailed Comments
Summary of EPA Rating Definitions

Cc via email: John Chisholm, Caltrans
Ron Kosinski, Caltrans District 7
Rich Macias, SCAG

GF4 Continued

EPA'S DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE I-405 IMPROVEMENT PROJECT BETWEEN STATE ROUTE 73 AND INTERSTATE 605 IN ORANGE COUNTY, CALIFORNIA, JULY 17, 2012

Induced Travel Demand

Induced travel demand has been widely studied and has been acknowledged by the Transportation Research Board as far back as 1947[1]. Today it is widely accepted by transportation practitioners, and yet there is no analysis of induced travel demand in the Draft EIS. Relieving a bottleneck on a congested roadway or system can induce demand for use of that facility, generating more Vehicle Miles Traveled (VMT), and ultimately causing congestion issues similar to pre-project levels. Absent an analysis of induced demand, there is no way to determine at what point in time the air quality benefits described will no longer be realized. With the exception of the HOV/toll lanes in Alternative 3, there are no Transportation Demand Management (TDM) measures proposed in the Draft EIS that are guaranteed to maintain mobility through the project corridor. Without these robust TDM measures, it is not possible to reduce congestion to accommodate existing and projected future demand without also inducing new demand[2]; the capacity created can be used equally by "planned" motorists and unplanned motorists. 3

Recommendations:

- Add a background discussion and analysis of induced travel demand in the Final EIS explaining induced travel demand as it relates to this project, and particularly addressing how induced demand could affect each alternative's ability to meet the project purpose and need. Identify the future time when congestion will return to current levels and/or worsen due to induced travel demand and identify further measures to reduce this future increase in congestion. 4
- Include a discussion of the connection between induced travel demand and TDM measures and identify specific TDM measures for each alternative that, if implemented, would reduce effects of induced travel demand. 5

Air Quality

The project is located in the South Coast Air Basin, which is classified as extreme nonattainment for ozone, serious nonattainment for particulate matter less than 10 microns in diameter (PM10), and nonattainment for particulate matter less than 2.5 microns in diameter (PM2.5). As such, it is vital that the project reduce emissions of these compounds to the greatest extent possible. Without an analysis of induced travel demand, as recommended above, EPA questions the conclusion that air quality will be improved by the proposed project. Further, the reliance on road capacity expansion to ease traffic congestion, without integration of transit or other 6

[1] Jorgensen, R.E. "Influence of Expressways in Diverting Traffic from Alternate Routes and in Generating New Traffic." Proc. Highway Research Board, Volume 27. 1947. pp. 322-330.

[2] Litman, T.L. "Generated Traffic and Induced Travel Implications for Transport Planning". ITE Journal, Vol. 71, No. 4, Institute of Transportation Engineers, April 2001, pp. 38-47. An updated 2011 version of this paper is available at http://www.vtpi.org/gentraf.pdf.

1

GF4 Continued

alternatives to single occupancy vehicle travel, may hinder attainment of air quality standards in the South Coast Air Basin. As illustrated in the Draft EIS (page 3.1.6-23), Lane Density, Level of Service, and Volume to Capacity Ratios show only minor improvements between the existing and projected future project conditions (with the exception of Alternative 3). As such, small changes in model assumptions could easily eliminate any projected air quality benefits. If congestion is not significantly improved by the project, there is likely to be an increase in emissions due to the greater number of vehicles on an expanded highway. 6

EPA strongly advocates implementation of more stringent TDM measures throughout the project corridor. These measures can be implemented more quickly and at minimal cost to the environment. We believe these transportation tools should be aggressively implemented before development of costly highway construction projects, with those components which maximize congestion relief and provide the greatest reduction in VMT being given implementation priority. We also recommend Caltrans further discuss integration of mass transit components (e.g., light rail, Bus Rapid Transit) which can accommodate future transportation demand while reducing VMT and associated air emissions. As stated in the project's FAQ sheet (http://www.octa.net/pdf/405/faq.pdf), it has been estimated that the width of the I-405 would need to be doubled from the existing ten lanes to an unfeasible twenty lanes to serve the traffic demand in this corridor. As such, transportation demand in the project area will never be met by freeway expansion alone. If any true congestion relief is to be realized on the I-405, alternatives to freeway expansion (e.g. light rail, bus rapid transit) must become viable alternatives to the private automobile, and single occupancy vehicles must become a minority during peak periods. 7

Recommendations for the Final EIS:

- Provide commitments for more aggressive implementation of TDMs in order to achieve permanent long-term reduction in traffic congestion and improvement in air quality. We urge expanded use of HOV and bus-only lanes, conversion of general purpose lanes to HOV and bus-only lanes during peak hours, pricing measures such as those proposed in Alternative 3, and additional transit options. 8

Tolled Express Lanes (Alternative 3)

While EPA is supportive of TDM measures such as the toll lanes proposed in Alternative 3, the DEIS states that prior authority from FHWA is required to operate a toll facility on the Interstate Highway System (page 1-19). It is therefore unclear whether Alternative 3 can be considered a feasible alternative. Also, it is unclear how effective the proposed tolled express lanes would be if they were to terminate into a heavily congested freeway corridor in Los Angeles County, or further south in Orange County. The Final EIS should describe in detail how traffic flow will be managed north and south of the I-405 improvement project corridor, and should provide a vision of how these tolled express lanes might be tied into a much broader network of tolled lanes throughout the SCAG planning area. 9

Additionally, no concession is made in Alternative 3 for low-income individuals who might be unable to afford the full cost of the tolled express lanes. In similar toll lane projects currently being implemented on Interstate 10 and Interstate 110 in Los Angeles, a subsidy for low-income 10

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GF4 Continued

drivers is being provided in the form of a $25 credit at the time of account initiation. This credit can then be applied to either the transponder deposit or pre-paid toll deposit, with the monthly $3 account maintenance fee being waived (http://www.metro.net/projects_studies/expresslanes/images/ExpressLanes_Factsheet_Toll_Credit_Program.pdf). In order to develop a more equitable transportation strategy to accompany a potential toll road in the future, a program offering a subsidy for low-income drivers should be instituted on the I-405. 10

Recommendations for the Final EIS:

- Provide assurance that FHWA has agreed to grant the authority to operate a toll facility on I-405. 11
- Provide additional details of studies being conducted or changes that are planned for the HOV lanes north and south of the project corridor in order to maintain efficient speeds for those who opt to pay the toll or commit to HOV 3+ status. Provide details of any coordination with the Los Angeles County Metropolitan Transportation Authority (LACMTA) and Caltrans District 7 regarding this issue. 12
- Commit to implementing a program that would provide subsidies to low-income motorists who use the tolled express lanes. If such a program is determined to be unsuitable for the I-405 improvement project, provide a discussion of alternatives that would ensure that the tolled lanes would be accessible to motorists at all income levels. 13

Transportation Control Measures

The document indicates that the proposed project qualifies as a Transportation Control Measure (TCM) in the Air Quality Management Plan and justifies this by stating that the project has TCM components, such as "...auxiliary lanes, ramp metering, traffic signal timing optimization, and other traffic flow improvements." However, the 2008 SCAG Regional Transportation Plan (RTP) describes the project as follows: "construct one additional all purpose lane in each direction on I-405 and provide additional capital improvements from SR 73 through the LA County line." The goal of a TCM should be to adjust trip patterns or modify vehicle use in ways that reduce air pollutant emissions. The project as identified in the RTP, described as adding all purpose lanes, does not appear to meet that goal. 14

Recommendations:

- Consult with SCAG to discuss the applicability of the project as a TCM. Should it be confirmed that this project does indeed qualify as a TCM, provide additional information in the Final EIS to support this claim. 15

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GF4 Continued

Project Alternatives

A main component of the project purpose and need is to reduce congestion and improve mobility through the project corridor. As such, solely adding capacity through the construction of general purpose lanes, as described in Alternatives 1 and 2, without integrating additional congestion-relieving strategies or measure to improve mobility, may not meet the project purpose and need. Furthermore, the Draft EIS does not provide sufficient information on the relative transportation benefits of other project components, such as improving auxiliary lanes, ramp metering, and other transportation system management (TSM) measures. For example, the Draft EIS doesn't provide any information on how much could be improved by solely addressing ramp and interchange deficiencies so that traffic queues don't extend onto the freeway. The Final EIS should demonstrate if these project components alone could provide some improved mobility through the project corridor without the extensive cost and impact of adding new general purpose lanes. According to the analysis provided in the Draft EIS, the only alternative that guarantees any significant mobility increase through the project corridor is Alternative 3, with the implementation of TDM strategies that have been proven effective on other California freeways. **16**

Recommendations for the Final EIS:

- Provide sufficient information on the relative transportation benefits of each project component such as TSM measures, addition of general purpose lanes, and implementation of TDM measures. We recommend the Final EIS provide data which describes the percent contribution of each project component towards meeting the project purpose and need. For example, clearly describe the level of congestion relief (e.g., Level of Service improvement, Volume to Capacity Ratios) achieved and how long this relief will last by implementing a particular project component. Compare different project components by providing a table showing how much each component contributes to achieving short and long-term transportation needs. **17**

- Provide further explanation and rationale regarding why light-rail, bus rapid transit, or other mass transit alternatives are not considered feasible alternatives to meet travel demand in the I-405 corridor. As stated in Chapter 2 of the Draft EIS, the primary reason these alternatives were dismissed relates to their inability to reduce congestion in general purpose lanes, which appears also to be a weakness for alternatives 1, 2 and 3. Given the extensive current and future expansion of the Los Angeles Metro rail system, there will be an increased number of options for passengers on Orange County transit to make connections and access areas in almost any part of the greater Los Angeles metropolitan area. As such, mass transit could be a feasible alternative to much private automobile use by the time this project is projected to be complete in 2020 if additional transit options were available within Orange County. **18** **19**

4

GF4 Continued

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

Category "1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category "2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category "3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

RESPONSE TO GOVERNMENT (FEDERAL) COMMENTS (GF)

Response to Comment Letter GF1

Comment GF1-1

Caltrans and OCTA thank the Federal Emergency Management Agency (FEMA) for participating in the environmental process for the I-405 Improvement Project. FEMA's comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. FEMA will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

There are no buildings proposed to be constructed as part of this project.

Comment GF1-2

The hydrologic and hydraulic analysis presented in Section 3.2.1.3 of the Final EIR/EIS shows the proposed project would not cause any rise in base flood elevation levels. A Location Hydraulic Study (LHS) (December 2010), Preliminary Drainage Report (November 2011), and Floodplain Evaluation Report (December 2010) were prepared for this project. The hydrologic and hydraulic analysis provided in these studies is summarized in Section 3.2.1 of the Final EIR/EIS.

Comment GF1-3

The proposed project is not located within a coastal high hazard area.

Comment GF1-4

The proposed project will neither change the Special Flood Hazard Areas, nor have any effect to area floodplain considerations.

Comment GF1-5

The proposed project is being designed to conform to all local, County, State, and Federal floodplain management requirements.

Response to Comment Letter GF2

Comment GF2-1

Caltrans and OCTA thank the United States Army Corps of Engineers (USACE) for participating in the environmental process for the I-405 Improvement Project. USACE's comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. USACE will be notified when the Final EIR/EIS is available for review.

The peak-hour data presented in the Draft EIR/EIS indicate that I-405 is congested during those hours. While the data showing that I-405 is congested presented in the Draft EIR/EIS are generally based on peak hours, it should not be concluded that congestion is necessarily limited to peak hours. Peak hours by their nature represent the worst conditions and are the focus of analytical efforts. The purpose of the project is to reduce congestion whether it occurs during peak hours or at other times; there is no need to limit congestion reduction to peak hours. The suggested revision to the referenced bullet is not necessary and was not made.

Comment GF2-2

Caltrans agrees that there may be some redundancy in the purpose of the project with respect to operations. However, enhancing and optimizing operations are both important purposes of the project because, as stated in the Draft EIR/EIS, none of the proposed alternatives will eliminate congestion on I-405. Therefore, improving operations is doubly important to minimize the effects of the remaining congestion. From that perspective, the redundancy emphasizes the importance of operations as a project purpose. The suggested revisions to the referenced bullets are not necessary and were not made.

Comment GF2-3

The existing and forecast conditions under the No Build Alternative indicate that mobility would substantially deteriorate (see Table 3.1.6-7 of the Draft EIR/EIS), trip reliability would continue to suffer, and throughput would be limited (see Table 3.1.6-14 of the Draft EIR/EIS). These are important aspects of the problems in the I-405 corridor against which the proposed alternatives should be measured in determining which alternative should be implemented; therefore, removing mobility, reliability, and throughput from the purpose of the project would be a disservice to identification of an alternative that best addresses the problems in the corridor.

Comment GF2-4

As discussed in Section 2.2.7 of the Draft EIR/EIS, many other alternatives, including those that required a much greater ROW footprint, were considered as part of the I-405 Major Investment Study (MIS). Caltrans agrees with the comment that minimizing ROW limits the range of alternatives. It is not the intent of the objective to unreasonably limit the range of alternatives but to respond to the fact of intense pressure from both the public and the jurisdictions along the corridor in opposition to swaths of ROW acquisition along either side of I-405 that would require full acquisition of rows of homes and/or businesses. This opposition has been made clear repeatedly since proposals made during the MIS that would have required full acquisition of as many as 343 single-family homes and numerous other properties currently abutting I-405. Any project alternative that would include major ROW acquisition would not be reasonable given the level of public opposition to those impacts expressed at public meetings and in resolutions

adopted by elected bodies, including the OCTA Board of Directors. The suggested revision to the referenced bullet is not necessary and was not made.

Comment GF2-5

Project compliance with State and Federal regulation and law is a requirement of this and every project; however, with respect to local regulations or plans, Caltrans strives to comply with their requirements, but because they are developed by the local agencies, it may not always be consistent with Caltrans project purposes and objectives. Thus, the referenced text is a commitment by Caltrans/OCTA to comply with planning documents that otherwise may not be required by State or Federal regulations or laws. The referenced text related to "cost effective early project solution" implies only that there is an urgent need that must be completed in a reasonable amount of time within a fiscally constrained project budget. For example, as discussed in Section 2.2.7, there are many alternatives that cannot be built because they would be too expensive. Considering a project budget of more than $1 billion, alternatives that would double the cost without doubling or at least substantially increasing the project benefit are not reasonable alternatives and have been withdrawn from further consideration, as discussed in Section 2.2.7 of the Draft EIR/EIS.

Comment GF2-6

It is acknowledged that USACE may use any or all of the suggested revisions within the comment letter to formulate the basic and overall project purpose pursuant to Section 404(b)1 Guidelines; however, based on Caltrans coordination with USACE staff, it is feasible and consistent with regulatory guidance to separate project impacts by watershed. Based on the results of the Jurisdictional Delineation Report and as discussed in Section 3.3.2 of the Draft EIR/EIS, all of the project alternatives would result in less than 0.5-acre of impacts within any of the affected watersheds, and project impacts would meet the requirements of the Nationwide Permit program. Because the project impacts would be eligible for Nationwide Permits, a Section 404(b)1 Alternatives Analysis is not required, and a separate project purpose is not necessary for the Section 404 permit process.

Comment GF2-7

Based on Caltrans coordination with USACE staff, and consistent with the impact analysis on Waters of the U.S. discussed in Section 3.2.3.3, which are based on the Jurisdictional Assessment, neither a 404(b)1 analysis nor a separate project purpose is required for the Section 404 permit process. Please see Response to Comment GF2-6.

Consistent with FHWA and Caltrans policy and guidance, for the purposes of NEPA compliance, the No Build Alternative, as discussed and analyzed within Chapter 3 of the Draft EIR/EIS, meets the requirements of the No Federal Action Alternative.

There are no offsite improvements that could yield similar congestion-relief benefits within the project corridor. It should be noted that all freeways in Orange County are at or near capacity, and Caltrans/OCTA prioritize the projects based on Orange County transportation needs.

Comment GF2-8

Measure M2 provides funding for four projects on I-5; however, there are no offsite improvements that could yield similar congestion-relief benefits compared to the proposed project. Please see Response to Comment GF2-7.

Response to Comment Letter GF3

Comment GF3-1

Caltrans and OCTA thank the Office of Environmental Policy and Compliance for participating in the environmental process for the I-405 Improvement Project and acknowledge that the Office of Environmental Policy and Compliance has no comments on the Draft EIR/EIS. The Office of Environmental Policy and Compliance will be notified when the Final EIR/EIS is available for review.

Response to Comment Letter GF4

Comment GF4-1

Caltrans and OCTA thank the United States Environmental Protection Agency (EPA) for participating in the environmental process for the I-405 Improvement Project. EPA's comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. EPA will be notified when the Final EIR/EIS is available for review.

Section 3.1.2 of the Draft EIR/EIS covers induced growth. Anticipated growth in the region is reflected in the forecast traffic demand based on the OCTAM use of forecasts to 2035 of population and employment data identified on page 3.1.2-1 of the Draft EIR/EIS. On page 3.1.2-9, the conclusion is stated that "the proposed project would have no substantial potential for stimulating the location, rate, timing, or amount of growth locally or regionally." In part, this is because communities within the study area are almost entirely built out or contain few large, undeveloped parcels where land development would be encouraged by the additional access provided by the proposed project. It is not anticipated that the proposed alternatives would induce substantial traffic.

The increase in VMT for the build alternatives shown in Table 3.1.6-3 of the Draft EIR/EIS is a result of a combination of factors, including redevelopment and infill development within the corridor, new development outside the corridor, increasing VMT per person, and reduction in diversion away from I-405 due to increased capacity of the alternatives compared to the no-build condition. Additional traffic is expected to shift from the arterial system onto I-405 during other off-peak hours of the day due to the reduced congestion resulting from the combination of the lower demand during off-peak hours and the added capacity provided under the build alternatives.

A comparison of the v/c ratios in Tables 3.1.6-4 and 3.1.6-5 of the Draft EIR/EIS reveals that congestion would be worse than the existing condition under any of the future alternatives, including the No Build Alternative; however, congestion would be less severe under the build alternatives than under the No Build Alternative. Estimated daily operational emissions are substantially reduced in both 2020 and 2040 compared to the No Build Alternative, as shown in Tables 3.2.6-6 and 3.2.6-7 of the Draft EIR/EIS. Although congested conditions are anticipated to continue to affect I-405 under any of the build alternatives, air quality is anticipated to improve under any of the build alternatives.

Comment GF4-2

Transportation Systems Management (TSM)/Traffic Demand Management (TDM) are included in each of the build alternatives and are identified on page 2-17 of the Draft EIR/EIS. The Draft EIR/EIS concludes on page 3.2.6-54 with respect to permanent air quality impacts that "No adverse operational impacts were identified, and no operational avoidance, minimization, and/or mitigation measures are required." It is agreed that additional TDM and/or transit options in the project corridor may improve air quality, but they are not required for this project because air quality improves under any of the build alternatives compared to the No Build Alternative. OCTA provides a planning process to identify such potential TDM and transit improvements on a county-wide basis and is anticipated to provide consideration for them as part of that process. Transit vehicles will be eligible to use HOV lanes under Alternative 1 and 2 and Tolled Express Facility under Alternative 3 at no cost. The managed lanes will provide free-flow with little congestion; hence this will provide an opportunity/incentive for transit agencies and companies to implement future bus services.

The addition of a managed lane in Alternative 3 is a TDM feature in and of itself. This additional lane provides additional capacity for HOV users (including public transit buses and vanpools) within the managed lanes being converted to priced managed lanes (Express Lanes). The managed lanes on the State Highway System are used as a sustainable transportation system management strategy. Managed lanes are used to promote carpooling and transit patronage,

improve travel time reliability, reduce greenhouse gas emissions, and maximize the efficiency of a freeway by increasing person and vehicle throughput while reducing congestion and delay. The pricing component of the lanes provides the ability to actively manage demand and encourage ridesharing and transit.In addition, the FED will be updated to reflect this change.

Comment GF4-3

Induced demand was considered in Section 3.1.2 of the Draft EIR/EIS; however, it was found not to be substantial as explained in Response to Comment GF4-1. TSM/TDM are included in each of the build alternatives and are identified on page 2-17 of the Draft EIR/EIS.

Comment GF4-4

Induced demand was considered in Section 3.1.2 of the Draft EIR/EIS. Please see Response to Comment GF4-1.

Comment GF4-5

Induced demand and TDM measures were considered in Sections 3.1.2 and 2.2.1 (page 2-17) of the Draft EIR/EIS, respectively. Please see Response to Comments GF4-1 and GF4-2.

Comment GF4-6

Induced demand was considered in Section 3.1.2 of the Draft EIR/EIS. Please see Response to Comment GF4-1. TDM measures were considered in Section 2.2.1 (page 2-17) of the Draft EIR/EIS. Please see Response to Comment GF4-2. Diesel particulate matter (DPM) is reduced compared to both the existing and future no-build conditions by all of the proposed build alternatives, as shown in Tables 3.2.6-13 and 3.2.6-14 of the Draft EIR/EIS.

Comment GF4-7

As described on page 2-22 of the Draft EIR/EIS, the TSM/TDM Alternative does not meet the purpose and need of the project (see also Response to Comment GF4-2). Additionally, as described in Section 2.2.7 of the Draft EIR/EIS, multiple LRT and BRT alternatives were considered in the previous planning phase, but they were eliminated from further consideration and are no longer being considered for the proposed project. The reasons for dropping each of the alternatives are provided in Section 2.2.7 of the Draft EIR/EIS. Although traffic congestion will not be completely eliminated by any of the proposed build alternatives, as shown in Tables 3.1.6-4, 3.1.6-5, 3.1.6-12, and 3.1.6-13 of the Draft EIR/EIS, congestion, as measured by vehicle hours of delay, would be substantially reduced for all of the build alternatives, as shown in Table 3.1.6-8 of the Draft EIR/EIS.

Comment GF4-8

Additional HOV and bus-only lanes, additional HOV lanes, and a BRT using the HOV lanes with station stops in the median of the freeway at overcrossings are among the alternatives eliminated from further consideration and discussion as described in Section 2.2.7 of the Draft EIR/EIS. The reasons for dropping each of the alternatives considered are provided in Section 2.2.7 of the Draft EIR/EIS.

The objective is to open the tolled Express Lanes with a HOV2+ occupancy free to encourage rideshare and transit usage. Operational adjustments to the tolled Express Lanes may be implemented based on demand, rates of speed, traffic volumes, and to meet financial covenants, maintenance and operational obligations. Potential operational adjustments include, but are not limited to:

- adjusting to HOV3+ free with HOV2s discounted tolls
- adjusting to HOV3+ free with HOV2s full tolls
- adjusting to tolling HOV2s on individual tolling segments such as direct connectors to or from other freeways
- periodic adjustments of tolling rates to maintain operations on individual tolling segments

For discussion of TDM, please see Response to Comment GF4-2. Comment GF4-9

On July 6, 2012, the President signed into law P.L. 112-141, the Moving Ahead for Progress in the 21st Century Act (MAP-21). Prior to the passage of MAP-21, public authorities were required to execute a tolling agreement with FHWA prior to converting an HOV facility to an HOT lane under the terms of Section 129 of Title 23 of the U.S.C. Under MAP-21, such agreements will no longer be required. Lack of such approval does not render the alternative infeasible at the Draft EIR/EIS stage of the process.

With respect to how the Express Lanes would terminate, Appendix P of the Draft EIR/EIS shows the layout plans for termination of the lanes. The management of traffic flow north and south of the limits of the Express Lanes is provided on page 3.1.6-96 of the Draft EIR/EIS where forecasts of the operational characteristics of the transition areas at the north and south termini of the Express Lanes are presented. More detailed information on operations in the transition areas is presented in the Traffic Study in Section 2.7.5, Express Lane Transition and Access Areas.

The current RTP provides a vision of a regional Express Lane network of which the Express Lanes in Alternative 3 are a part, as described on page 3.1.6-96 of the Draft EIR/EIS.

Comment GF4-10

The project does not include concessions or subsidy programs for low-income or other disadvantaged individuals for use of the tolled Express Lane facility.

The objective is to open the tolled Express Lanes with a HOV2+ occupancy free to encourage rideshare and transit usage. Operational adjustments to the tolled Express Lanes may be implemented based on demand, rates of speed, traffic volumes, and to meet financial covenants, maintenance and operational obligations. Potential operational adjustments include, but are not limited to:

- adjusting to HOV3+ free with HOV2s discounted tolls
- adjusting to HOV3+ free with HOV2s full tolls
- adjusting to tolling HOV2s on individual tolling segments such as direct connectors to or from other freeways
- periodic adjustments of tolling rates to maintain operations on individual tolling segments

However, the GP lanes remain available for all users unable or unwilling to pay the toll for the Express Lane facility. The I-10 and I-110 projects are similar toll lane projects in Los Angeles County, but they are operating as Demonstration Projects with federal grant money, do not involve substantial construction costs for capacity enhancement, and are not obligated to generate revenues to repay construction costs. It is anticipated that if Alternative 3 is identified as the preferred alternative, the project would incur obligations for bond repayment, and pricing would be determined at the time of funding.

Additionally, the I-10 and I-110 projects are located within areas containing greater numbers of low-income populations compared to the I-405 project corridor. As shown in Table 3.1.4-2, only 8.1 percent of individuals and 5.6 percent of families within the study area are living below the poverty level compared with 10.3 percent of individuals and 7 percent of families within Orange County and 17.9 percent of individuals and 14.4 percent of families in Los Angeles County living below the poverty level.

Comment GF4-11

Refer to Response to Comment GF4-9.

Comment GF4-12

There are no changes planned for the HOV lanes north and south of the project corridor as part of the proposed project. Forecasts of the operational characteristics of the transition areas at the termini of the Express Lanes are provided on page 3.1.6-96 of the Draft EIR/EIS.

With respect to coordination with LACMTA and Caltrans District 7, see Common Response – Coordination between Caltrans Districts 7 and 12, OCTA, Los Angeles Metro, COG, and the City of Long Beach.

Comment GF4-13

The project does not include concessions or subsidy programs for low-income or other disadvantaged individuals for use of the tolled Express Lanes facility. Please see Response to Comment GF4-10.

Comment GF4-14

Section 1.2.2.6, Air Quality Improvements has been modified to remove reference that the project is a TCM in the AQMP. However, Section 1.2.2.7 has been updated stating that the project is identified as a new TCM in Table III-2.3 of the 2015 FTIP.

Comment GF4-15

Please see response to Comment GF4-14.

Comment GF4-16

The purpose and need of the project is to reduce congestion and improve mobility and is met by all three of the build alternatives. All three build alternatives reduce congestion and improve mobility. Tables 3.1.6-4, 3.1.6-5, 3.1.6-12, and 3.1.6-13 of the Draft EIR/EIS show generally lower v/c ratios for the build alternatives compared to the No Build Alternative. This indicates generally lower levels of congestion. By reducing congestion, the build alternatives all improve mobility, the ability of travelers to move through or along the corridor.

With respect to the potential of TSM/TDM measures to address corridor deficiencies without capacity improvements, a qualitative analysis was used to conclude that TSM/TDM, by itself, is not sufficient to significantly reduce congestion and that additional capacity would be needed. Traffic growth expected in the corridor is on the order of 30 to 35 percent, as noted on page 1-9 of the Draft EIR/EIS, which was qualitatively concluded to be beyond the potential of the TSM/TDM Alternative.

Comment GF4-17

As noted in Response to Comment GF4-16, a qualitative analysis was used to determine that the TSM/TDM Alternative would not meet the purpose and need of the project. Quantitative data on the individual components of the TSM/TDM Alternative will not be included in the Final EIR/EIS. The data regarding the extent to which the build alternatives reduce congestion in the corridor are provided in Tables 3.1.6-4, 3.1.6-5, 3.1.6-12, and 3.1.6-13 of the Draft EIR/EIS.

Comment GF4-18

Alternatives with both LRT and BRT are included in the Draft EIR/EIS in Section 2.2.7, Alternatives Considered but Eliminated from Consideration. LRT was considered in four such alternatives, and BRT was considered in two such alternatives. For a graphic summary of those alternatives, see Figure 2-39 of the Draft EIR/EIS. For LRT or BRT projects to be successful, extensions to the north into Los Angeles County and to the south at least as far as John Wayne Airport would be essential. The proper means to plan and implement such projects would be through the regional transportation planning process, which does not currently include consideration of such facilities in either the RTP or FTIP. Section 2.2.7 of the Draft EIR/EIS explains each of the alternatives with BRT and LRT components and why the alternative was eliminated. Please see Common Response – Elimination of LRT and BRT Transit Alternatives.

Comment GF4-19

Consideration was given to the provision of additional transit options in the project corridor. These options are included in the Draft EIR/EIS in Section 2.2.7, Alternatives Considered but Eliminated from Consideration. None of these options was deemed by the PDT as appropriate to meet the needs of the corridor for the reasons cited in Section 2.2.7 of the Draft EIR/EIS and those cited in Response to Comment GF4-18. Please see Common Response – Elimination of LRT and BRT Transit Alternatives.

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GOVERNMENT (STATE) COMMENTS (GS)

GS1

From: Smita Deshpande [smita_deshpande@dot.ca.gov]
Sent: Friday, June 22, 2012 3:36 PM
To: 405.dedcomments.parsons@parsons_.com
Cc: iffat_qamar@dot.ca.gov
Subject: Comments from Fish and Game

I got a call from Fish and Game (Tim Dillingham) and he said that he has completed his review on the Draft ED for the 405 Improvement Project and has no comments. 1

Smita Deshpande, Branch Chief
Division of Environmental Analysis, Branch 'A'
Caltrans District 12
(949) 724-2245

GS2

STATE OF CALIFORNIA — EDMUND G. BROWN JR., *Governor*

PUBLIC UTILITIES COMMISSION
320 WEST 4TH STREET, SUITE 500
LOS ANGELES, CA 90013

May 25, 2012

Smita Deshpande
California Department of Transportation - District 12
3347 Michelson Drive, Suite 380
Irvine, CA 92612

Dear Ms. Deshpande:

Re: SCH 2009091001; San Diego Freeway (I-405) Improvement Project

The California Public Utilities Commission (Commission) has jurisdiction over the safety of highway-rail crossings (crossings) in California. The California Public Utilities Code requires Commission approval for the construction or alteration of crossings and grants the Commission exclusive power on the design, alteration, and closure of crossings.

The Commission's Rail Crossings Engineering Section (RCES) is in receipt of the *Draft Environmental Impact Report* (DEIR) for San Diego Freeway (I-405) Improvement Project from the State Clearinghouse. According to the DEIR, the California Department of Transportation (Caltrans) proposes to improve the San Diego Freeway (I-405) located approximately between State Route 73 and Interstate Freeway 605. The Unites States Navy (US Navy) Seal Beach Branch line and the Union Pacific Railroad Company (UPRR) Stanton Branch line cross under the I-405 on this particular freeway segment. 1

Modifications to an existing grade separated crossing require authorization from the Commission. More information can be found at:
http://www.cpuc.ca.gov/PUC/transportation/crossings/Filing+Procedures/

Caltrans should arrange a meeting with RCES, US Navy and UPRR staff to discuss relevant safety issues and requirements for authorization to alter the existing grade-separated crossings.

If you have any questions, please contact Bill Lay at 213-576-1399, email at bill.lay@cpuc.ca.gov, or myself at rxm@cpuc.ca.gov, 213-576-7078.

Sincerely,

Rosa Muñoz, PE
Senior Utilities Engineer
Rail Crossings Engineering Section
Consumer Protection & Safety Division

CC: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044

GS3

JOSEPH TAVAGLIONE, Chair
JAMES C. GHIELMETTI, Vice Chair
BOB ALVARADO
DARIUS ASSEMI
YVONNE B. BURKE
LUCETTA DUNN
JAMES EARP
DARIO FROMMER
CARL GUARDINO
FRAN INMAN
JAMES WARING

SENATOR MARK DESAULNIER, Ex Officio
ASSEMBLY MEMBER BONNIE LOWENTHAL, Ex Officio

BIMLA G. RHINEHART, Executive Director

STATE OF CALIFORNIA

EDMUND G. BROWN Jr., Governor

CALIFORNIA TRANSPORTATION COMMISSION

1120 N STREET, MS-52
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RECEIVED
SEP 17 2012
By Marie Clary

September 12, 2012

Ms. Smita Deshpande, Branch Chief
Caltrans-District 12
ATTN: 405 DEIR-DEIS Comment Period
2201 Dupont Drive, Suite 200
Irvine, CA 92612

RE: Draft Environmental Impact Report for the San Diego Freeway (I-405) Project

Dear Ms. Deshpande,

The California Transportation Commission, as a Responsible Agency, received the Draft Environmental Impact Report (DEIR) for the San Diego Freeway (I-405) Roadway Improvements project (project) in Orange and Los Angeles Counties.

The project proposes to construct improvements to the Interstate 405 corridor from State Route 73 to Interstate 605 that will widen the corridor, relieve congestion, and improve operational efficiencies.

It is our understanding that the project is estimated to cost between $1.3-$1.7 billion. A large portion of the funding is included in the Orange County Renewed Measure M transportation sales tax initiative funding program. Other potential funding sources include State Transportation Improvement funds, federal funds, and tolls/user fees for the Express Lanes portion of one of the build alternatives. Depending on the availability of funds and assuming the design-build procurement method, construction is estimated to begin in Fiscal Year 2014-15.

The Commission considered the DEIR at their August 22, 2012 Commission meeting. The Commission has no comments pertaining to the environmental impacts or the alternatives considered in the DEIR. However, the Commission recommends that, depending on the alternative selected, the Department and its partners identify and secure the necessary funding to complete the project. In addition, since design-build procurement and tolling is under consideration, the Commission encourages Caltrans and its partners to ensure early

1

2

GS3 Continued

Ms. Smita Deshpande
September 12, 2012
Page 2 of 2

communication and coordination with the Commission in the event it is anticipated that the Commission will be requested to approve the project from delivery through either a design-build or public private partnership procurement consistent with the provisions of Senate Bill 4 (SBX2 4, Statutes of 2009), or for construction approval to allow for financing and tolling approval by the California Transportation Financing Authority as provided for in Assembly Bill 798 (AB 798, Statutes of 2009).

2 cont.

Certain concerns were also raised to the Commission that we believe are important to bring to your attention for resolution. Specifically, on behalf of Assemblymember Bonnie Lowenthal, Ms. Janet Dawson, Chief Consultant, Assembly Transportation Committee, expressed certain concerns related to the environmental process related to a lack of interregional coordination on this project and encouraged everyone with responsibility for the project to come to the table and work with the regions in the north to develop the same inclusive participation as has been demonstrated on previous projects. In addition, numerous concerns were raised by Mr. Adam Littig with respect to this project. The specific concerns are included in the enclosed letter.

3

The Commission should be notified as soon as the environmental process is complete since the Commission cannot allocate funds to a project for design, right of way, or construction until the final environmental document is complete and the Commission has considered the environmental impacts of the project and approved the environmentally cleared project for future consideration of funding. Upon completion of the CEQA process, prior to the Commission's action to approve the project for future consideration of funding, the Commission expects the lead and/or implementing agency to provide written assurance whether the selected alternative identified in the final environmental document is or is not consistent with the project programmed by the Commission and included in the Regional Transportation Plan. In the absence of such assurance of consistency, it may be assumed that the project is not consistent and Commission staff will base its recommendations to the Commission on that fact. The Commission may deny funding to a project which is no longer eligible for funding due to scope modifications or other reasons.

4

5

If you have any questions, please contact Kandra Hester at (916) 653-7121.

Sincerely,

Bimla G. Rhinehart

BIMLA G. RHINEHART
Executive Director

c: Jay Norvell, Chief, Caltrans Environmental Analysis
Bonnie Lowenthal, Assemblymember

GS3 Continued

TAB 24

3630 Sunflower Circle
Seal Beach, CA 90740
June 27, 2012

RECD BY CTC
JUL - 2 2012

Mitchell Weiss
California Transportation Commission
1120 N Street, Room 2221 (MS-52)
Sacramento, CA 95814

Re: Renewed Measure M (or Measure M2) approved by voters on November 7, 2006
San Diego Freeway (I-405) Improvement Project proposed by the OCTA

I feel that you must be made aware of the gross miscarriage of the will of the voters. I raise these issues as they specifically relate to Orange County's Renewed Measure M (or Measure M2) approved by voters on November 7, 2006 and the San Diego Freeway (I-405) Improvement Project currently in the Environmental Impact Report (EIR) public comment period proposed by the Orange County Transportation Authority (OCTA).

I have outlined a succinct version of the voter issue below:

- The OCTA completed a study whose results suggested that the best and only way to improve the 405 freeway in North Orange County was to add a single lane in each direction.
- The OCTA and Orange County placed Measure M2 on the ballot specifically stating that additional funds were needed to add one lane to the 405 freeway in each direction. Measure M2 was supported by over 69% of the voters. Orange County residents voted to pay an additional half-cent sales tax to fund this project (and many others outlined in Measure M2).
- Following the passage of Measure M2, the OCTA reaffirmed their commitment to use the funds from Measure M2 to add one lane to the 405 freeway in each direction.
- Six years pass. Now the OCTA is proposing ***THREE build options***—only one of which is the original voter-approved and voter-funded option adding a single lane to the 405 in each direction.

Based on my observations at four public meetings that I have attended concerning the three-build-option proposal, *I believe that OCTA is planning to take the tax payer's money to build something other than the voter-supported and voter-paid option outlined in Measure M2!*

I have taken the time to hunt through various documents and websites to obtain facts that support my contentions.

The OCTA completed a study whose results suggested that the best and only way to improve the 405 freeway in North Orange County was to add a single lane in each direction: Prior to voter-approval of Measure M2, the OCTA completed the "Interstate 405 Major Investment Study." The "Interstate 405 Major Investment Study"

GS3 Continued

(as adopted by the Orange County Transportation Authority Board of Directors on October 14, 2005) is summarized and states:

"Alternatives for Improvement

An initial 13 alternatives were narrowed down to two: a minimal widening option (alternative 4) and a moderate widening option (alternative 8b). These alternatives were the result of an extensive collaboration between the OCTA study team, traffic engineers, local public officials, business and community leaders, and commuters and local residents, all of whom gave of their time, ideas, and comments to the study effort. **The alternatives for improvement represent a community consensus about what is feasible to do to improve I-405 in the years ahead.**

After reviewing both alternatives, the project's policy group, consisting of elected officials, city managers and technical staff from each affected city, made a decision to **recommend to the OCTA Board of Directors that only the minimal widening alternative (alt. 4) be moved forward into the environmental study phase. The Board's Regional Planning & Highways Committee confirmed this decision on September 19. The OCTA Board ratified this approach by choosing alternative 4 as the Locally Preferred Alternative on October 14, 2005.**

Alternative 4 adds a general purpose lane in each direction between Brookhurst Street and I-605. It adds auxiliary lanes, linking an on-ramp to the next offramp, in many locations. Alternative 4 generally stays within the existing right-of-way, but there are some property acquisitions in the vicinity of two interchanges requiring improvement. Those interchanges are at Springdale Street/Westminster Avenue and at Magnolia Street/Warner Avenue.

Next Steps

Now that the Board has elected to further study the minimal widening alternative, state and federal regulations require the preparation of an Environmental Impact Report (EIR). Funding is not currently available to begin the EIR process. The process of producing those reports will further refine the project(s) ultimately to be constructed. Once funding is identified it will take two to three years to complete the EIR."[1]

The OCTA and Orange County placed Measure M2 on the ballot specifically stating that additional funds were needed to add one lane to the 405 freeway in each direction. Measure M2 was supported by over 69% of the voters. Orange County residents voted to pay an additional half-cent sales tax to fund this project (and many others outlined in Measure M2: On November 7, 2006, the voters of Orange County, California approved Renewed Measure M (also known as Measure M2) imposing a half-cent sales tax in Orange County designed to fund transportation improvements. **The text of this voter-approved ordinance states:**

[1] "What is the San Diego Freeway (I-405) Major Investment Study?"
http://www.octa.net/default.aspx?id=21798&terms=405+mis

GS3 Continued

> **"The improvements will adhere to recommendations of the Interstate 405 Major Investment Study** (as adopted by the Orange County Transportation Authority Board of Directors on October 14, 2005) and will be developed in cooperation with local jurisdictions and affected communities."[2]

Following the passage of Measure M2, the OCTA reaffirmed their commitment to use the funds from Measure M2 to add one lane to the 405 freeway in each direction: Following the passage of Measure M2, The OCTA 2006 Annual Report lauds itself and the voters of Orange county stating:

> "On November 7, 2006, Orange County voters made history by approving the Renewed Measure M Transportation Investment Plan. This is the first time since 1912 that a transportation measure has received a greater than two-thirds majority in Orange County. Orange County voters passed the renewal its first time on the ballot, **a testament to OCTA's success in keeping the promises** of the original Measure M."[3]

Two pages later in the annual report, the OCTA reaffirms its commitment to adding a single general purpose lane in each direction to the 405 freeway (the minimal widening option).

> **"Work began on the Project Study Report for the San Diego Freeway (I-405) MIS after the OCTA Board selected Alternative 4 (the minimal widening option) as the Locally Preferred Strategy."**[4]

Six years pass. Now the OCTA is proposing THREE build options—only one of which is the original voter-approved and voter-funded option adding a single lane to the 405 in each direction: The OCTA has prepared its Environmental Impact Report (EIR) and is in the public comment phase of the report. *Three build options are outlined.* **The proposed "Build Alternative 1" is the option that was presented to the voters in 2006, approved by the voters in 2006, and funded by Orange County tax payers.**

> **"Build Alternative 1: Add One General Purpose Lane in Each Direction**
> - Adds a single general purpose lane in each direction of the I-405 freeway from Euclid Street to the I-605 interchange
> - Interchange improvements within the project limits

Build Alternative 2: Add Two General Purpose Lanes in Each Direction

- Alternative 2 would add one general purpose freeway lane in each direction on I-405 from Euclid Street to the I-605 interchange (as in Alternative 1), plus add a second general purpose lane in the northbound direction from Brookhurst Street to the SR-22/7th Street interchange and a second general purpose lane in the southbound direction from the Seal Beach Boulevard on-ramp to Brookhurst Street.

Build Alternative 3: Express Facility Alternative

- Adds one toll lane to the existing carpool lane that will be managed together (Federal Highway Administration tolling authority required)
- Adds a single general purpose lane in each direction of the I-405 freeway from Euclid Street to the I-605 interchange
- Interchange improvements within the project limits"[5]

Obviously, both Build Alternative 2 and Build Alternative 3 are NOT "minimal widening options" as proposed, supported, and paid for by the voters in 2006. The OCTA used voter-approved tax payer money allocated to the minimal build option to make preliminary plans for two other alternatives NOT supported by voters. The OCTA is currently completing an EIR for those two plans as well using voter-approved tax payer money allocated to prepare an EIR for only Build Alternative 1. There are many, many other issues with the proposed project including air quality, insufficient funds, noise, bottlenecks that the project would create rather than solve, using taxpayer monies to build toll lanes when the ordinance approved specifically mentions freeways, sound walls, right of way, eminent domain, etc. Most of these issues are exasperated by Build Alternative 2 and Build Alternative 3, but these issues are not the focus of my letter to you.

Based on the attitude and the tone of the four public meetings that I have attended concerning the OCTA's current proposal, I strongly believe that the OCTA is heavily leaning toward Build Alternative 3. The meetings have struck me as public relations meetings designed to convince people that Build Alternative 3 is the best option. **The voters of Orange County both SUPPORTED and PAID for Build Alternative 1. No other options should be "considered". *The government is flouting the will of the voter.* Please do everything that you can to help make sure that the will of voters is implemented—support Build Alternative 1.**

Thank you for taking the time to review this letter.

Adam Littig
3630 Sunflower Circle
Seal Beach, CA 90740
adam@adamlittig.com
562-508-0803

[2] "San Diego Freeway (I-405) Improvements between the I-605 Freeway in Los Alamitos area and Costa Mesa Freeway (SR-55)", Renewed Measure M Transportation Investment Plan, by Orange County Local Transportation Authority, Page 13, taken directly from the full text of Measure M.
http://www.octa.net/MeasureM2/REST/ContentStream.ashx?entryId=1346&mode=Download

[3] "Renewed Measure M", OCTA 2006 Annual Report, by Orange County Local Transportation Authority, Page 7.
http://www.octa.net/uploadedfiles/Files/pdf/octa_annual_2006.pdf

[4] "Freeways", OCTA 2006 Annual Report, by Orange County Local Transportation Authority, Page 9.
http://www.octa.net/uploadedfiles/Files/pdf/octa_annual_2006.pdf

[5] "San Diego Freeway (I-405) Improvement Project." http://www.octa.net/I-405/IPO.aspx

GS4

DOISC

Department of Toxic Substances Control

Matthew Rodriquez
Secretary for
Environmental Protection

Deborah O. Raphael, Director
5796 Corporate Avenue
Cypress, California 90630

Edmund G. Brown Jr.
Governor

June 12, 2012

7/17/12
Dear
e

RECEIVED
JUN 25 2012
STATE CLEARING HOUSE

Ms. Smita Deshpande, Branch Chief
Caltrans District 12, "Attn: 405 DEIR-DEIS Comment Period"
3347 Michelson Drive, Suite 100
Irvine, California 92612-1692

NOTICE OF AVAILABILITY OF A DRAFT ENVIRONMENTAL IMPACT REPORT / ENVIRONMENTAL IMPACT STATEMENT FOR THE SAN DIEGO FREEWAY (I-405) IMPROVEMENT PROJECT, (SCH #2009091001), ORANGE COUNTY, CALIFORNIA

Dear Ms. Deshpande:

The Department of Toxic Substances Control (DTSC) has received your submitted Draft Environmental Impact Report/ Environmental Impact Statement (EIR/EIS) for the above-mentioned project. The following project description is stated in your document: "The project proposes to improve the mainline freeway and interchanges on I-405 in Orange and Los Angeles counties. The proposed project would relieve congestion and improve operational efficiency on I-405 between State Route (SR)-73 and Interstate 605 (I-605). The approximately 16-mile-long project corridor is primarily located in Orange County on I-405 and traverses the cities of Costa Mesa, Fountain Valley, Huntington Beach, Westminster, Garden Grove, Seal Beach, Los Alamitos, Long Beach, and the community of Rossmoor. I-405 is currently a controlled-access highway facility, with 8 to 12 mixed-flow general purpose (GP) lanes and two high-occupancy vehicle (HOV) lanes, which is over capacity and subject to traffic congestion and travel delays. The project study area is located within an extensively urbanized area of Orange County with few vacant or undeveloped parcels of land. Properties adjoining the study area consist of a mix of residential, commercial, and light industrial properties. The dominant land uses within the project study area include low- and medium-density residential, commercial, institutional, light industrial, and agricultural."

Based on the review of the submitted document DTSC has the following comments:

1) The EIR/EIS should evaluate whether conditions within the Project area may pose a threat to human health or the environment. Following are the databases of some of the regulatory agencies: **1**

- National Priorities List (NPL): A list maintained by the United States Environmental Protection Agency (U.S.EPA).

GS4 Continued

Ms. Smita Deshpande
June 12, 2012
Page 2

- Envirostor (formerly CalSites): A Database primarily used by the California Department of Toxic Substances Control, accessible through DTSC's website (see below).
- Resource Conservation and Recovery Information System (RCRIS): A database of RCRA facilities that is maintained by U.S. EPA.
- Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS): A database of CERCLA sites that is maintained by U.S.EPA.
- Solid Waste Information System (SWIS): A database provided by the California Integrated Waste Management Board which consists of both open as well as closed and inactive solid waste disposal facilities and transfer stations. **1**
- GeoTracker: A List that is maintained by Regional Water Quality Control Boards.
- Local Counties and Cities maintain lists for hazardous substances cleanup sites and leaking underground storage tanks.
- The United States Army Corps of Engineers, 911 Wilshire Boulevard, Los Angeles, California, 90017, (213) 452-3908, maintains a list of Formerly Used Defense Sites (FUDS).

2) The EIR/EIS should identify the mechanism to initiate any required investigation and/or remediation for any site within the proposed Project area that may be contaminated, and the government agency to provide appropriate regulatory oversight. If necessary, DTSC would require an oversight agreement in order to review such documents. **2**

3) Any environmental investigations, sampling and/or remediation for a site should be conducted under a Workplan approved and overseen by a regulatory agency that has jurisdiction to oversee hazardous substance cleanup. The findings of any investigations, including any Phase I or II Environmental Site Assessment Investigations should be summarized in the document. All sampling results in which hazardous substances were found above regulatory standards should be clearly summarized in a table. All closure, certification or remediation approval reports by regulatory agencies should be included in the EIR/EIS. **3**

4) If buildings, other structures, asphalt or concrete-paved surface areas are being planned to be demolished, an investigation should also be conducted for the **4**

GS4 Continued

Ms. Smita Deshpande
June 12, 2012
Page 3

presence of other hazardous chemicals, mercury, and asbestos containing materials (ACMs). If other hazardous chemicals, lead-based paints (LPB) or products, mercury or ACMs are identified, proper precautions should be taken during demolition activities. Additionally, the contaminants should be remediated in compliance with California environmental regulations and policies. **4**

5) Future project construction may require soil excavation or filling in certain areas. Sampling may be required. If soil is contaminated, it must be properly disposed and not simply placed in another location onsite. Land Disposal Restrictions (LDRs) may be applicable to such soils. Also, if the project proposes to import soil to backfill the areas excavated, sampling should be conducted to ensure that the imported soil is free of contamination. **5**

6) Human health and the environment of sensitive receptors should be protected during any construction or demolition activities. If necessary, a health risk assessment overseen and approved by the appropriate government agency should be conducted by a qualified health risk assessor to determine if there are, have been, or will be, any releases of hazardous materials that may pose a risk to human health or the environment. **6**

7) If the site was used for agricultural, livestock or related activities, onsite soils and groundwater might contain pesticides, agricultural chemical, organic waste or other related residue. Proper investigation, and remedial actions, if necessary, should be conducted under the oversight of and approved by a government agency at the site prior to construction of the project. **7**

8) If it is determined that hazardous wastes are, or will be, generated by the proposed operations, the wastes must be managed in accordance with the California Hazardous Waste Control Law (California Health and Safety Code, Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations, Title 22, Division 4.5). If it is determined that hazardous wastes will be generated, the facility should also obtain a United States Environmental Protection Agency Identification Number by contacting (800) 618-6942. Certain hazardous waste treatment processes or hazardous materials, handling, storage or uses may require authorization from the local Certified Unified Program Agency (CUPA). Information about the requirement for authorization can be obtained by contacting your local CUPA. **8**

9) DTSC can provide cleanup oversight through an Environmental Oversight Agreement (EOA) for government agencies that are not responsible parties, or a Voluntary Cleanup Agreement (VCA) for private parties. For additional information on the EOA or VCA, please see www.dtsc.ca.gov/SiteCleanup/Brownfields, or contact Ms. Maryam Tasnif-Abbasi, DTSC's Voluntary Cleanup Coordinator, at (714) 484-5489. **9**

GS4 Continued

Ms. Smita Deshpande
June 12, 2012
Page 4

If you have any questions regarding this letter, please contact Rafiq Ahmed, Project Manager, at rahmed@dtsc.ca.gov, or by phone at (714) 484-5491.

Sincerely,

Rafiq Ahmed
Project Manager
Brownfields and Environmental Restoration Program

cc: Governor's Office of Planning and Research
State Clearinghouse
P.O. Box 3044
Sacramento, California 95812-3044
state.clearinghouse@opr.ca.gov.

CEQA Tracking Center
Department of Toxic Substances Control
Office of Environmental Planning and Analysis
P.O. Box 806
Sacramento, California 95812
Attn: Nancy Ritter
nritter@dtsc.ca.gov

CEQA # 3559

GS5

STATE OF CALIFORNIA — Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
ds_nahc@pacbell.net

May 21, 2012

Ms. Smita Deshpande, Project Planner
California Department of Transportation – District 12
3347 Michelson Drive, Suite 380
Irvine, CA 92612

Re: SCH#2009091001; Joint CEQA/NEPA Notice; draft Environmental Impact Report & draft Environmental Impact Statement (DEIR/DEIS) for the **"San Diego Freeway (I-405) Improvement Project;"** located along the Interstate 405 between the Interstate 605 near Seal Beach and State Route 73 near Newport Beach; Orange County, California.

Dear Ms. Deshpande:

The Native American Heritage Commission (NAHC), the State of California 'Trustee Agency' for the protection and preservation of Native American cultural resources pursuant to California Public Resources Code §21070 and affirmed by the Third Appellate Court in the case of EPIC v. Johnson (1985: 170 Cal App. 3rd 604).

This letter includes state and federal statutes relating to Native American historic properties of religious and cultural significance to American Indian tribes and interested Native American individuals as 'consulting parties' under both state and federal law. State law also addresses the freedom of Native American Religious Expression in Public Resources Code §5097.9.

The California Environmental Quality Act (CEQA – CA Public Resources Code 21000-21177, amendments effective 3/18/2010) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the CEQA Guidelines defines a significant impact on the environment as 'a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ...objects of historic or aesthetic significance.". In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE), and if so, to mitigate that effect. The NAHC did conduct a Sacred Lands File (SLF) search within the 'area of potential effect (APE) and Native American cultural resources were not identified.

The NAHC "Sacred Sites,' as defined by the Native American Heritage Commission and the California Legislature in California Public Resources Code §§5097.94(a) and 5097.96, items in the NAHC Sacred Lands Inventory are confidential and exempt from the Public Records Act pursuant to California Government Code §6254 (r).

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries of cultural resources or burial sites once a project is underway. Culturally affiliated tribes and individuals may have knowledge of the religious and cultural significance of the historic properties in the project area (e.g. APE). We strongly urge that you 1

GS5 Continued

make contact with the list of Native American Contacts on the attached list of Native American contacts, to see if your proposed project might impact Native American cultural resources and to obtain their recommendations concerning the proposed project. Pursuant to CA Public Resources Code § 5097.95, the NAHC requests cooperation from other public agencies in order that the Native American consulting parties be provided pertinent project information. Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code §65040.12(e). Pursuant to CA Public Resources Code §5097.95, the NAHC requests that pertinent project information be provided consulting tribal parties. The NAHC recommends *avoidance* as defined by CEQA Guidelines §15370(a) to pursuing a project that would damage or destroy Native American cultural resources and Section 2183.2 that requires documentation, data recovery of cultural resources. 1

Furthermore, the NAHC if the proposed project is under the jurisdiction of the statutes and regulations of the National Environmental Policy Act (e.g. NEPA; 42 U.S.C. 4321-43351). Consultation with tribes and interested Native American consulting parties, on the NAHC list, should be conducted in compliance with the requirements of federal NEPA and Section 106 and 4(f) of federal NHPA (16 U.S.C. 470 *et seq*), 36 CFR Part 800.3 (f) (2) & .5, the President's Council on Environmental Quality (CSQ, 42 U.S.C 4371 *et seq.* and NAGPRA (25 U.S.C. 3001-3013) as appropriate. The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation. The aforementioned Secretary of the Interior's *Standards* include recommendations for all 'lead agencies' to consider the historic context of proposed projects and to "research" the cultural landscape that might include the 'area of potential effect.' 2

Confidentiality of "historic properties of religious and cultural significance" should also be considered as protected by California Government Code §6254(r) and may also be protected under Section 304 of he NHPA or at the Secretary of the Interior discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C., 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APEs and possibility threatened by proposed project activity. 3

Furthermore, Public Resources Code Section 5097.98, California Government Code §27491 and Health & Safety Code Section 7050.5 provide for provisions for inadvertent discovery of human remains mandate the processes to be followed in the event of a discovery of human remains in a project location other than a 'dedicated cemetery'.

To be effective, consultation on specific projects must be the result of an ongoing relationship between Native American tribes and lead agencies, project proponents and their contractors, in the opinion of the NAHC. Regarding tribal consultation, a relationship built around regular meetings and informal involvement with local tribes will lead to more qualitative consultation tribal input on specific projects. 4

Finally, when Native American cultural sites and/or Native American burial sites are prevalent within the project site, the NAHC recommends 'avoidance' of the site as referenced by CEQA Guidelines Section 15370(a). 5

GS5 Continued

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,

David Singleton
Program Analyst

Cc: State Clearinghouse

Attachment: Native American Contact List

GS5 Continued

Native American Contacts
Orange County
May 21, 2012

Ti'At Society/Inter-Tribal Council of Pimu
Cindi M. Alvitre, Chairwoman-Manisar
3094 Mace Avenue, Apt. B Gabrielino
Costa Mesa, , CA 92626
calvitre@yahoo.com
(714) 504-2468 Cell

Gabrielino Tongva Nation
Sam Dunlap, Chairperson
P.O. Box 86908 Gabrielino Tongva
Los Angeles , CA 90086
samdunlap@earthlink.net

(909) 262-9351 - cell

Juaneno Band of Mission Indians Acjachemen Nation
David Belardes, Chairperson
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San Juan Capistrano CA 92675 m
chiefdavidbelardes@yahoo.
(949) 493-4933 - home
(949) 293-8522

Juaneno Band of Mission Indians Acjachemen Nation
Anthony Rivera, Chairman
31411-A La Matanza Street Juaneno
San Juan Capistrano CA 92675-2674
arivera@juaneno.com
(949) 488-3484
(949) 488-3294 - FAX
(530) 354-5876 - cell

Tongva Ancestral Territorial Tribal Nation
John Tommy Rosas, Tribal Admin.
Private Address Gabrielino Tongva
,
tattnlaw@gmail.com
310-570-6567

Gabrielino Tongva Indians of California Tribal Council
Robert F. Dorame, Tribal Chair/Cultural Resources
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gtongva@verizon.net
562-761-6417 - voice
562-761-6417- fax

Gabrieleno/Tongva San Gabriel Band of Mission
Anthony Morales, Chairperson
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(626) 286-1758 - Home
(626) 286-1262 -FAX

Juaneno Band of Mission Indians
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P.O. Box 25628 Juaneno
Santa Ana , CA 92799
alfredgcruz@sbcglobal.net
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This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2009091001; Joint CEQA/NEPA Document; draft Environmental Impact Report/draft Environmental Impact Statement (DEIR/DEIS) for the Interstate 405 Improvement Project from the intersection at I-405/I605 to I-405 & SR 73; located in Orange County, California.

GS5 Continued

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May 21, 2012

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This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2009091001; Joint CEQA/NEPA Document; draft Environmental Impact Report/draft Environmental Impact Statement (DEIR/DEIS) for the Interstate 405 Improvement Project from the Intersection at I-405/I605 to I-405 & SR 73; located in Orange County, California.

RESPONSE TO GOVERNMENT (STATE) COMMENTS (GS)

Response to Comment Letter GS1

Comment GS1-1

Caltrans and OCTA thank the California Department of Fish and Wildlife (CDFW) for participating in the environmental process for the I-405 Improvement Project and acknowledge that CDFW has no comments on the Draft EIR/EIS. CDFW will be notified when the Final EIR/EIS is available for review.

Response to Comment Letter GS2

Comment GS2-1

Caltrans and OCTA thank the Public Utilities Commission (PUC) for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. PUC will be notified when the Final EIR/EIS is available for review.

A site diagnostics meeting will be arranged with the Commission's Rail Crossing Engineering Section, United States Navy, and Union Pacific Railroad (UPRR) during the design phase to discuss relevant safety issues and requirements for authorization to alter the existing grade-separated crossings.

Response to Comment Letter GS3

Comment GS3-1

Caltrans and OCTA thank the California Transportation Commission (CTC) for participating in the environmental process for the I-405 Improvement Project. CTC's comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. CTC will be notified when the Final EIR/EIS is available for review.

OCTA has already completed preliminary financial analysis for all of the build alternatives. Once the Preferred Alternative is identified, the formal process of securing the funding for construction and implementation has been advanced. It is common for transportation projects to have a funding shortfall in the planning phase. The project is considered a Major Project by FHWA, and a Draft Financial Plan (FP) must be submitted to FHWA prior to approval of the Final EIR/EIS. The Draft FP must identify full funding for the project.

Comment GS3-2

Caltrans and OCTA appreciate this comment and recognize that extensive coordination will be required with CTC for this project. OCTA intends to pursue design-build procurement regardless of which alternative is identified for implementation. Existing legislative authority would be used for Alternative 3 under Senate Bill 4; new legislation would be required for design-build procurement of Alternatives 1 and 2. OCTA expects legislative design-build authority for Alternatives 1 or 2 by January 1, 2014.

Comment GS3-3

In regards to Assembly member Lowenthal's concerns, please see Common Response – Coordination between Caltrans Districts 7 and 12, OCTA, Los Angeles Metro, COG, and the City of Long Beach.

In regards to Mr. Littig's concerns, please see Responses to Comments PC-L33-1 through PC-L33-7.

Comment GS3-4

The Commission shall receive a copy of the Final EIR/EIS and be notified as soon as the environmental process is complete so that it may consider the project for future consideration of funding.

Comment GS3-5

As described beginning on page 1-1 of the Final EIR/EIS, the RTP and FTIP will be modified to include the Preferred Alternative.

Response to Comment Letter GS4

Comment GS4-1

Caltrans and OCTA thank the Department of Toxic Substances Control (DTSC) for participating in the environmental process for the I-405 Improvement Project. DTSC's comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. DTSC will be notified when the Final EIR/EIS is available for review.

Conditions in the project area that may pose a potential threat to human health and the environment are discussed in Section 3.2.5, Hazardous Waste/Materials, in the Draft EIR/EIS. Specifically, Section 3.2.5.2, Affected Environment, includes a summary of the database search findings, the search for which was conducted as part of the Initial Site Assessment (ISA) prepared for the project. As discussed in Section 3.2.5.2, the following database searches, research, and reconnaissance were conducted as part of the ISA:

- Search of regulatory records regarding possible hazardous material handling, spills, storage, or production at the project site or in its vicinity.
- Review of available information to describe the general geology and hydrogeology at the project site and adjacent areas.
- Review of historic aerial photographs and topographic maps.
- Reconnaissance of the project site and the immediate surrounding area.
- Development of conclusions and findings.
- Preparation of a report describing the assessment and presentation of the results and findings.
- A statement of interpretive limitations.

As discussed in Section 3.2.5.3, Environmental Consequences, in the Draft EIR/EIS, there are potential risks associated with many environmental conditions, including properties identified for acquisition; 19 leaking underground storage tank (LUST) sites, which have a potential to impact groundwater conditions; one Emergency Response Notification System (ERNS) site where soil contamination by gasoline was discovered in the soil around a fuel tank – 220 gallons of diesel fuel spilled during a traffic accident that occurred in 1987 at northbound I-405, south of I-605; bridges planned to be replaced and widened could contain asbestos-containing materials (ACMs) and/or lead-based paint (LBP); surface soils in the unpaved ROW could contain aerially deposited lead (ADL); freeway striping could contain LBP; approximately 10 cubic yards of unidentified soil that was observed on the southeast side of the Newland Street overcrossing; two 30-gallon open trash bins; and two 5-gallon paint buckets with lids that appeared to be dumped were observed on the I-405 northbound shoulder, just south of the I-605 interchange.

Measures HAZ-1 through HAZ-10, provided in Section 3.2.5.4, Avoidance, Minimization, and/or Mitigation Measures, address the potential impacts from these types of hazards that would potentially occur under the build alternatives. Most of these measures are standard procedures and/or regulations controlling these types of hazardous materials. All impacts related to hazardous materials would be substantially mitigated based on implementation of Measures HAZ-1 through HAZ-10.

Comment GS4-2

Mechanisms to initiate required investigation of, and/or remediation for, sites known to have contamination and that have had releases that may pose a potential concern during project construction are summarized in Measures HAZ-1 through HAZ-10 in Section 3.2.5.4, Avoidance, Minimization, and/or Mitigation Measures, in the Draft EIR/EIS. The measures include general citations to federal, State, and/or local regulatory agencies as appropriate for each measure. If unknown hazards are encountered during construction activities, Measure

HAZ-10 requires that construction cease and that Caltrans' Unknown Procedures for Construction be followed.

Comment GS4-3

As described in Section 3.2.5.3, Environmental Consequences, in the EIR/EIS, environmental investigations, sampling, and/or remediation for sites of potential concern that were recommended will be completed. With the implementation of Measures HAZ-1 through HAZ-10 in Section 3.2.5.4, Avoidance, Minimization, and/or Mitigation Measures, in the EIR/EIS, impacts related to hazardous waste/materials are considered not to be substantial. In addition, if work plans are required as part of the proposed project, such work will be overseen by the local regulatory agency responsible for oversight.

Comment GS4-4

Measures HAZ-3, HAZ-4, and HAZ-7 in Section 3.2.5.4, Avoidance, Minimization, and/or Mitigation Measures, in the EIR/EIS, require that investigations and/or testing be performed on all structures and paved surface areas as part of the project. The preconstruction surveys will include sampling and testing for hazardous chemicals, including ACM and LBP. In addition, Caltrans standard specifications require that all materials from these structures that exceed California Health and Safety Code criteria for hazardous waste must be properly disposed of at a State-certified landfill facility.

Comment GS4-5

Measures HAZ-1, HAZ-2, HAZ-5, HAZ-6, HAZ-7, HAZ-8, HAZ-9, and HAZ-10 in Section 3.2.5.4, Avoidance, Minimization, and/or Mitigation Measures, in the EIR/EIS, specifically address potential effects associated with potential onsite contaminated soil and/or groundwater. Any contaminated materials will be properly disposed of consistent with applicable federal, State, regional, and local laws and regulations. Caltrans standard specifications require that imported soil for onsite fill will require testing prior to use.

Comment GS4-6

As described in Section 3.2.5, an ISA was completed in accordance with (ASTM) E-1527-05 and Caltrans District 12 ISA guidelines. This document will be updated subsequent to identification of the Preferred Alternative, including recommended site assessment for the 12 potential ROW acquisition properties, as well as other recognized environmental conditions associated with the "non-acquisition properties" and "other concerns." The document requires proper testing, abatement, and disposal as described in Measures HAZ-1 through HAZ-10, in addition to Caltrans' Standard Specification related to identification, handling, and disposal of hazardous wastes and materials. All identification, handling, and disposal of hazardous wastes and

materials will be completed in accordance with applicable federal and State laws and regulations. At this time, preparation of a health risk assessment is not anticipated.

Comment GS4-7

As described in Section 3.1.2.3, agricultural lands along the I-405 corridor within the project limits are largely limited to two locations (see Figure 3.1.3-1): (1) NAVWPNSTA Seal Beach located in Seal Beach and (2) Segerstrom Ranch property located in Costa Mesa. Soil testing along NAVWPNSTA Seal Beach was completed as part of the SR-22 West Orange County Connection project. Some residual agricultural contaminants were found at concentrations below action levels. The proposed project would not encroach on the Segerstrom Ranch property. At this time, no additional testing for pesticides, herbicides, or other agricultural contaminants is anticipated. The need for any additional testing will be reconsidered during the next phase of the project based on the final design. Should any additional testing be required, all sampling and, if required, remedial action would be completed in accordance with Caltrans Policy and federal and State laws and regulations.

Comment GS4-8

As discussed in Section 3.2.5.3, Environmental Consequences, in the EIR/EIS, routine maintenance activities during operation of the proposed project would be required to follow applicable regulations with respect to the use, storage, handling, transport, and disposal of potentially hazardous materials; therefore, operation of the proposed project would not introduce new hazardous waste or materials.

Comment GS4-9

Thank you for your comment.

Response to Comment Letter GS5

Comment GS5-1

Caltrans and OCTA thank the Native American Heritage Commission (NAHC) for participating in the environmental process for the I-405 Improvement Project. NAHC's comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. NAHC will be notified when the Final EIR/EIS is available for review.

Section 3.1.8.3, Environmental Consequences, and Section 5.2.4, Native American Coordination, of the Draft EIR/EIS provide a summary of the Native American consultation conducted to comply with all federal and State regulations (see pages 3.1.8-11 through 3.1.8-12 and 5-22 through 5-23). The project Historic Property Survey Report (HPSR) and Historic Resources

Evaluation Report (HRER) are available for review at http://www.dot.ca.gov/dist12/405/index.htm#Technical.

Comment GS5-2

Cultural resource documentation was completed in accordance with NEPA Section 106 of the National Historic Preservation Act and all other applicable federal laws/state laws and Executive Orders, including coordination with the NAHC. Please see Response to Comment GS5-1 above.

Comment GS5-3

Section 3.1.8.2, Affected Environment, of the Draft EIR/EIS states that no historic properties of religious and cultural significance were identified within the project Area of Potential Effects (APE); however, locations of potential resources were not disclosed (see pages 3.1.8-7 through 3.1.8-10).

Comment GS5-4

Section 3.1.8.3, Environmental Consequences, of the Draft EIR/EIS states that consultation with Native American tribal contacts is ongoing and would occur throughout the duration of the project, as requested (see page 3.1.8-12).

Comment GS5-5

Section 3.1.8.3, Environmental Consequences, of the Draft EIR/EIS states that cultural resources previously recorded in the APE were determined to have been destroyed or redeposited from another location. No existing Native American cultural resources were identified within the project APE; however, Measures CUL-1 and CUL-2 in Section 3.1.8.4, Avoidance, Minimization, and/or Mitigation Measures, in the EIR/EIS, specifically address protocol if previously unknown Native American cultural sites and/or Native American burial sites are discovered during construction (see page 3.1.8-13).

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GOVERNMENT (REGIONAL) COMMENTS (GR)

GR1

SOUTHEAST LOS ANGELES COUNTY

GATEWAY CITIES
COUNCIL OF GOVERNMENTS

Artesia
Avalon
Bell
Bellflower
Bell Gardens
Cerritos
Commerce
Compton
Cudahy
Downey
Hawaiian Gardens
Huntington Park
La Habra Heights
La Mirada
Lakewood
Long Beach
Lynwood
Maywood
Montebello
Norwalk
Paramount
Pico Rivera
Santa Fe Springs
Signal Hill
South Gate
Vernon
Whittier
County of Los Angeles
Port of Long Beach

June 28, 2012

Smita Deshpande, Branch Chief
Caltrans District 12
2201 Dupont Drive, Ste. 200
Irvine, CA. 92612

405 DEIR/EIS Comments

On behalf of the Gateway Cities Council of Governments (GCCOG) Board of Directors (27 cities and Los Angeles County), we are submitting our comments on the DEIR/EIS for the proposed I-405 improvements that border our agency's southerly border at the largest community in the GCCCOG, Long Beach. More detailed comments are included in the attachment. A summary of our comments are on the last two pages of the attachment. The GCCOG Board has reviewed this letter and has unanimously concurred with its comments and is submitting it to Caltrans District 12.

While supporting the idea of improving the I-405 south of the Los Angeles County border, as indicated in our comments, we believe the planning and execution of the DEIR/EIS is repeating the mistakes of the past between the two counties that resulted in the I-5 freeway being improved in Orange County while not being addressed in Los Angeles County. The cities that represent the GCCOG are the agencies behind addressing that deficiency for many years and are now partnered with the Los Angeles County Metropolitan Transportation Authority (MTA) and Caltrans District 7 to finally begin the improvements to I-5 In southeast Los Angeles County last year. The GCCOG supports continuing those improvements on I-5 into downtown Los Angeles.

The GCCOG is working with our partners, MTA and District 7, to address the transportation issues of southeast Los Angeles County. This has resulted in proceeding with either environmental documents or studies of all the freeways in southeast Los Angeles County and cooperation with other agencies for all other transportation projects located in or which travel through the GCCOG area. This includes, for example, regional bus coordination, coordination with the California High Speed Rail Authority, major commuter rail studies, arterial highway studies, etc. Additionally, we have reached out to OCTA and District 12 in the past, resulting in the preparation of the Orange and Los Angeles Inter-County Transportation Study completed in February 2008. **1**

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GR1 Continued

Smita Deshpande
June 28, 2012
Page 2

Transportation issues at the county line were significantly discussed and developed in the preparation of that report at many workshops between staffs and elected officials that resulted in this valuable study. As pointed out in our comments, the results of that effort are not included or even addressed in the I-405 DEIR/EIS.

There are other examples of agency coordination from the GCCOG where, for example, we have included staff of OCTA in meetings on the preparation of the SR-91/I-605/I-405 Feasibility Study currently underway. OCTA staff has attended, at our request, many of our detailed meetings on the planning of I-405 improvements in Los Angeles County. We have made numerous requests to have meetings with senior OCTA staff since the beginning of this year, but nothing has been arranged. When the GCCOG completed an SR-91/I-605/I-405 Initial Corridor Studies Report in 2008, we provided that information to both OCTA and Caltrans District 12 for their use in planning improvements at the county line for I-405. As pointed out in our attached comments, none of these coordination efforts, materials or reports initiated or completed by the GCCOG were either used or even referenced in the I-405 DEIR/EIS. We are not even sure if the GCCOG was included in the NOP for the I-405 DEIR/EIS. We know the City of Long Beach was included but are not sure if their comments or suggestions at the time of the NOP were all addressed. **1**

In addition to these referenced studies, we have also had prepared extensive traffic modeling that includes I-405 into Orange County and numerous traffic modeling runs that include various tolling options if Alternative 3 (toll option) extends into Los Angeles County. Some of the initial traffic model runs for tolling were provided to the OCTA staff months ago for coordination purposes. We will be glad to share these results with you, which are significant, as part of any inter-county transportation planning that the GCCOG is recommending. We believe that is the type of information that should have been included in the I-405 DEIR/EIS. **2**

The GCCOG has outlined in the attached comments the major deficiencies of the I-405 DEIR/EIS and is going on record that it is incomplete as it did not include <u>any</u> regional coordination with the GCCOG, the City of Long Beach, MTA or District 7. For example, as indicated in our comments, the DEIR/EIS includes <u>no</u> analysis of impacts along I-405 or I-605 in Los Angeles County. Our own traffic modeling shows significant impacts for both the freeways as well as the arterial highways. Furthermore, the I-405 DEIR/EIS does not, for example, analyze the impacts to the arterial highway system in any sufficient detail at the north end of the project, within your project limits, or on any arterial highways in Long Beach. The GCCOG has studied more arterial highway intersections at the county line than the I-405 DEIR/EIS and has provided that information to the OCTA staff. Why is it not used? The OCTA staff has made numerous presentations on this project to GCCOG committees and has attended our SR-91/I-405/I-605 TAC meetings. Why is there no reciprocity? **3**

In summary, the GCCOG is not pleased to be put in the position of having to respond in this fashion and wants to support the efforts of OCTA and Caltrans District 12 to **4**

2

GR1 Continued

Smita Deshpande
June 28, 2012
Page 3

improve I-405, but by not recognizing the good transportation planning that has occurred in the past, not doing any regional planning or coordination across the county line, and not responding to the GCCOG's request for coordination meetings, we have to state the I-405 DEIR/EIS is deficient and incomplete as it does not address the issues and concerns outlined in the attachment. This includes coordination of transit services at the county line that could reduce traffic on I-405 (see the Orange and Los Angeles Inter-County Transportation Study from 2008). Therefore, we are requesting that the I-405 DEIR/EIS be re-done and then re-circulated after the issues and concerns of the GCCOG (and likely similar concerns from the City of Long Beach, with whom we are coordinating) have been addressed and the necessary regional coordination has occurred. The results from that process should then be incorporated into a revised I-405 DEIR/EIS for circulation. 4

None of our agencies prosper by not cooperating and having to respond in this fashion. The Gateway Cities Council of Governments stands behind partnering and coordinating with other agencies.

Very truly yours,

Raymond Dunton, President
Board of Directors
Gateway Cities Council of Governments and
Mayor Pro Tem City of Bellflower

Cc: Art Leahy, MTA
Doug Failing, MTA
Mike Miles, Caltrans, District 7
Ron Kosinski, Caltrans, District 7
Brent Green, Caltrans, District 12
Will Kempton, OCTA
Darrell Johnson, OCTA
Pat West, City of Long Beach
Dave Roseman, City of Long Beach
MTA Board Member Diane DuBois
Richard Powers, Gateway Cities COG
Karen Heit, Gateway Cities COG
Jerry Wood, Gateway Cities COG
SR-91/I-605/I-405 Corridor Cities Committee and Technical Advisory Committee Members

3

GR1 Continued

EIR/EIS COMMENTS
BY GATEWAY CITIES COUNCIL OF GOVERNMENTS ON

SAN DIEGO FREEWAY

(I-405) IMPROVEMENT PROJECT

EA 0H1000/PN 1200000180

PREPARED BY THE STATE OF CALIFORNIA

DEPARTMENT OF TRANSPORTATION

JUNE, 2012

Background and Summary

SUMMARY

OCTA and Caltrans (District 12) have prepared a DEIR/EIS for the referenced project – I-405 improvements from the Los Angeles County line south to SR-73 (approximately 16 miles). As defined in the DEIR/EIS, the I-405 has current and future deficiencies that include mainline capacity, congestion, HOV capacity, GP lane operational and geometric deficiencies, existing interchanges within the study area that have geometric, storage and operational deficiencies and a general lack of capacity and technology infrastructure. Page S-2 of the Summary states that the project includes "1.4 miles north of I-605 (07-LA-405 PM 1.2)". This portion of the project is within Los Angeles County in the City of Long Beach. It further states on Page S-2 that "encroachments in Los Angeles County and work on SR-22 are associated with signing and striping to accommodate the transition from the existing to the proposed facility". Therefore, the northern terminus for this project is basically the Los Angeles County line along the I-405 and includes the I-405/I-605 interchange portion only within Orange County. 5

Section S.3 – Project Description

The DEIR/EIS on Page S-3 does recognize that "I-405 is generally a north-south route with 24 miles in Orange County and 48 miles in Los Angeles County. I-405 is part of the National Highway System and is considered a bypass route to Interstate 5 providing intra-regional and inter-regional access between Orange and Los Angeles Counties. I-405 also serves as a critical goods movement corridor connecting the San Diego and U.S./Mexico border region with the ports of Long Beach and Los Angeles".

Page S-1 states the purpose of the project. One of these purposes – as stated – is "to be consistent with regional plans". 6

4

GR1 Continued

Page S-3 states that "the north and south termini of the project, at the I-605 and SR-73 respectively, are locations where multiple freeways converge, generating congestion and causing delay. The termini have been logically chosen based on geography and transportation needs to ensure adequate response to transportation deficiencies at and around these points of intersection. The northern terminus of the proposed project is at the interchange of I-405 and I-605. The proposed additional lanes would enhance continuity along I-405 and terminate new lanes into available lanes on these other freeways".

Three build alternatives are proposed:

- **Alternative** 1 – add a single GP lane in each direction on I-405 from Euclid Ave. to the I-605 interchange
- **Alternative 2** – add one GP lane in each direction from Euclid Street to the I-605 interchange (as in Alternative 1) plus a second GP lane in the northbound direction from Brookhurst St. to the SR-22/7th Street interchange and a second GP lane in the southbound direction from the Seal Beach Blvd. on-ramp to Brookhurst St.
- **Alternative 3** – add on GP lane in each direction on I-405 from Euclid St. to the I-605 interchange (as in Alternatives 1 and 2), plus add a tolled Express Lane in each direction of I-405 from SR-73 to SR-22 East. The tolled Express Lane and the existing HOV lanes would be managed jointly as a tolled Express Facility with two lanes in each direction from SR-73 to I-605.

A TSM/TDM Alternative was evaluated but not recommended a stand-alone project as it did not sufficiently address (according to the DEIR/EIS) the purpose of the project but its elements (or some of them) are included in the build alternatives. These are supposed to include "multi-modal alternatives to integrate multiple forms of transportation modes, such as pedestrian, bicycle, automobile, rail and transit". 6

Section S.5 – Project Impacts

Table S-1 on page S-13 states that neither of Alternatives 2 or 3 are "consistent with the RTP or the FTIP and that OCTA is currently pursuing revisions to both prior to the Final EIR/EIS, which will include the revised description and reference to the conforming documents".

Table S-1 on Page S-13 states under Community Impacts for the build alternatives that "implementation of the proposed project is anticipated to result in a beneficial effect on cohesion by reducing cut-through traffic within the adjacent neighborhoods". Table S-1 on Page S-19 summarizes that the build alternatives will increase traffic at the north end of the project by 13% to 25%. Table S-1 on Page S-32 states the build alternatives "increases of operational noise at all receptors are considered minor with 7

5

GR1 Continued

implementation of the recommended soundwalls summarized below. Project future noise conditions, when compared to the future no build noise conditions, generally increases or decrease slightly when compared to the future no build noise condition".

Table S-1, page S-35 states – for all three build alternatives – that "when considered with other cumulative projects as stated in Table 3.6-1, the alternative would contribute incrementally to cumulatively considerable impacts related for: Community Character, Short-term Temporary Construction Impacts and Visual Character and Quality". 7

Section S.6 – Coordination with Public and Other Agencies

Page S-38 lists the other public agencies and others that have been coordinated with. This list does not include the Gateway Cities Council of Governments, Los Angeles Metropolitan Transportation Agency (MTA) or LA Caltrans office (District 7).

CHAPTER 1 – PROPOSED PROJECT

Section 1.1 - Introduction

Figure 1-2 on page 1-3 shows the project limits extending about 1 mile into Los Angeles County and into the City of Long Beach. 8

Section 1.2 – Project Purpose and Need

Section 1.2.1 on page 1-5 includes as the purpose of the proposed project that the following objective be established: "to be consistent with regional plans and find a cost-effective early project solution for delivery".

Table 1-2 shows the existing and projected 2020 and 2040 LOS and V/C for the freeway – which shows it will be much worse and well into LOS F in the future for the existing conditions. The calculations do not show the LOS or V/C on the project limits within Los Angeles County. Table 1-7 on page 1-11 shows population and growth trends but does not include the annual growth rate for the portion of the project on I-405 in Los Angeles County or Long Beach (or even refer to it). On page 1-12 no mention of nearby and the very relevant developments of Long Beach State and the Long Beach airport (as a minimum) are not mentioned that would impact the project. 9

Page 1.14 discusses operational deficiencies for the project. This includes the statement that: "Operational problems occur on I-405 primarily because of physical bottlenecks". The descriptions of these "bottlenecks" do not include, for example, any of the projects within the limits in Los Angeles County or the SB 605 to SB 405 connector ramp which significantly backs up the SB 605 in the PM peak hours into Los Angeles County. 10

6

GR1 Continued

Page 1-16 includes a description of regional transportation plans that the I-405 DEIR/EIS coordinates with. This list does not include the following:

- Orange County/Los Angeles County Inter-County Transportation Study and Results
- SR-91/I-605 Needs Assessment
- SR-91/I-605/I-405 Initial Corridor Studies
- SR-91/I-605/I-405 Feasibility Study
- Proposed Los Angeles County Express lane studies (by SCAG and MTA)
- I-710 Corridor Project
- I-605 Congestion Hot Spots

11

The purpose of this coordination – as stated on page 1-16 – is to "maximize mobility and accessibility for people and goods in the region, preserve and ensure a sustainable regional transportation system and to protect the environment and health of our residents by improving air quality and encouraging active transportation, and maximize the productivity of our transportation system".

Page 1-19 states the "I-405 represents a major link to other freeway systems..... and serves as a major link between Orange and Los Angeles Counties and is part of the National Highway System and is considered a bypass route to I-5. Page 1-20 discuses regional access but does not include the portion of Long Beach within the project limits. This is somewhat surprising as it is stated on this page that "the northern segment, between Valley View Street and I-605, is considered one of the heaviest sections of freeway in the nation". 12

Page 1-22 discusses the independent utility for the project. It states "to be considered for independent utility, a project must not preclude other potential transportation projects from being implemented in the future". It goes on to state that "the proposed I-405 project satisfies FHWA's regulations for "independent utility" because it would not prevent the implementation of future transportation projects, and, independent of other actions, it would also provide considerable transportation benefits to the project stated and purpose and need". This statement is made without any consideration of projects in Los Angeles County that are currently being planned and coordinated with staff of OCTA. Page 1-23 states that "the north termini have been logically chosen based on geography and transportation needs to ensure adequate response to transportation deficiencies at and around these points of intersection". It goes onto to state that "the proposed additional lanes on I-405 south of I-605 would terminate into and provide enhanced traffic service between I-405 and the SR-22 and I-605 freeways and that the proposed additional lanes would enhance lane continuity along I-405 and terminate new lanes into available lanes on these other freeways". It may seem counter-intuitive but this last quote is inconsistent in that how are enhancements achieved when terminating 13

7

GR1 Continued

(ending) the project into available lanes with the project limits and providing no documentation to substantiate the statement. Page 1-24 states that "the proposed alternatives would not restrict any other foreseeable transportation improvements in the corridor and none of the proposed alternatives would affect the HOV lanes outside the project limits". No quantifiable evidence that supports this last statement is provided in the DEIR/EIS. 13

CHAPTER 2 – PROJECT ALTERNATIVES

Section 2.2 – Project Alternatives

Figures 2-1 and 2-2 on pages 2-6 and 2-7 show the proposed lane configurations. However, neither of the figures show the lane configurations within the project limits into Los Angeles County or how the lane transitions would occur. 14

Page 2-14, as an example, on page 2-14, states why Alternative 3 is a viable alternative as it meets the projects purpose. However, the one of the stated objectives is "be consistent with regional plans". No discussion of this objective is included in this section or addressed in any detail in the DEIR/EIS. 15

Section 2.2.3 – Transportation System Management/Transportation Demand Management Alternative

Page 2-23 discusses in very general terms the TSM/TDM features but provides little to no detail. The Orange County/Los Angeles County Inter-County Transportation Study studied TSM/TDM between the two counties in detail but none of the "projects" or "ideas" that were developed between the two counties are included in the DEIR/EIS. The implementation of these TSM/TDM alternatives will reduce the demand on the I-405 but this was not addressed or quantified in the DEIR/EIS. 16

CHAPTER 3 – AFFECTED ENVIRONMENT, ENVIRONMENTAL CONSEQUENCES, AND AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES

Chapter 3.1 – Human Environment

Section 3.1.6 – Traffic and Transportation/Pedestrian and Bicycle Facilities

Page 3.1.6-4 lists the local interchanges within the project limits that were studied. This does not include any interchanges of the segment of the project included in Los Angeles County but does include the I-405/I-605/SR-22 system interchanges. Figure 3.1.6-1 on page 3.1.6-5 highlights the interchanges that were studied but clearly does not include the interchanges within the project limit (as a minimum) on I-405 in Los Angeles County. Table 3.1.6-1 lists the intersections analyzed for the project. This list includes no intersections in Long Beach or Los Angeles County or a very significant number of 17

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GR1 Continued

intersections away from the freeway that should also have been included for such a large project. **17**

Table 3.1.6-2 shows that the mainline I-405 ADT is expected to increase by as much 150,000 vehicles per day by 2040 but does not include an analysis of the impacts of this increasing traffic within the project limits in Los Angeles County or beyond (on the freeways or the intersections beyond the project limits) (Also discussed on pages 3.1.6-94 and 3.1.6- 95 of the DEIR/EIS). Table 3.1.6-4 and Table 3.1.6.-5 show how the GP lanes and the HOV/Express lanes will operate in the future for 2020. Table 3.1.6-12 and Table 3.1.6-13 show how the GP lanes and the HOV/Express lanes will operate in the future for 2040. In both cases the GP lanes LOS is F and the HOV/Express lanes are operating at LOS D. This indicates that the GP lanes LOS is degraded to make the HOV/Express lanes operate better (pushing traffic from the HOV/Express lanes into the GP lanes). This indicates that the GP lanes where the northern termini ends and has independent utility (as stated in the DEIR/EIS) will negatively impact the GP lanes and connector ramps at the northern termini where the project suddenly ends. The DEIR/EIS does not address how the GP lanes at the north end of the I-405 within the project limits will operate or even beyond. **18**

Table 3.1.6-1`0 lists the interchanges and segments that were studied but does not include any interchanges on I-405 north into Los Angeles County within the project limits or beyond.

Figure 3.1.6-12 on page 3.1.6-71 shows AM/PM peak hour volumes but does not include any queuing or weaving analyses at the north end of the project. Also, the DEIR/EIS does not include an analysis of how the project might impact accident rates and safety issues at its northern termini. **19**

Page 3.1.6-96 states that "the 2012 RTP includes a regional Express Lane Network that would build upon the success of the 91 Express Lanes in Orange County and two demonstration projects in Los Angeles County". It also states that "I-405 within the project limits is part of that network". It further states that "incorporation of the existing HOV lanes on I-405 into the Express Lanes proposed in Alternative 3 is consistent with the 2012 RTP and the more set of strategies emerging from management of existing HOV lanes". The DEIR/EIS at least acknowledges this coordination within Los Angeles County but provides no evidence of how this coordination is consistent with the 2012 RTP and how that "coordination" would impact the freeway and arterial highway system in the adjacent Los Angeles County. Therefore, this statement is mis-leading. **20**

Table 3.16.17 shows the transition area LOS locations but does not include the transition from the I-405 into Los Angeles County within the project limits. Page 3.1.6.-102 discusses the impacts on the connectors at the north termini and indicates that "the **21**

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GR1 Continued

effect of Alternative 3 would be to improve flow on the GP branch connector and provide the potential for some modest congestion on the Express Lane direct connector". Gateway Cities own studies show that this statement is not correct and Alternative 3 will make the situation worse – not better – as stated above. **21**

Chapter 3.4 – Relationship between Local Short-Term Uses of the Human Environment and the Maintenance of Long-Term Productivity

Section 3.4.1 – Build Alternatives

Page 3.4-1 states that "long-term benefits would include improvement to the transportation network in the area, reduction of congestion and improved intersection circulation". The DEIR/EIS does not include any analysis at the north end of the termini of the project on the I-405 to support this statement within the project limits on the I-405 or beyond on either the I-405 or I-605. The DEIR/EIS actually shows degradation in GP mainline operation for Alternative 3, in particular, showing that the quoted statement is incorrect at the north termini. This is supported by Gateway Cities own analyses. **22**

CHAPTER 3.6 – CUMULATIVE IMPACTS

Section 3.6.2 – Methodology

Page 3.6-1 states that "cumulative impacts were identified by comparing the impacts of the proposed project and other past, current, or proposed actions in the area to establish whether, in the aggregate, they could result in cumulative environmental impacts". As stated previously, none of the studies and work underway that OCTA has been provided is referenced or used in the DEIR/EIS. Therefore, there are cumulative impacts from both the proposed build alternatives with both no-build and build alternatives being considered by MTA and Gateway Cities making the objective as quoted above not able to be achieved by the DEIR/EIS. For example, on page 3.6-2 it discusses further actions anticipated to occur include further growth within a bunch of cities but does include Long Beach. The same applies to similar statements made on page 3.6-3. Also, Table 3.6-1 lists reasonably foreseeable projects on page 3.6-4 but does include any of the projects being planned in Los Angeles County or previous coordination of projects between Orange and Los Angeles Counties and is incorrect and incomplete. **23**

Section 3.6.5.5 – Community Impacts

Page 3.6-8 discussed community impacts for the proposed projects but does not include any community impacts in Long Beach within the project limits or beyond on either I-405 or I-605. **24**

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GR1 Continued

SUMMARY OF GATEWAY CITIES COUNCIL OF GOVERNMENTS COMMENTS

The following summarizes the comments by the Gateway Cities Council of Governments (GCCOG). The GCCOG generally supports the proposed build alternatives but has major concerns with the lack of coordination at the county line. These are reflected in the comments offered below:

1. Lack of Past Regional Coordination – OCTA has in the past been provided copies of the SR-91/I-605 Needs Assessment and the SR-91/I-605/I-405 Initial Corridor Studies prepared by the GCCOG a few years ago. Meetings were held with OCTA to discuss coordination of designs developed at the time at the I-605/I-405 interchange. None of this coordination or use of the information provided by the GCCOG was provided and needs to be included in the DEIR/EIS. **25**
2. Lack of Current Regional Coordination – The GCCOG and MTA have been proceeding with a Feasibility Study to improve the SR-91/I-605/I-405 freeways adjacent to Orange County. This study has been proceeding since the middle of 2011. OCTA staff has been attending workshops and meetings with the TAC and the CCC overseeing that project. None of this coordination or effort has been included in the DEIR/EIS. This includes the traffic modeling at the county line if Alternative 3 is built and the "impact" on the negative GP lanes on the I-405 and I-605 of this build alternative. The extent of the impacts for improving I-405 beyond the project limits is not analyzed or quantified in the DEIR/EIS. These impacts will extend well beyond the project limits and, while some minor references to other regional planning is referenced, no qualitative or quantitative analyses are provided in the DEIR/EIS, making it incomplete. **26**
3. Lack of Freeway Coordination – As part of the Feasibility Study, detailed geometric plans have been prepared for both the I-605 and I-405 leading up to the county line and into the I-605/I-405 interchange and provided to OCTA staff. Those impacts across the county line are known and coordination with that study was not presented in the DEIR/EIS or coordinated with the I-405 DEIR/EIS despite repeated requests. **27**
4. Long Beach Coordination – The project limits for the DEIR/EIS extend a little over a mile into Long Beach. However, no interchanges north of the County line on I-405 were analyzed or considered in the DEIR/EIS in Long Beach as well as any intersections in Long Beach. In fact the SR-91/I-405/I-605 Feasibility Study includes more intersections analyzed around the I-405/I-605 interchange than considered or analyzed in the DEIR/EIS. This information has been provided to the OCTA staff. Without Long Beach impacts analyzed in the DEIR/EIS, the DEIR/EIS cumulative impacts and other impacts are incomplete. Also, more extensive arterial highways and intersections need to be included in the DEIR/EIS. **28**

11

GR1 Continued

5. TSM/TDM Coordination of Projects – The DEIR/EIS does not use the results of the Inter-County Transportation Study or make use of much in the way of the potential for transit projects to reduce the demand on the I-405. Such coordination with Long Beach State and the Long Beach Airport are examples of how TSM or TDM projects would have some impact if properly analyzed. **29**
6. Traffic Impacts – The potential for the freeway volumes to increase by 150,000 vehicles per day is disclosed in the DEIR/EIS but no impacts of how this traffic will get across the county line is discussed in any detail. One of the stated objectives for the DEIR/EIS is "to be consistent with regional plans". The DEIR/EIS by not coordinating with the variety of previous and current regional planning (or even acknowledging it) in the DEIR/EIS make the DEIR/EIS incomplete with respect to this objective. **30**
7. Independent Utility – The GCCOG does not believe that the independent utility assessment as stated in the DEIR/EIS is met as the coordination with regional plans that have taken, are taking or will take place has not taken place and is not discussed in any detail in the DEIR/EIS and some very relevant regional projects are not included at all, making the DEIR/EIS incomplete. **31**

12

GR2

ORANGE COUNTY FIRE AUTHORITY
P.O. Box 57115, Irvine, CA 92619-7115 • 1 Fire Authority Road, Irvine, CA 92602
Keith Richter, Fire Chief (714) 573-6000 www.ocfa.org

July 5, 2012

Caltrans – District 12
c/o Smita Deshpande
2201 Dupont Drive, Suite 200
Irvine, CA 92612

Subject: I-405 Freeway Expansion

To Ms. Deshpande:

The Orange County Fire Authority (OCFA) provides fire protection and all-risk emergency response services for the City of Seal Beach. The OCFA has concerns regarding the impact of the expansion of the 405 freeway project; specifically the proposed reduction in the width of Almond Avenue in the City.

Almond Avenue is a collector road for the College Park East neighborhood. The area has predominately cul-de-sac streets with the sole access route being Almond Avenue. The project's current plan appears to impact access to this area by relocating the existing sound wall as much as ten (10) feet to the north and thereby narrowing this street.

Reduction of the width of the street can have an impact on OCFA's ability to respond to and operate at an emergency. Many of the fire engines and equipment that are used to provide service require larger than normal turning radius and full size streets. Typically our standards for this access are adopted into City ordinances to insure rapid response to emergencies.

OCFA is concerned by the proposed narrowing of this street which may hamper emergency response times and would encourage alternative options be considered and offered to the City. 1

Your consideration is appreciated.

Sincerely,

Rob Patterson
Division Chief
Orange County Fire Authority
8081 Western Avenue
Buena Park, California 90620
(714) 527-2790

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RESIDENTIAL SPRINKLERS AND SMOKE ALARMS SAVE LIVES

GR3

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Seal Beach
Stanton
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Villa Park
Yorba Linda
Costa Mesa Sanitary District
Midway City Sanitary District
Irvine Ranch Water District
County of Orange

July 26, 2012

RECEIVED JUL 30 2012 By Marie Cleary

Smita Deshpande, Branch Chief
Attn: 405 DEIR-DEIS Comment Period
Caltrans-District 12
2201 Dupont Drive, Suite 200
Irvine, CA, 92612

SUBJECT: Draft Environmental Impact Report / Environmental Impact Study for the San Diego Freeway (I-405) Improvement Project

This letter is in response to the above referenced Draft Environmental Impact Report/Study for a project within Orange and Los Angeles counties. The project site extends along the I-405 freeway between the SR-73 and I-605.

The Orange County Sanitation District (OCSD) is concerned with a few items:

1) Re-designation of the any of OCSD parcels or properties could limit OCSD's ability to provide sewerage services and will require an update of the Specific Plan for the Treatment Plant No. 1 site. The plan for OCSD property should be clearly described so OCSD can respond to potential impacts. 1
2) Potential impacts to the entrance to OCSD are not described in the document. OCSD needs 24-hour access to the entrance for plant operations. If there are planned closures of the entrance, the document should identify durations and detour routes. Also, there should be analysis of estimated impacts to those local streets that OCSD traffic will be diverted to including how emergency services will serve the site. 2
3) The front entrance is also the only access point for the hydrogen fuel-cell station. As one of the two stations in the area, accessibility is very important. Forecasting projections indicate an increased use of fuel-cell vehicles which will result in increased traffic volume. 3
4) There are several sewer lines that will need to be protected in place or relocated as a result of the freeway expansion, OCSD will need to review the plans for that portion of the work. 4
5) Dewatering to any sewer requires a Special Purpose Discharge Permit. 5

10844 Ellis Avenue • Fountain Valley, CA 92708-7018 • (714) 962-2411 • www.ocsd.com

GR3 Continued

Smita Deshpande
Page 2
July 26, 2012

OCSD staff will need to review/approve the water quality of any discharges and the measures necessary to eliminate materials like sands, silts, and other regulated compounds prior to discharge to the sanitary sewer system. 6

Thank you for the opportunity to comment on the proposed development. For planning issues regarding this project, please contact Jim Burror at (714) 593-7335.

Daisy Covarrubias

Daisy Covarrubias, MPA
Senior Staff Analyst

DC:sa
EDMS:003959837/1.12a

GR4

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4182
(909) 396-2000 • www.aqmd.gov

E-mailed: July 17, 2012
405.dedcomments.parsons@parsons.com

July 17, 2012

Ms. Smita Deshpande
Caltrans-District 12, "Attn: 405 DEIR-DEIS Comment Period"
2201 Dupont Drive, Suite 200
Irvine, CA 92612

Review of the Draft Environmental Impact Report (EIR) for the Interstate 405 (I-405) Project

The South Coast Air Quality Management District (AQMD) staff appreciates the opportunity to comment on the above mentioned document. The AQMD staff is concerned about potential air quality impacts of this proposed project and that the Draft EIR provides an air quality analysis that is not adequate to determine these potential impacts pursuant to AQMD Guidance and CEQA Guidelines. As a result, the air quality impacts may be understated in the Draft EIR and potentially significant impacts may not have been disclosed to the public. The lead agency generally concludes that the project will have a net environmental benefit by reducing regional air quality impacts by improving traffic flow and reducing congestion in the project area. AQMD staff recognizes and supports the benefits of decreased traffic congestion that can reduce exhaust emissions from cars and trucks. However, the proposed project could increase health risk impacts to residents in close proximity to the Interstate 405 (I-405) Freeway. The project will add at least one general purpose lane to the I-405 Freeway (within the project area) and could provide one additional general purpose or toll express lane in each direction. As a result, the additional freeway lanes placed closer to residences could potentially increase localized impacts. Further, the addition of lanes will increase freeway capacity and could have potential growth inducing impacts. 1

There are several areas in which the Draft EIR has not adequately addressed the potential for air quality impacts. These include the determination of the project's health risk impacts to surrounding sensitive receptors, local and regional air quality impacts, climate change impacts, the use of an inappropriate CEQA baseline for existing conditions, growth inducing impacts, the lack of quantification of mitigation measure effectiveness, and the lack of consideration of additional alternatives/mitigation that would reduce overall VMT. Further, the lead agency has not provided sufficient information to demonstrate that the project is a transportation control measure (TCM) as stated in the Draft EIR. Because of the technical inadequacies of the draft EIR the AQMD staff strongly recommends that the lead agency revise the air quality analysis based on the comments contained within this letter. 2

GR4 Continued

Ms. Smita Deshpande 2 July 17, 2012

Pursuant to Public Resources Code Section 21092.5, we request that the lead agency provide the AQMD with written responses to all comments contained herein prior to the adoption of the final EIR. Additional detailed comments on this project are attached to this letter. Should you have any questions, please contact Dan Garcia at (909) 396-3304. 3

Sincerely,

Ian MacMillan
Program Supervisor, CEQA Inter-Governmental Review
Planning, Rule Development & Area Sources

Attachment

IM:DG

ORC120523-02
Control Number

GR4 Continued

Ms. Smita Deshpande 3 July 17, 2012

Transportation Control Measure

1. Page 1-21 of the Draft EIR states that the proposed project qualifies as a Transportation Control Measure (TCM), but does not provide any information in the Draft EIR to support this determination. AQMD notes that our 2007 Air Quality Management Plan (AQMP) does not identify the proposed project as a TCM. While certain elements of the project alternatives in the Draft EIR may be applicable to TCM ORA00193, this measure alone does not qualify the project as a TCM. As shown in Table 1 below TCM ORA00193 is specific to the design of "HOV to HOV lane connectors," but this TCM captures only a small portion of the proposed project. Further, based on the operational emissions analysis the project will result in an increase of SOx, PM10 and PM2.5. Therefore, the AQMD staff strongly recommends that the lead agency provide clarification of the project's qualifications as a TCM. 4

Table 1: ORA000193 Listed in the 2007 AQMP

Final 2007 AQMP
June 2007

2007 AQMP TCM Projects (from 2006 RTIP)

Appendix IV-C

HOV Improvements - HOV Bypasses, Connectors, and New Interchange with Ramp Meters			
Lead Agency	**Project ID**	**Description**	**2006 RTIP Completion Date**
CALTRANS	12570	RTE. 57/60 HOV CONNECTOR INDUSTRY FROM OLD BREA CANYON ROAD TO GRAND AVENUE - HOV DIRECT CONNECTORS AND COLLECTOR ROAD (BOTH DIRECTIONS) (EA# 12570, PPNO# 0499G)	2007
CALTRANS	LA996134	RTE. 5/14 INTERCHANGE & HOV LNS ON RTE 14 - CONSTRUCT 2 ELEVATED LANES - HOV CONNECTOR (DIRECT CONNECTORS) (EA# 16600)(2001 CFP 0343) (PPNO 0168M)	2010
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA000193	SR-22/I-405 AND I-405/I-605 INTERCHANGES. DESIGN HOV TO HOV LANE CONNECTORS	2015
ORANGE, CITY OF	ORA990443	SR-22 AND CITY DRIVE INTERCHANGE IMPROVEMENTS. RECONFIGURE FREEWAY INTERCHANGE AT SR-22 FROM SR 57 TO LEWIS STREET - FROM 6/0 TO 6/2 LANES (ADDING 2 HOV LANES)	2007
RIVERSIDE COUNTY TRANS COMMISSION (RCTC)	RIV010212	ON SR91 - ADAMS TO 60/215 IC: ADD HOV LNS, AUX LNS (MADISON-CENTRAL), BRIDGE WIDENING & REPLACEMENTS, EB/WB BRAIDED RAMPS, IC MOD/RECONSTRUCT + SOUND/RETAINING WALLS	2013

Local Operational Air Quality Impacts

2. The lead agency did not conduct a localized air quality analysis or Health Risk Assessment (HRA) to determine how the construction or operation of the project may impact the residences, contrary to CARB, CAPCOA, and AQMD Guidance for projects that place sensitive receptors within close proximity of a freeway. According to the air quality analysis, over 1.5 million additional vehicles miles traveled per day will occur on this segment of the I-405 Freeway. Because of the project's widening of the freeway, the emissions source will be located closer to adjacent residents. The lead agency did not analyze the potential impacts to all local ambient air quality standards from this activity, nor did it evaluate potential health risks. Localized high pollutant concentrations found in close proximity (e.g., 500 feet) of a freeway have been associated with a myriad of potential adverse health effects, including potential increases in cancer risk, increased rates of asthma, decreased lung function, and other adverse health outcomes (see Chapter 9 of the Draft 2012 AQMP for further details). 5

The lead agency relied on guidance from the Federal Highway Administration to quantify overall mobile source toxics emissions and determined that the project would result in a 6

GR4 Continued

overall decrease of MSATs, therefore, the project would have insignificant impact on sensitive receptors. Pollutant concentrations are a result of total emissions in addition to site-specific characteristics such as proximity to the source, meteorology, and topography. The Draft EIR is therefore insufficient for determining potential health risk impacts to sensitive receptors from the project and it ignores section 15064 of the CEQA Guidelines that requires *substantial evidence* to determine the significance of an impact. Furthermore, Caltrans has relied on an HRA for other CEQA documents including the Schuyler Heim Bridge project and the I-710 corridor expansion project. Therefore, AQMD staff recommends that the lead agency revise the air quality analysis to include a HRA for the proposed project. Further, the lead agency is strongly encouraged to, at a minimum, identify the total number of residences within 500 ft of the project's boundary (as measured from the outermost travel lane) in the existing condition and for each alternative. Even though some project alternative may have lower MSAT emissions, there may be a greater number of people exposed to these emissions. 6 7

Construction Emissions Analysis

3. The peak daily construction emissions presented in Table 3.2.6-8 of the Draft EIR demonstrates significant NOx emissions impacts from the project in comparison to AQMD regional thresholds; however, the lead agency determined that the proposed project will have insignificant impacts from construction related activities. Specifically, the lead agency concluded that the project's construction emissions would be less than significant as a result of the temporary (four and a half years) nature of the project's construction activity combined with the implementation of air quality measures AQ-1 through AQ-14. However, the lead agency did not quantify the effectiveness of the air quality measures or substantiate why its classification of temporary construction emissions are not subject to regional emissions significance thresholds. Therefore, AQMD staff recommends that the lead agency provide a revised air quality analysis that quantifies the effectiveness of the project's air quality measures (AQ-1 through AQ-14) and uses the AQMD's construction emissions thresholds to make a significance determination.[1] 8

Further, given that construction activity for the project may result in a temporary increase of traffic congestion (as stated on page 3.2.6-28 of the Draft EIR) the AQMD staff recommends that the lead agency's revised analysis account for any emissions increase resulting from this congestion in the construction emissions analysis. Also, the lead agency's revised emissions analysis should reflect the most current version of RoadMod 7.1.1. 9

Climate Change Impacts

4. On page 4-57 of the Draft EIR, the lead agency states, "… it is CalTrans determination, that in the absence of regulatory or scientific information related to greenhouse gas emissions and CEQA significance, it is too speculative to make a determination of the project's direct impact and its contribution on the cumulative scale to climate change," AQMD staff refers the lead agency to Section 15064.4(b)(2) of the CEQA Guidelines, that state, "whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project." AQMD staff therefore requests that the lead agency revise the project's 10

[1] http://www.aqmd.gov/ceqa/hdbk.html

GR4 Continued

greenhouse gas emissions analysis to include a determination of significance, and, if necessary, feasible mitigation measures. 10

CEQA Baseline

5. The lead agency used an incorrect CEQA baseline throughout the analysis to determine the significance of impacts. Pursuant to Section 15125 of the CEQA Guidelines, the existing environmental setting "at the time that environmental assessment commences . . . will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant." Instead of using this required methodology, the lead agency chose to compare a hypothetical and speculative future scenario without the project to one with the project to determine CEQA and NEPA impacts. This speculative approach is contrary to CEQA requirements and serves to underestimate potential impacts. 11

Growth Inducing Impacts

6. Page 2.2-3 of the Draft EIR Traffic Study states "For the I-405 Improvement Project a single demand forecast was prepared. Forecasts for each of the alternatives utilize the same total traffic volumes on a segment but redistribute volumes among the different lane types, as necessary." However in Appendix A2 of the Traffic Study, each alternative is shown to have different total traffic volumes and VMT. The No-Build Alternative has the lowest volume, with progressively higher volumes for each alternative up to a maximum for Alternative 3. The lead agency should clarify how the future traffic volumes were determined and reconcile the above quoted text with the volumes presented in Appendix A2 and elsewhere in the CEQA document. For example, the current reported volumes indicate that alternatives with more widening have higher volumes. It would therefore appear that the project is inducing growth as the widened freeway would be a trip attractor. It is also not clear if the additional capacity allowed by Alternatives 2 and 3 are accounted for in the recently approved RTP/SCS. This additional capacity may have the possibility of inducing growth in the area that have additional impacts beyond those discussed in the Draft EIR. Any growth inducing impacts from potential project alternatives should be analyzed pursuant to CEQA Guidelines §15126 (d) prior to approving the Final EIR. 12 13

MSAT Analysis

7. The air quality analysis in the Draft EIR uses the CT-EMFAC tool to estimate potential toxic emissions from the proposed project alternatives. The worksheets from the year 2040 analysis are contained in the appendices to the Air Quality Technical Study. These worksheets use the following assumptions in Table 2 below to determine potential toxic emissions. 14

Table 2 MSAT Analysis Assumptions

Alternative	VMT (peak hours)	VMT (off peak hours)	Total VMT	Peak Hour speed	Off Peak Hour Speed
No Build	1,357,853	1,555,211	2,913,064	5	65
Alternative 1	1,357,853	1,555,211	2,913,064	15	65
Alternative 2	1,357,853	1,555,211	2,913,064	40	65
Alternative 3	1,357,853	1,555,211	2,913,064	50	65

GR4 Continued

Ms. Smita Deshpande 6 July 17, 2012

It is unclear how the VMT assumptions in Table 2 above correspond to the VMT reported in Appendix A2 of the Draft EIR Traffic Study. In this appendix, the VMT ranges from a low of 4,618,000 for the No Build alternative to 5,631,000 for Alternative 3. The existing condition VMT from this appendix is listed as 4,063,000. The discrepancy between the VMT reported in the traffic study and the VMT used in the MSAT analysis should be revised in the Final EIR. 14

The assumptions regarding traffic speed for each alternative are simplified, and may not accurately reflect potential impacts from this project. For example, it is unclear if the Peak Hour Speeds listed in Table 2 above are consistent with the expected speeds from the traffic study for each section of the freeway. Because toxic emissions can have a highly localized impact, the calculation of toxic emissions budgets should be undertaken on a much finer scale and consistent with project links identified and analyzed in the traffic study. Speeds should be evaluated for each section and made consistent with the predicted traffic flow of that section. 15

Bottleneck at North End of Project

8. The proposed project includes a bottleneck at the north end of the project site at the junction with the I-605 freeway. For example, the freeway may go from up to 10 lanes in the project area down to 5 lanes in the adjacent existing freeway section in a very short distance. While the No Build Alternative includes a volume increase of only 15% at this section, Alternative 3 may increase volume by 38%, or 142,000 extra vehicles per day (Appendix A2, Draft EIR Traffic Study). The project area may have the capacity to handle this traffic volume, but it is not clear that the adjacent freeway section will be able to accommodate the same volume. With the increase in traffic volume that is induced and/or accommodated by this project, the lead agency should present an analysis of the potential regional and localized air quality impacts from the proposed bottlenecking at this location. 16

Increase in VMT

9. The proposed project may add up to 1.5 million miles of new vehicular travel along the project length. However there is little discussion of potential project alternatives that may instead reduce vehicular travel, and the potential emissions from these vehicles. This could include additional Bus Rapid Transit (BRT) lines, fixed guideway transit, and zero/near-zero emission technology alternatives. These alternatives are either not discussed or quickly dismissed in the alternatives analysis without the adequate discussion of their potential utility in serving the transportation needs of this region. The South Coast Air Basin needs to reduce NOx emissions by approximately two thirds above and beyond adopted regulations by 2023 in order to meet Ambient Air Quality Standards required by the Clean Air Act (see the Draft 2012 AQMP for further discussion of regional air quality issues). Because the majority of NOx emissions come from mobile sources, significant effort needs to be made for all transportation projects to ensure that they reduce emissions to the maximum extent feasible. 17

GR4 Continued

Ms. Smita Deshpande 7 July 17, 2012

Conformity Analysis

10. Alternatives two (2) and three (3) of the proposed project are not currently programmed in the Regional Transportation Plan and if selected as the lead agency's preferred alternative would require a revised conformity analysis. Therefore, the AQMD staff requests that in the event that Alternative 2 or Alterative 3 are selected the lead agency clarify whether the project will demonstrate conformity consistent with EPA's updated quantitative Hot-Spot Analyses Guidance Document [Federal Register, FRL-9241-3]. The lead agency should disclose to the public any new information relative to the projects conformity analysis 18

Operational Emissions Analysis

11. AQMD staff requests that the lead agency update two aspects of its estimation of potential criteria pollutant emissions during operation of the project. First, the estimate of VMT on segments of the project does not appear to match estimates from the Draft EIR traffic study. For example, in Appendix D of the Air Quality Technical Study in the Draft EIR, the SR-73 to Brookhurst section includes a total of 1,029,979 miles of daily vehicle travel. However Appendix A2 of the Traffic Study Appendix in the Draft EIR shows a total of 1,053,000 daily VMT for this section. The total VMT for all sections of the project should be reviewed and updated as necessary to ensure the traffic study matches the air quality study. 19 Second, the analysis uses EMFAC 2007 to estimate emissions for future years. The state Air Resources Board has released the updated EMFAC 2011 that updates vehicle emission factors. The Final EIR should present an estimate of operational emissions using these updated emissions factors. 20

GR5

SOUTHERN CALIFORNIA
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July 16, 2012

Ms. Smita Deshpande
Branch Chief, Caltrans-District 12
Attn: 405 DEIR-DEIS Comment Period
2201 Dupont Drive, Suite 200
Irvine, CA 92612

RE: **San Diego Freeway Interstate 405 (I-405) Improvement Project**

Dear Ms. Deshpande:

On behalf of the Southern California Association of Governments (SCAG), the designated Metropolitan Planning Organization for the six county region consisting of Ventura, Los Angeles, Orange, San Bernardino, Riverside, and Imperial Counties, I am writing regarding the Orange County Transportation Authority's (OCTA) San Diego Freeway I-405 Improvement Project, currently undergoing public comment following release of the Draft Environmental Impact Report/Environmental Impact Statement (DEIR/EIS).

The I-405 Improvement Project proposes to widen the I-405 corridor in Orange County for approximately 16 miles between 0.2-mile south of Bristol Street and 1.4 miles north of I-605, as well as portions of State Route 22 (SR-22), State Route 73 (SR-73), and Interstate 605 (I-605). The proposal would either (Alternative 1) add one general purpose (GP) lane in each direction between Euclid Street I-605; or (Alternative 2) add two GP lanes in each direction between Brookhurst/Euclid Streets and I-605; or (Alternative 3) add one GP lane between Euclid Street and I-605 and one tolled Express Lane in each direction between SR-73 and SR-22 East, with the tolled Express Lanes and existing HOV lanes to be managed jointly as a tolled Express Facility with two lanes in each direction between SR-73 and I-605.

The project seeks to reduce congestion, increase mobility, improve trip reliability, maximize throughput, and optimize operations while minimizing environmental impacts and right-of-way (ROW) acquisition to one of the nation's busiest corridors.

Alternative 3 of this project is included in the 2012–2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) with project ID ORA030605. The project is included within the financially constrained portion of the RTP/SCS.

To ensure regional connectivity, SCAG encourages continued cooperation and collaboration with the Los Angeles County Metropolitan Transportation Authority, Caltrans District 7, and the affected subregions, to address regional mobility beyond county lines and we would be pleased to participate in such efforts as appropriate. **1**

Sincerely,

Hasan Ikhrata
Executive Director

CC: Will Kempton

The Regional Council is comprised of 84 elected officials representing 191 cities, six counties, six County Transportation Commissions and a Tribal Government representative within Southern California.

2012.05.07

GR6

San Joaquin Hills Corridor Agency
Chairman:
Scott Schoeffel
Dana Point

Transportation Corridor Agencies

Foothill/Eastern Corridor Agency
Chairman:
Bill Campbell
County of Orange
3rd District

June 14, 2012

Ms. Smita Deshpande
Caltrans – District 12
"Attn: 405 DEIR-DEIS Comment Period"
2201 Dupont Drive, Suite 200
Irvine, CA 92612

RE: Comments on the Draft Environmental Impact Report/Environmental Impact Statement for the I-405 Improvement Project in Orange County

Dear Ms. Deshpande:

The San Joaquin Hills Transportation Agency (TCA) appreciates the opportunity to review and provide comments on the Draft Environmental Impact Report/Environmental Impact Statement (DEIR/EIS) for the I-405 Improvement Project. TCA commends the California Department of Transportation (Caltrans) and the Orange County Transportation Authority (OCTA) staff for the tremendous amount of work and effort in putting these documents together. TCA also recognizes and supports the implementation of these important corridor improvements that enable the Orange County region to address its growing population and its need for additional capacity along its existing transportation corridors.

Please find below TCA's specific comments on the DEIR/EIS.

1. Given the congestion that occurs with traffic connecting to and from State Route 73 (SR 73) with I-405, TCA suggests that Alternative 3 be selected as the preferred alternative for the I-405 improvement project. The inclusion of the direct connection ramps with SR 73 will provide an uncongested entry point of I-405 traffic to and from SR 73. The direct connector is expected to improve safety by reducing the need of HOV or Express Lane motorists to weave across 4 or more GP lanes to access SR 73. **1**
2. Priced facilities are an especially important tool for providing intra-county, inter-county and interregional capacity. Should Alternative 3 be selected as the preferred alternative, TCA requests that further consideration be given that the future lanes on SR 73 between **2**

Thomas E. Margro, Chief Executive Officer

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GR6 Continued

Ms. Smita Deshpande
June 14, 2012
Page 2

Jamboree Boulevard and the I-405/SR 73 direct connector, be evaluated for Express Lanes. This would provide a seamless toll-to-toll connection between the 73 Toll Road and I-405. **2**

3. The TCA also commends Caltrans and OCTA for identifying FasTrak as the preferred technology to collect user fees for any potential HOT lane alternative. The FasTrak technology will ensure regional inter-operability between all existing Express Lanes, HOT lanes and toll roads, as well as provide a convenience for drivers using this common technology. **3**

4. While the proposed build alternatives all appear to increase mobility throughout the study area, construction of these alternatives has the potential to negatively impact traffic and therefore, toll revenue on the San Joaquin Hills Transportation Corridor 73 Toll Road. We request that Caltrans and OCTA minimize these impacts by providing closures only during non-peak traffic times and in close coordination with TCA staff. **4**

5. TCA has a changeable message sign within State right of way facing southbound traffic at Harbor Boulevard and I-405. The project should provide for any relocation of this sign and its appurtenances as necessary for the implementation of the project elements. **5**

6. TCA would like to review and provide input to any changes to the existing advanced signage related to the 73 Toll Road within the project area. **6**

Again, we thank you for the opportunity to review the DEIR/EIS and we look forward to the final EIR/EIS for the project. Should you have any questions or require any clarification regarding these comments, please feel free to contact Ms. Valarie McFall, Director, Environmental Services at 949.754.3475 or via email at vmcfall@thetollroads.com.

Sincerely,

Scott Schoeffel, Chair
San Joaquin Hills Transportation Corridor Agency

cc: TCA Board of Directors
Will Kempton, OCTA

RESPONSE TO GOVERNMENT (REGIONAL) COMMENTS (GR)

Response to Comment Letter GR1

Comment GR1-1

Caltrans and OCTA thank Gateway Cities Council of Governments (COG) for participating in the environmental process for the I-405 Improvement Project. COG's comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. COG will be notified at the address provided in your comment when the Final EIR/EIS is available.

Please see Common Response – Coordination between Caltrans Districts 7 and 12, OCTA, Los Angeles Metro, COG, and the City of Long Beach.

The Notice of Preparation (NOP) was circulated through the Office of Planning and Research State Clearinghouse, sent for posting to local libraries in surrounding cities, and posted online on OCTA's and Caltrans' Web sites. The City of Long Beach provided comments on the NOP (see Comment Letter GL11 and Responses to Comments GL11-1 through GL11-38).

Comment GR1-2

COG has provided, and Caltrans has considered, the studies listed below in terms of how the potential projects identified in the studies relate to the I-405 Improvement Project, described in Response to Comment GR1-13.

- SR-91/I-605 Needs Assessment Study, September 2005
- Orange and Los Angeles Intercounty Transportation Study – Corridor Mobility Problem and Purpose and Need Report, February 6, 2008
- SR-91/I-605/I-405 Initial Corridor Studies, April 2008
- SR-91/I-605/I-405 Congestion Hot Spots – Arterial Intersection Congestion Analysis Report, May 29, 2012
- SR-91/I-605/I-405 Congestion Hot Spots – Model Run Summary Notebook, June 28, 2012
- SR-91/I-605/I-405 Congestion Hot Spots – Gateway Cities Transportation Strategic Plan – Phase I, July 2012
- SR-91/I-605/I-405 Congestion Hot Spots – Freeway Congestion Analysis Report, July 24, 2012

Comment GR1-3

There has been substantial coordination with COG, the City of Long Beach, Los Angeles Metro, and Caltrans District 7, as summarized in Common Response – Coordination between Caltrans Districts 7 and 12, OCTA, Los Angeles Metro, COG, and City of Long Beach.

A Supplemental Traffic Study has been prepared and a Supplemental Draft EIR/EIS prepared and circulated covering the potential traffic impacts in Los Angeles County. The analysis and measures presented in the Supplemental Draft EIR/EIS are included in Section 3.1.6 of the Final EIR/EIS. It is noted that the report *SR-91/I-605/I-405 Congestion Hot Spots – Model Run Summary Notebook* (June 28, 2012) prepared by the commenting agency provides a comparison of the 2035 forecast traffic volumes for its No Build Alternative and I-405 Alternative 3. On page 42 of that report, the table reporting Daily Freeway Traffic volumes in 2035 shows a zero percent difference between the No Build Alternative and I-405 Alternative 3 on I-405 west of I-605 and a 0.5-percent increase in traffic on I-605 south of SR-91.

It would be inappropriate for the I-405 Improvement Project to utilize traffic studies prepared for other projects because those traffic studies make a variety of assumptions regarding background networks, future projects, forecast years, and other variables that may be inconsistent with the traffic study prepared for the I-405 Improvement Project.

With respect to coordination of transportation planning activities, please see Response to Comment GR1-1.

Comment GR1-4

A Supplemental Traffic Study has been prepared and a Supplemental Draft EIR/EIS prepared and circulated covering potential traffic impacts in Los Angeles County. The analysis and measures presented in the Supplemental Draft EIR/EIS are included in Section 3.1.6 of the Final EIR/EIS.

OCTA has an ongoing planning process for the identification of transit improvements needed throughout Orange County, including connections into Los Angeles County, which is the appropriate process to be followed for coordination of transit services at the county line.

Comment GR1-5

The referenced statement in the Executive Summary, “The northern terminus of the proposed project is at the interchange of I-405 and I-605.” has been revised to “The northern extent of major construction activities is at the interchange of I-405 and I-605.” As described in the first paragraph of the same Section S.3, Project Description, it is stated that the project extends into Los Angeles County on both I-405 and I-605 “…and in Los Angeles County from the county line (07-LA-405 PM 0.00) to 1.4 miles north of I-605 (07-LA-405 PM 1.2),” “….and in Los Angeles County from the county line (07-LA-605 PM R0.0) to 0.9-mile north of the Spring Street Overcrossing (07-LA-605 PM R1.2).” The document represents work in Los Angeles County and on SR-22 as “….signing and striping to accommodate the transition from the existing to the proposed facility.”

Comment GR1-6

The commenter stated that the project should "include multi-modal alternatives to integrate multiple forms of transportation modes, such as pedestrian, bicycle, automobile, and transit." These are potential components of TSM, as described in Section 2.2.3. The project includes multimodal components. As described on page 3.1.6-103 of the Draft EIR/EIS: "Pedestrian facilities along both sides of the street are proposed for 13 of the 17 arterials crossing I-405 that do not currently have pedestrian facilities on both sides of the arterial at the crossing or on the approaches to the crossing." On the same page, it is noted that all three build alternatives would provide pavement to accommodate standard Class 2 bikeways for all of the existing Class 2 bikeways and five planned bikeways that do not currently exist. As described in Section 2.2.7, Alternatives Considered but Eliminated from Further Discussion, of the Draft EIR/EIS, TSM and TDM components, including multimodal alternatives, were included and evaluated in various forms in the initial 13 MIS alternatives (see Section 2.2.4). All of the alternatives included park-and-ride facilities, as well as either enhanced local bus service, express bus service, or both. Although a TSM/TDM Alternative as an effective stand-alone alternative does not meet the project purpose, as explained in Section 2.2.7, Alternatives Considered but Eliminated from Further Discussion, the PDT identified the proposed TSM and TDM elements for the corridor. These elements would be implemented as part of Alternatives 1, 2, and 3, as described in Section 2.2.1, Common Design Features of the Build Alternatives, and include the following:

- Improved ramp metering hardware and software and closed-circuit television systems for viewing ramps and nearby arterials;
- At locations of interchange improvements, upgraded traffic signals interconnected and coordinated with adjacent signals and ramp meters;
- Additional way-finding signs on freeways and arterials;
- Design of on- and off-ramps to limit impacts to nonmotorized travel and preserve access to bike lanes and trails such as the Santa Ana River bike trail;
- Intelligent Transportation Systems (ITS) elements, including fiber-optic and other communication systems for improved connectivity and remote management; changeable message signs; closed-circuit television coverage of the entire freeway mainline, ramps, and adjacent arterials; video detection systems; and vehicle detection systems for volume, speed, and vehicle classification;
- Advanced Traffic Management System improvements to the hardware and software systems at the Caltrans District 12 Traffic Management Center; and
- Traveler Information Management System improvements to enhance dissemination of real-time information on roadway conditions.

Comment GR1-7

Except as described below, Caltrans concurs with the characterization of the text from the Draft EIR/EIS:

- Second paragraph should have read, "Table S-1 on Page S-14…" In addition, the quoted text should also have read "Implementation of the proposed project is anticipated to result in a beneficial effect on neighborhoods and community cohesion by reducing cut-through traffic within the adjacent neighborhoods."

Section S.6 has been revised to include the following statement: "Numerous meetings were held with officials of the Gateway Cities Council of Governments, Los Angeles Metropolitan Transportation Agency, Caltrans District 7, and the City of Long Beach to coordinate a variety of topics related to the proposed project."

Tables 5-1 and 5-2 of the Draft EIR/EIS have been revised in the Final EIR/EIS to include the COG, Los Angeles Metro, and Caltrans District 7, as appropriate.

Comment GR1-8

Please see Response to Comment GR1-5.

Comment GR1-9

The purpose of the proposed action, as discussed in Section 1.2.1 of the Draft EIR/EIS, is to reduce congestion; enhance operations; increase mobility, improve trip reliability, maximize throughput, and optimize operations; and minimize environmental impacts and ROW acquisition. In furtherance of the project's purpose, the following objective is established: To be consistent with regional plans and find a cost-effective early project solution for delivery. The latter is not the purpose of the project; it is an objective of the project as described above.

Table 1-2 of the Draft EIR/EIS shows Existing and Projected 2020 and 2040 LOS and v/c ratios for the northbound lanes only. The data are provided for the existing and future no-build conditions only and show continued degradation of LOS and v/c throughout the corridor if nothing is done.

Table 3.1.2-1 in Section 3.1.2.2 was updated in the Final EIR/EIS to include growth projections for Los Angeles and Long Beach, and Long Beach State and Long Beach Airport were included in the discussion of employment centers; however, it should be noted that work in Los Angeles County (i.e., striping and signing) is required for Alternative 3 only and will have no effect on growth-related project effects.

Comment GR1-10

The bottlenecks on I-405 referred to in the text on page 1-14 of the Draft EIR/EIS refer to bottlenecks within the proposed project limits. The text has been revised to make this clear. Discussion related to the traffic bottleneck on the southbound I-605 connector to I-405 southbound was added to Section 3.1.6 of the Final EIR/EIS. Alternatives 1 and 2 provide a second receiving lane on I-405 southbound at the merge point of the ramp from I-605 southbound to I-405 southbound. The Alternative 3 design does not provide this second receiving lane.

Comment GR1-11

Please see Response to Comment GR1-2 and Common Response – Coordination between Caltrans Districts 7 and 12, OCTA, Los Angeles Metro, COG, and the City of Long Beach.

Comment GR1-12

Please see Response to Comment GR1-3.

Comment GR1-13

Projects included in the RTP and FTIP were considered in determining that the project would not prevent the implementation of other future improvements. Consideration of additional potential projects currently in the planning stage and noted below has been included in the Final EIR/EIS in Section 1.2.2.7, Independent Utility and Logical Termini.

Projects currently being planned in Los Angeles County to widen I-405 by one or two lanes in each direction and/or to include Express Lanes are still in the early planning stages. The *SR-91/ I-605/I-405 Congestion Hot Spots* study prepared by Los Angeles Metro and the COG in 2012 is the most recent planning document that includes and evaluates potential improvements along the I-405 and I-605 corridors north of the I-405/I-605 interchange. Preparation of Project Study Reports covering discrete portions of SR-91, I-605, and I-405 is the next step in advancing projects in this area.

The *SR-91/I-605/I-405 Congestion Hot Spots* study includes three concepts for improvements on I-405 and I-605 north of their interchange. The concepts provide for the addition of one or two lanes in each direction on I-405 in Los Angeles County north of the I-405/I-605 interchange. Because the I-405 Improvement Project in Orange County would terminate improvements (except for signing and striping associated only with the Express Lane transitions in Alternative 3) within Orange County, none of the concepts considered in the *SR-91/I-605/I-405 Congestion Hot Spots* study would be precluded by the I-405 Improvement Project in Orange County. Widening of I-405 in Los Angeles County north of I-605 would effectively continue the I-405

Improvement Project in Orange County as far north as Temple Avenue in Long Beach and would represent a complementary improvement to the improvements proposed south of the I-405/I-605 interchange in Orange County. Adjustments to Express Lane transition areas, which consist of signing and striping, in Los Angeles County may be required if Alternative 3 is identified as the Preferred Alternative and Express Lanes are not included in a future widening of I-405 in Los Angeles County. Express Lanes are a potential alternative for widening in Los Angeles County because this corridor is identified as part of the Express Lane network identified in the 2012 RTP.

The *SR-91/I-605/I-405 Congestion Hot Spots* study includes potential improvements on I-605 and north of the I-405/I-605 interchange. The potential improvements include improvements to the Katella Avenue/Willow Street and Spring Street/Cerritos Avenue interchanges and a northbound auxiliary lane north of Spring Street. Because the I-405 Improvement Project in Orange County would terminate improvements to I-605, except for signing and striping associated only with the Express Lane transitions in Alternative 3, south of Katella Avenue, none of the concepts considered in the *SR-91/I-605/I-405 Congestion Hot Spots* study would be precluded by the I-405 Improvement Project in Orange County.

The *SR-91/I-605/I-405 Congestion Hot Spots* study identifies the I-605/I-405 interchange as an area of improvement; however, no details of the improvements are provided other than provision for a dual-lane branch connector from I-605 southbound to northbound I-405. Page 56 of the COG's *SR-91/I-605/I-405 Initial Corridors Study* (April 2008) and the COG's *SR-91/I-605 Needs Assessment Study* (September 2005) identify the I-605 southbound merge onto southbound I-405 as a congestion problem due to the narrowing of the I-605 approach onto I-405 to a single lane. Please see Response to Comment GR1-10.

Section 1.2.2.7, Independent Utility and Logical Termini, of the Final EIR/EIS identifies planned projects to widen I-405 in Los Angeles County and to improve the I-605/I-405 interchange. The section also indicates that none of these projects would be precluded based on the extent to which the projects are currently defined.

The statement on page 1-24 of the Draft EIR/EIS referenced in the comment is accurate in that the proposed alternatives would not change or restrict other foreseeable improvements or affect the HOV lanes outside of the project limits. Quantitative analysis is not necessary to support this statement. No projects have been identified that the proposed project would restrict, and the proposed project does not change the HOV lanes beyond the project limits.

Comment GR1-14

Only Alternative 3 would require work in Los Angeles County. Project layouts for Alternative 3, including those in Los Angeles County, are provided in Appendix P3 (L-31 through L-36) of the Final EIR/EIS. Layouts L-31 through L-36 show the lane configurations and transitions within Los Angeles County.

Comment GR1-15

Consistency with regional plans is discussed in Section 3.1.1.2, Environmental Consequences, in the Final EIR/EIS.

Comment GR1-16

The description of the TSM/TDM elements of each of the build alternatives is presented on page 2-17 of the Draft EIR/EIS. The Draft EIR/EIS identifies what TSM/TDM elements are proposed for inclusion in the project and the potential impacts of their implementation. The TSM/TDM and transit improvements noted in the *Orange County/Los Angeles County Inter-County Transportation Study* (Inter-County Study) include general transit improvements, such as the need for additional transit service across the Orange/Los Angeles county line, particularly with respect to services not focused on local transit malls (page 111). OCTA has an ongoing planning process for the identification of transit improvements needed throughout Orange County, including connections into Los Angeles County, which is the appropriate process to be followed for coordination of transit services at the county line. The Inter-County Study (page 117) also recommends consideration of ramp metering, traffic monitoring, and congestion pricing. Ramp metering and traffic monitoring are included in the TSM/TDM items included in all of the build alternatives as stated on page 2-17 of the Draft EIR/EIS. Congestion pricing is included in the Express lanes of Alternative 3. Please see also Response to Comment GR1-6.

Comment GR1-17

A Supplemental Traffic Study has been prepared and a Supplemental Draft EIR/EIS prepared and circulated covering potential traffic impacts in Los Angeles County. The analysis and measures presented in the Supplemental Draft EIR/EIS are included in Section 3.1.6 of the Final EIR/EIS.

Comment GR1-18

A Supplemental Traffic Study has been prepared and a Supplemental Draft EIR/EIS prepared and circulated covering potential traffic impacts in Los Angeles County. The Supplemental Traffic Study and the Supplemental Draft EIR/EIS provide information regarding future traffic operations along freeways in Los Angeles County under each of the alternatives. The analysis presented in the Supplemental Draft EIR/EIS is included in Section 3.1.6 of the Final EIR/EIS.

The GP lanes are improved in Alternative 3 as a result of its Express Lanes. As shown in Tables 3.1.6-5 and 3.1.6-13, LOS in the GP lanes is F but, as also shown in the tables, v/c ratios are lower in the GP lanes under Alternative 3 than under the No Build Alternative. Under LOS F conditions, traffic flow is below capacity and anticipated to be less than traffic flow per lane in the Express Lanes under LOS D conditions shown in those same tables. Because flow is higher in the Express Lanes, traffic would be attracted from the GP lanes to the Express Lanes, reducing the volume in the GP lanes and enhancing GP lane operations.

Slow-moving congested freeway lanes have lower and unstable throughput compared to uncongested lanes. During peak periods, the GP lanes on I-405 are forecast to be heavily congested with lower throughput (approximately 1,200 vehicles per hour per lane [vphpl]) than the Express Lanes, whose throughput would be managed to approximately 1,700 vphpl. For an explanation of how this management works, see page 2-20 of the Draft EIR/EIS. By providing more throughput per lane through management of the Express Lanes, traffic in the GP lanes would be reduced and congestion eased; for two conditions with the same total number of lanes and congested conditions, congestion in the GP lanes would be less if two of the lanes were managed to increase their throughput. See the rows of Table 3.1.6-14 labeled "Brookhurst Street to SR-22 East" for a comparison of the throughput of Build Alternatives 2 and 3 with the same total number of lanes.

The Traffic Study (Draft EIR/EIS Appendix L) provides analysis of traffic operations at the northern end of the project as shown in Tables 2.3.1, 2.4.1, 2.4.2, 2.5.1, 2.5.2, 2.6.1, 2.6.2, 2.7.1, and 2.7.2. The Draft EIR/EIS summarizes the operations on the branch connectors at the SR-22/ 7th Street and I-605 interchanges in Tables 3.1.6-9 and 3.1.6-15. The transition areas at the ends of the Express Lanes along I-405 and I-605 near the northern terminus of the proposed project are presented in Table 3.1.6-17 of the Draft EIR/EIS. Interchanges and operations along I-405 and I-605 north of the project limits are included in the Supplemental Traffic Study and the Supplemental Draft EIR/EIS. See also Common Response – Traffic Flow at the Orange County/ Los Angeles County Line.

Comment GR1-19

With respect to queuing at the northern end of the project, please see Response to Comment GR1-3 and Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Weaving analysis is presented in the Traffic Study (Draft EIR/EIS Appendix L) in Tables 2.3.3, 2.4.6 through 2.4.8, 2.5.6 through 2.5.8, 2.6.6 through 2.6.8, and 2.7.6 through 2.7.8. The transition areas at the termini of the Express Lanes in Alternative 3 are not weaving areas, but their analysis is presented in Table 3.1.6-17 of the Draft EIR/EIS.

The proposed project is not a safety project.

Comment GR1-20

The coordination with Los Angeles County referenced in the comment has been accomplished with the adoption of the RTP. If Alternative 3 becomes the Preferred Alternative, Caltrans and OCTA would be implementing an element of regional coordination embodied in the RTP. Currently, there are no projects programmed for I-405 within or immediately north of the project area of the I-405 Improvement Project in Orange County. Please see also Common Response – Coordination between Caltrans Districts 7 and 12, OCTA, Los Angeles Metro, COG, and the City of Long Beach.

Comment GR1-21

Table 3.1.6-17 of the Draft EIR/EIS shows the Alternative 3 Express Lane transition area, and it is labeled "I-405 – I-605 to San Gabriel." Page 3.1.6-102 discusses the findings of the I-405 Traffic Study. Gateway Cities COG has not conducted a study that evaluates the branch connectors at the I-405/I-605 interchange assuming Express Lanes on I-405 and on the direct connector between I-605 and I-405.

Comment GR1-22

The Supplemental Traffic Study and the Supplemental Draft EIR/EIS include analysis for both ends i.e. north (I-605) and south (I-405) termini of the project supporting project's long-term benefits for transportation network as well as intersection circulation improvement, and congestion reduction. This analysis is included in Section 3.1.6 of the Final EIR/EIS. For further details, please see Response to Comment GR1-18 and Common Response – Traffic Flow at the Orange County/ Los Angeles County Line.

Comment GR1-23

All projects included in the RTP and local projects that have received environmental clearance were included in the traffic forecasting process. Projects included in cumulative analysis are limited to those reasonably foreseeable projects listed in Table 3.6-1 of the Draft EIR/EIS.

Table 3.6-1 was updated to include additional projects within Los Angeles County, as determined applicable by the PDT.

Comment GR1-24

As described in Section 3.6.5.5, Community Impacts, of the Draft EIR/EIS, the resource study area (RSA) for the community impact assessment includes the localized area within the project limits and surrounding vicinity within a 0.5-mile radius of the I-405 corridor. This would include those portions of Long Beach and Los Angeles County shown in Figure 3.1.4-1. Additional

discussion of pertinent community data for Long Beach and Los Angeles County has been incorporated throughout the Final EIR/EIS for the build alternatives, as applicable.

Comment GR1-25

Please see Responses to Comments GR1-1 through 3, 10, 11, 13, and 17 through 22, and Common Response – Coordination between Caltrans Districts 7 and 12, OCTA, Los Angeles Metro, COG, and the City of Long Beach.

Comment GR1-26

Please see Responses to Comments GR1-1 and GR1-3.

Comment GR1-27

Please see Response to Comment GR1-25.

Comment GR1-28

Please see Responses to Comments GR1-3 and GR1-25 and Common Response – Coordination between Caltrans Districts 7 and 12, OCTA, Los Angeles Metro, COG, and the City of Long Beach.

Comment GR1-29

Please see Responses to Comments GR1-6 and GR1-16.

Comment GR1-30

Please see Responses to Comments GR1-1 and GR1-3.

Comment GR1-31

Please see Response to Comment GR1-13.

Response to Comment Letter GR2

Comment GR2-1

Caltrans and OCTA thank the Orange County Fire Authority (OCFA) for participating in the environmental process for the I-405 Improvement Project. OCFA's comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. OCFA will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Response to Comment Letter GR3

Comment GR3-1

Caltrans and OCTA thank the Orange County Sanitation District (OCSD) for participating in the environmental process for the I-405 Improvement Project. OCSD's comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. OCSD will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

The proposed project improvements for the three build alternatives are shown in Draft EIR/EIS Appendix P, Project Plans (P1, P2, and P3), on sheet L-2 of the Draft EIR/EIS. It is not anticipated that the improvements will impact access or operations of the sewer facilities within the OCSD vicinity. Refer to Draft EIR/EIS Appendix K (K1), Utility Plan Sheets U-2, U-40, U-48, and U-49, for proposals to the existing sewer facilities.

Comment GR3-2

The proposed project improvements for the three build alternatives consist of constructing a new southbound connector ramp along the south side of Ellis Avenue, with partial acquisition of OCSD ROW that currently is landscaped. The improvements are shown in Draft EIR/EIS Appendix P, Project Plans (P1, P2, and P3), on sheet L-2. As determined in the Euclid Street On-Ramp Bridge and Connector Advanced Planning Study, access to the OCSD property via the main driveway will be maintained during construction of the new ramp connector. Construction of this new ramp connector is proposed to be completed early and be fully operational to alleviate existing congestion at the southbound I-405 ramps/Ellis Avenue/Euclid Street intersection.

Comment GR3-3

As described in Measure COM-2, access will be maintained at all times during construction, consistent with Section 7-1.03 Public Convenience of 2010 Standard Specifications. The existing access to the hydrogen fuel cell station via the main driveway across from the southbound ramps at Ellis Avenue/Euclid Street will be maintained by the project. Furthermore, operations of the fuel cell station are not anticipated to be impacted by the project improvements.

Comment GR3-4

The proposed project improvements for the three build alternatives are shown in the Draft EIR/EIS Appendix P, Project Plans (P1, P2, and P3), on sheet L-2. It is not anticipated that the improvements will impact access or operations of the sewer facilities within the OCSD vicinity. Refer to the Draft EIR/EIS Appendix K (K1), Utility Plan Sheets U-2, U-40, U-48, and U-49, for proposals to the existing sewer facilities.

Comment GR3-5

The requirement has been added to Table 2-2, Probable Permit Requirements and Approvals, of the Final EIR/EIS. At this time, discharge to the sewer is not anticipated. If it is determined that discharge to the sewer is necessary, a Special Purpose Discharge Permit will be obtained.

Comment GR3-6

The requirement has been added to Table 2-2, Probable Permit Requirements and Approvals, of the Final EIR/EIS. At this time, discharge to the sewer is not anticipated. If it is determined that discharge to the sewer is necessary, review/approval of water quality of discharges to the sewer and associated measures to eliminate materials and regulated compounds will be coordinated with OCSD staff.

Response to Comment Letter GR4

Comment GR4-1

Caltrans and OCTA thank the South Coast Air Quality Management District (SCAQMD) for participating in the environmental process for the I-405 Improvement Project. SCAQMD's comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. SCAQMD will be notified when the Final EIR/EIS is available for review.

The air quality analysis for the project has been prepared in accordance with the requirements. Please see Common Response – Air Quality. Specific concerns are addressed in the following responses.

Comment GR4-2

Section 1.2.2.6, Air Quality Improvements has been modified to remove reference that the project is a TCM in the AQMP. However, Section 1.2.2.7 has been updated stating that the project is identified as a new TCM in Table III-2.3 of the 2015 FTIP.. Please see Response to Comment GR4-1 above.

Comment GR4-3

Caltrans and OCTA thank SCAQMD for participating in the environmental process for the I-405 Improvement Project. Comments submitted by SCAQMD have been responded to in the Final EIR/EIS. SCAQMD will be notified when the Final EIR/EIS is available for review.

Comment GR4-4

Please see response to Comment GR4-2 above.

Comment GR4-5

The air quality analysis was conducted consistent with Caltrans protocols and guidance and addresses both construction and operational impacts. As noted in its Standard Environmental Reference (SER), Caltrans has adopted FHWA guidance for evaluating MSAT emissions. Please see Response to Comment GR4-1 and Common Response – Health Risks.

Comment GR4-6

The comment states that the MSAT analysis ignores Section 15064 of the CEQA Guidelines, which requires *substantial evidence* to determine the significance of an impact. FHWA's *Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents* provides substantial evidence documenting the basis for not conducting a quantitative analysis of impacts from toxics. SCAQMD may disagree with this conclusion, but Section 15151 of the CEQA Guidelines clearly states that disagreement among experts does not make an EIR inadequate. Please see Common Response – Health Risks.

Comment GR4-7

Caltrans agreed to use the HRA for the Schuyler Heim Bridge Project and conduct an HRA for the I-710 expansion project because of the high volume of diesel truck traffic at these two locations (more than 30 percent trucks near the San Pedro Bay Ports) and because of the documented high levels of public health risk associated with the port activity. These conditions do not apply to the build alternatives, where the truck volumes are approximately 3 to 3.5 percent of the total volume and are less than the regional average of 6.9 percent. In addition, a detailed HRA was not completed and is not necessary because the build alternatives would reduce MSAT emissions in the study area. Please see Common Response – Health Risks.

Comment GR4-8

As a Statewide agency covering diverse geographic areas, Caltrans has, as a matter of policy, left the determination of significance to the District Project Development Team (PDT). In the Draft EIR/EIS, the PDT made determinations of significance based on the results of the technical studies and did not use the SCAQMD thresholds. It is not necessary to quantify emission reductions associated with construction-related mitigation measures because these emissions are not compared to the SCAQMD thresholds. Please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Comment GR4-9

Any air quality analysis of when, where, or how long construction-related congestion will last that is disclosed on page 3.2.6-27 of the Draft EIR/EIS is subjective and does not require

analysis. In addition, the construction analysis in the Final EIR/EIS has been updated using the current Roadway Construction Emissions Model (Version 7.1.2, September 2012).

Comment GR4-10

The conclusion reached in Chapter 4, CEQA Evaluation, is consistent with Caltrans' approach to greenhouse gas (GHG) analysis and disclosure. Caltrans is committed to implementing the measures discussed in Chapter 4 statewide to help reduce the project's effects on global climate change.

Comment GR4-11

The Draft EIR/EIS quantified existing criteria pollutant, MSAT, and GHG emissions. As discussed in Comment GF4-1, the build alternatives are not growth inducing. As a result, impacts were evaluated based on the change between the no-build and build conditions. In addition, a CEQA analysis is provided in Chapter 4 of the Draft EIR/EIS.

Comment GR4-12

With respect to growth inducement, please see Response to Comment GF4-1. With respect to traffic volumes, the Final EIR/EIS explains that the single demand forecast applies to the peak-hour volumes used for traffic performance analysis. The increase in VMT for the build alternatives shown in Table 3.1.6-3 of the Draft EIR/EIS is a result of a combination of factors, including redevelopment and infill development within the corridor, new development outside the corridor, increasing VMT per person, and reduction in diversion away from the freeway due to increased capacity of the alternatives compared to the no-build condition. Additional traffic is expected to shift from the arterial system onto the freeway during other off-peak hours of the day due to the reduced congestion resulting from the combination of the lower demand during off-peak hours and the added capacity provided under the build alternatives.

Comment GR4-13

Please see Response to Comment GF4-1 with respect to induced traffic. As of October 16, 2012, the project description in the 2011 RTP/FTIP (FTIP Amendment #34) was updated to match Alternative 3. If Alternative 1 or 2 is identified as the Preferred Alternative, an additional amendment to the RTP/FTIP may be required. Text in the Final EIR/EIS related to the project listing/description in the RTP/FTIP in the Summary, Chapter 1, Chapter 2, Chapter 3, and Appendix J has been updated to reflect the current status of the project in the RTP/FTIP.

Comment GR4-14

The MSAT analysis discussion beginning on page 3.2.6-42 of the Draft EIR/EIS includes VMT data consistent with the Traffic Study. No changes in the conclusions or findings in Section 3.2.6, Air Quality, of the Final EIR/EIS are required.

Comment GR4-15

The Draft EIR/EIS discloses the potential for impacts from MSATs to the extent that current scientific information allows. Sensitive receptors are identified, and a qualitative assessment of impacts to the sensitive receptors, including low-income and minority communities, was performed. Quantitative analysis for MSATs was conducted for the project, as described starting on page 3.2.6-42 in Section 3.2.6.3, Environmental Consequences, of the Draft EIR/EIS. Please see Common Response – Health Risks.

Comment GR4-16

Please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line. The congested conditions at the north end of the project have been included in the air quality analysis. The air quality analysis presented in the Draft EIR/EIS was based on traffic conditions forecast in the Traffic Study, which shows congested conditions in the area at the north end of the project. Tables 3.1.6-4, 3.1.6-5, 3.1.6-12, and 3.1.6-13 of the Draft EIR/EIS show that the segment of I-405 from SR-22 East to I-605 is anticipated to be congested to varying degrees under all of the build alternatives.

Comment GR4-17

TSM/TDM are included in each of the build alternatives and are identified on page 2-17 of the Draft EIR/EIS. The Draft EIR/EIS concludes on page 3.2.6-54 with respect to permanent air quality impacts that "No adverse operational impacts were identified, and no operational avoidance, minimization, and/or mitigation measures are required." It is agreed that additional TDM and/or transit options in the project corridor may improve air quality, but they are not required for this project because air quality improves under any of the build alternatives compared to the No Build Alternative. OCTA provides a planning process to identify such potential TDM and transit improvements on a countywide basis and is anticipated to provide consideration for them as part of that process. Transit vehicles will be eligible to use the HOV and/or Express Lanes included in the build alternatives.

Comment GR4-18

As of October 16, 2012, the project description in the 2011 RTP/FTIP (FTIP Amendment #34) was updated to match Alternative 3. If Alternative 1 or 2 is identified as the Preferred

Alternative, an additional amendment to the RTP/FTIP may be required. The conformity determination is based on the Preferred Alternative.

Comment GR4-19

The Final EIR/EIS will be reviewed to ensure that traffic data used to estimate emissions associated with Alternative 1 are consistent with the traffic analysis. Please see Response to Comment GR4-14.

Comment GR4-20

The Air Quality Technical Study was completed in May 2011. EMFAC 2011 was not used at that time in accordance with Caltrans policy, which only requires use of EMFAC 2011 for new environmental studies started after October 1, 2011. However, supplemental analysis using EMFAC 2011 was completed in January 2014 and there were no substantial difference in the results. Section 3.2.6, Air Quality, of the Final EIR/EIS has been updated as applicable.

Response to Comment Letter GR5

Comment GR5-1

Caltrans and OCTA thank the Southern California Association of Governments (SCAG) for participating in the environmental process for the I-405 Improvement Project. SCAG's comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. SCAG will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Common Response – Coordination between Caltrans Districts 7 and 12, OCTA, Los Angeles Metro, COG, and the City of Long Beach.

Response to Comment Letter GR6

Comment GR6-1

Caltrans and OCTA thank the Transportation Corridor Agencies (TCA) for participating in the environmental process for the I-405 Improvement Project. TCA's comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. TCA will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Comment GR6-2

HOV lanes are shown in the current RTP on SR-73. At the time that Caltrans pursues a project to implement these HOV lanes, consideration may be given to implementation of those lanes as HOT or Express Lanes.

Comment GR6-3

Caltrans appreciates this comment.

Comment GR6-4

The project will have close coordination with OCTA, cities, and other project stakeholders, including TCA, during final design, with appropriate lane closure charts to be included with the Contract Special Provisions.

Comment GR6-5

The existing TCA "The Toll Roads" changeable message sign would not be impacted under Alternative 3, as shown in the revised Appendix P Project Plans L-6A of the Final EIR/EIS. Please see Common Response – Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes.

Comment GR6-6

The project will have close coordination with stakeholders, including TCA, with respect to the existing advance guide signs to SR-73 during the design phase of the project should Alternative 3 be identified as the Preferred Alternative.

GOVERNMENT (LOCAL) COMMENTS (GL)

GL1

CITY OF COSTA MESA
Public Services Department/Transportation Services Division
77 Fair Drive, Costa Mesa, CA 92628-1200
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RECEIVED
JUL 17 2012
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By Mari Cleary

Transmittal

Date:	July 17, 2012
To:	Smita Deshpande
Firm:	Branch Chief – Caltrans District 12
	2201 Dupont Drive, Suite 200
	Irvine, CA 92612
Subject:	City of Costa Mesa Comments on Draft I-405 Improvement Project EIR/EIS

Attached are City of Costa Mesa's comments on the subject Draft EIR/EIS. Thank you.

c File

GL1 Continued

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July 16, 2012

SENT VIA PERSONAL DELIVERY
Smita Deshpande
Branch Chief - Caltrans District 12
2201 Dupont Drive, Suite 200
Irvine, CA 92612

RE: City of Costa Mesa's Comments to Draft I-405 Improvement Project Environmental Impact Report/Environmental Impact Statement (EIR/EIS) pursuant to the 14 California Code of Regulations Section 15087.

Dear Ms. Deshpande:

I. INTRODUCTION

Pursuant to 14 California Code of Regulations Section 15087, the City of Costa Mesa ("Costa Mesa") is providing its comments to the State of California Department of Transportation ("Caltrans") Draft I-405 Draft Environmental Impact Report/Environmental Impact Statement ("EIR/EIS") for the I-405 Improvement Project ("Project"). Costa Mesa has taken the public comment period to review the project summary in conjunction with the studies, findings and conclusions for this Project. (Exhibits B-N; Documents in support of Costa Mesa's Findings.) During Costa Mesa's review process, a number of concerns were raised including a number of factual errors, a deferral of specific analysis of impacts, and inadequate mitigation measures.

Costa Mesa's review and findings discussed below demonstrate that the environmental benefits of Alternative 2 far outweigh Alternative 3 consistent with the California Environmental Quality Act ("CEQA"). Based upon Costa Mesa's review and findings, with regard to significant

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deficiencies in the EIR/EIS, Costa Mesa believes that the environmental document fails to provide comprehensive and reasoned analysis and therefore should be recirculated to add significant new information to resolve these deficiencies. (Pub. Res. Code § 21092.1; 14 Cal. Code Regs. § 15088.5)

II. PROJECT SUMMARY

The draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) prepared for the I-405 Improvement Project was released for public review and comment on May 18, 2012. The I-405 Improvement project draft EIR/EIS evaluated three different alternatives for widening the I-405 Freeway between the SR-73 and I-605 Freeways. The alternatives included:

Alternative 1 – Add one lane in each direction on I-405 Freeway between Euclid Street and I-605 Freeway;
Alternative 2 – Add two lanes in each direction on I-405 Freeway between Euclid Street and I-605 Freeway; and
Alternative 3 – Add one lane in each direction on I-405 Freeway between Euclid Street and I-605 Freeway and add tolled express lanes on I-405 Freeway between SR-73 and I-605 Freeways. This will result in conversion of existing High Occupancy Vehicle (HOV) lane to express lane and addition of a second express lane. In addition, the project includes direct HOV lane to express lane connectors between SR-73 and I-405 Freeways.

III. ABSENCE OF INDEPENDENT REVIEW

First, Costa Mesa is concerned whether Caltrans, as the lead agency, has met its obligation under 14 California Code of Regulations Section 15084(e) to *independently review* and analyze the EIR, and circulate a draft EIR that reflects its *independent judgment*. Costa Mesa recently became aware that Caltrans seeks approval of Alternative 3 in spite of environmental impacts that favor Alternative 2. This is based on the information that the Regional Transportation Plan adopted in April 2012 preordains Alternative 3. (Exhibit A; Regional Transportation Plan 2012-2035 Table.) Costa Mesa again points out that the environmental review process is intended to seek the public's input and the environmental effects *prior* to approval of a project. However, Exhibit A suggests that the proclivity towards Alternative 3 has already been made in violation of CEQA. 1

IV. LACK OF ADEQUATE DETAIL AND DEFERRAL OF SPECIFIC ANALYSIS

The EIR/EIS omits analysis of a number of impacts that should be addressed. Although Caltrans is authorized to defer certain impacts, an analysis of impacts that are reasonably

GL1 Continued

foreseeable is required. Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova, (2007) 40 Cal. 4th 412, 53 Cal. Rptr. 821; Stanislaus Natural Heritage Project v. County of Stanislaus, (1996) 48 Cal. App. 4th 182, 55 Cal. Rptr.2d 625. However, the EIR/EIS defers analysis of a number of environmental impacts set forth below that are well within its purview at this juncture in the environmental process.

Page 3.1.6-104: The impacts of construction are not identified in the draft EIR/EIS as it is deferred to final design phase. Costa Mesa's residents have endured approximately 10 years of construction due to various projects on the I-405 including the SR-55/I-405 Transitway Project, I-405/SR-73 Confluence Project, Susan Street Offramp, I-405/Fairview Road Interchange and Harbor Boulevard/I-405 Improvement project. Alternative 3 will result in significant impacts that would exceed those experienced by all of the previous projects. This is due to the need for the demolition and reconstruction of the Fairview Road Bridge and the Harbor Boulevard southbound loop onramp.

Page 3.1.6-106: The EIR/EIS does not address impacts from ramp closures. In addition to the removal and reconstruction of key interchanges, several area ramps are identified for closure ranging from 10 to 30 days. In addition to the absence of impact analysis regarding ramp closures, Costa Mesa is concerned about these closures and requires that any traffic management plan address the City Fairgrounds and holiday moratorium for closures. 2

Page 3.1.6-107: The project defers traffic management plan to the final design phase. Costa Mesa is concerned about the decision on the preferred alternative being without the benefit of this analysis that would provide further information on the potential impacts during construction.

Alternative 3 Layouts: Based on review of Alternative 3 Layout Plans, there is no information on the toll gantry structure location. It is anticipated that one such structure would be located in the vicinity of the SR-73 Freeway. The visual impacts associated with this structure to the adjacent area residents should be documented as part of the draft EIR/EIS. 3

Page 3.2.7-43, NOI-1: The EIR/EIS defers the "final decision ***on whether and how*** to construct noise abatement … upon completion of the project design." 4

With regard to interior noise levels of residential uses, the EIR/EIS does not address the ventilation standards as set forth in Chapter 3, Section R303, of the 2010 Residential Building Code (CRC). Specifically, it is anticipated that impacted residences may have all windows closed to lessen the freeway noise. However, the EIR/EIS should include analysis and identification of mitigation measures – other than those related to exterior 5

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sound walls – to address appropriate mechanical ventilation for habitable rooms with all windows closed.

The EIR/EIS does not analyze from a noise and air quality standpoint, the location or relocation of mechanical and gravity outdoor air intake openings for impacted residences. The EIR should not defer analysis or mitigation of noise impacts of interior residential structures. An assessment of the nature of these impacts on sensitive uses and the success of proposed mitigation measures is needed. 5

Page 3.2.7-31 provides discussion of sound wall S614A and S614B for the area south of Bristol Street to Euclid Street for one residence. However, for Alternative 3, the EIR/EIS does not provide analysis regarding impacts to sensitive uses, including other impacted residences, by street address. Additionally, given the extent of the environmental impacts of Alternative 3 in Costa Mesa, it should be considered that all noise mitigation measures should not be categorized as "not reasonable" due to a formulaic consideration of the acoustic benefit to the construction cost. For example, Sound wall S614A or S614B should be implemented to offset the noise impacts to this residence regardless of the construction cost. 6

Noise Mitigation NOI-2 and NOI-3 for short-term construction noise: These noise mitigation measures are considered inadequate to address the significant noise impacts experienced by sensitive receptors. Costa Mesa suggests the following additional mitigation measure for short-term construction impacts:

A minimum of 120 days prior to the commencement of any construction activity, a construction noise mitigation plan shall be approved by the City of Costa Mesa. This plan shall contain information such as:

- Name & Contact Information of Responsible Party
- Address of impacted sensitive receptors
- Timeline for Demolition Construction Work, Excavation Construction Work, Foundation Construction Work, Other Construction Work
- 24-hour construction hotline for complaints
- Location and Specifications for Temporary/Moveable Sound Barriers during construction.

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This Construction Noise Mitigation Plan shall be mailed to property owners of sensitive land uses a minimum of 60 days prior to construction.

Table 3, Noise Abatement Information: This table identifies noise barriers that are within the vicinity of sensitive uses, such as single-family residential, multi-family residential, a motel, and schools. This table indicates "N/A" under the column of number of benefitted 8

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residences although there are sensitive uses within the noise impact zone. Additional clarification or analysis is needed. Where residential areas are impacted, the street addresses of the residences should be referenced in technical studies. 8

The SR-73 Confluence Project's EIR addressed noise impacts during the environmental review process. The noise impacts of SR-73 should be included in Caltrans analysis of noise impacts. 9

Toll Lane Conversion: Since this is an interstate freeway system that is owned and controlled by the federal government, the opinion of the Federal Highway Administration (FHWA) on the conversion of existing free High Occupancy Vehicle (HOV). There is no provision of the replacement capacity for the loss of the free HOV lane. 10

As demonstrated by the aforementioned comments, the EIR/EIS ignores a number of crucial impacts that Caltrans is required to address. Under Public Resources Code Section 21092(b), the EIR/EIS should include some degree of forecasting in evaluating a project's environmental impacts. 14 Cal. Code of Regs. Section 15144. San Francisco Ecology Ctr. v. City & County of San Francisco, (1975) 48 Cal. App. 3d 584, 595; 122 Cal. Rptr. 100. However, deferring an analysis of these impacts not only portends that the environmental impacts do not exist but also ignores a thoughtful process as to how those negative impacts can and should be mitigated.

V. INACCURATE DATA

Further, under 14 Cal. Code Regs. Section 15151, the EIR/EIS must be prepared with a sufficient degree of analysis to provide decision-makers with the information needed to make an intelligent decision concerning a project's environmental consequences. However, the EIR/EIS relies upon inaccurate data in a number of areas that exaggerates Alternative 3 benefit as the best option. These factual inaccuracies include, but are not necessarily limited to, the following:

Table 3.1.6-2: The draft EIR/EIS projected a growth in traffic of over 25% over the next 10 years. This growth is overstates and does not reflect the patterns that were observed over the past several years. The projected growth in traffic over the next 30 years is approximately 42% and is also high, given the level of build out in the study area. 11

Page 3.1.6-2: The EIR/EIS states that the study area was divided into three segments, "based on similarity of lane cross-section." One of the segments is SR-73 to Brookhurst Street. However, this segment has two distinct characteristics. The area within Costa Mesa's jurisdiction has seven or eight travel lanes in each direction, 12

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whereas the area to the north of Euclid Street has five lanes in each direction. This results in misrepresentation of level of impacts within Costa Mesa limits. 12

Table 3.1.6-14: The number of lanes shown for the SR-73 to Brookhurst Street segment does not reflect actual number of existing travel lanes within Costa Mesa. The southbound direction has seven mixed-flow lanes and a HOV lane and the northbound direction has seven mixed-flow lanes from SR-73 to north of Fairview Road bridge and six mixed-flow lanes from north of Fairview Road to the Santa Ana River, in addition to HOV lane. The assumption for throughput is not explained in the study. A value of 1,200 vehicles per hour was used for calculation of throughput, without any clear basis provided for using this assumption. Based on existing counts provided, the freeway carried well in excess of 12,000 vehicles per hour during the peak hours. However, the throughput provided for Costa Mesa section for existing and Alternatives 1 and 2 are only 8,400 vehicles per hour. The throughput value seems to be significantly understated in the analysis. 13

Page 3.1.6-21: In Paragraph 3, existing volume-to-capacity (v/c) ratios are provided as a range for the entire freeway segment. However, the Costa Mesa portion of the I-405 Freeway has significantly better v/c ratios. During the AM peak hour, existing v/c ratio range in Costa Mesa is 0.81 to 1.09 and during the PM peak hour, the v/c ratio range is 0.78 to 0.94. This is due to completion of significant freeway widening over the past 10 years to meet existing and future demands within the Costa Mesa. The High Occupancy Vehicle (HOV) lanes also have better v/c ratios within Costa Mesa compared to the rest of the corridor. 14

Page 3.1.6-39: A single forecast was developed for all three alternatives. The alternatives are quite different in the level of improvement, and utilizing a single forecast will not represent true conditions. In Alternative 1, there may be additional impacts to arterial intersections when compared to Alternatives 2 and 3. These will not be reflected in the analysis as conducted. This will short-change the mitigations for arterials and intersections if Alternative 1 was selected as the preferred alternative. 15

Table 3.1.6-2 provides traffic volumes for various alternatives that show higher volumes for Alternative 3 than other alternatives. This should be carried through in the analysis as well. 16

Page 3.1.6-40: No Build Alternative's volume-to-capacity ("v/c") ratios for 2020 and 2040 are provided as a range for the entire freeway segment. However, the Costa Mesa portion of the I-405 Freeway has significantly better v/c ratios. This is due to completion of significant freeway widening over the past 10 years to meet existing and future demands within Costa Mesa. 17

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Page 3.1.6-81: Alternative 1's v/c ratios for 2020 and 2040 are provided as a range for the entire freeway segment. However, the Costa Mesa portion of the I-405 Freeway has significantly better v/c ratios. This is due to completion of significant freeway widening over the past 10 years to meet existing and future demands within Costa Mesa.

Page 3.1.6-92: Alternative 2's v/c ratios for 2020 and 2040 are provided as a range for the entire freeway segment. However, the Costa Mesa portion of the I-405 Freeway has significantly better v/c ratios. This is due to completion of significant freeway widening over the past 10 years to meet existing and future demands within Costa Mesa. 17

Page 3.1.6-99: Alternative 3's v/c ratios for 2020 and 2040 are provided as a range for the entire freeway segment. However, the Costa Mesa portion of the I-405 Freeway has significantly better v/c ratios. This is due to completion of significant freeway widening over the past 10 years to meet existing and future demands within Costa Mesa.

Page 3.1.6-101: In the 3rd paragraph, there is discussion of SR-73/I-405 northbound merge. This interchange was constructed in early 2000s as part of the I-405/SR-73 Confluence Project at a total cost of approximately $50,000,000. Three lanes from SR-73 join four lanes on I-405 in the northbound direction. The third lane of SR-73 drops approximately 2,200 feet north of the merger of the two freeways. With the proposed Alternative 3, the three lanes of SR-73 are reduced to two lanes. This will create increased density on the ramp and at the merge point and would result in significant traffic issues. The statement that the reduction in lanes will remove bottleneck is not justified. If there is a bottleneck, there should be a recommendation to increase the merge length as part of Alternative 2. 18

As demonstrated by the aforementioned comments, the EIR/EIS relies upon a number of inaccuracies that inflate the environmental benefit of Alternative 3.

VI. INSUFFICIENT OR ALTOGETHER ABSENT MITIGATION MEASURES

14 Cal. Code of Regs. Section 15126.4(a) requires lead agencies to consider feasible mitigation measures to avoid or substantially reduce a project's significant environmental impacts. However, in a number of areas, the mitigation measures proposed in the EIR/EIS are insufficient. To demonstrate:

The EIR should give full consideration to interior noise levels of sensitive uses and appropriate abatement of any noise impacts to achieve minimally acceptable interior noise 19

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GL1 Continued

standards. Other practical measures may include: mechanical ventilation systems, triple-paned glass windows, etc. 19

Nevada Avenue Impacts: The proposed direct connector from eastbound Ellis Avenue to southbound I-405 Freeway requires widening of the freeway adjacent to Moon Park and several residences along Nevada Avenue. Under the existing conditions, there is a dirt slope with a 12-foot sound wall, located approximately 25' from the backyard of residences. This will be replaced by a retaining wall of up to 16' foot and a 12' sound wall, located approximately 6' from the backyard of residences. This will create significant noise, air quality and visual impacts to these properties. Several solutions should be considered to address this issue including deviating from standard lane and shoulder widths, high-density vegetation such as planting of mature trees between the retaining wall and residences and also relinquishing excess portion of right-of-way to residences. 20

Noise Mitigation NOI-2 and NOI-3 for short-term construction noise: These noise mitigation measures are considered inadequate to address the significant noise impacts experienced by sensitive receptors. Costa Mesa suggests the following additional mitigation measures:

While the precise details of the sound wall design may not be known until project design, the EIR/EIS should meaningfully analyze and identify the specific noise mitigation measures at the time the project is approved and not defer "whether and how" noise mitigation may or may not occur at the future date. 21

Additional comments that require Caltrans review and response are the following:

Appendix F and Page 3.2.7-3 refers to the Noise Study Report (NSR) (June 2011) and the Final Noise Abatement Decision Report (NADR) (September 2011). Other than table and figure excerpts, these reports are not included in Appendix N, Noise, of the EIR/EIS. It should be clear as to where the complete reports can be found. 22

VII. PROJECT FAILS TO CONFORM TO THE COSTA MESA GENERAL PLAN

The EIR/EIS violates the City of Costa Mesa General Plan in a number of areas set forth below. These issues require further mitigation measures in order to ensure conformity with Costa Mesa's General Plan.

Page 3.2.7-2, Table 3.2.7-1, Noise Abatement Criteria describes NAC, Hourly A-Weighted Noise Level, dbA Leq(h): The levels described in this table for residences are shown as 67 Exterior and 52 Interior. These levels differ from the noise levels shown in the Noise 23

GL1 Continued

Element of the City's General Plan. The purpose of the Noise Element is to limit the exposure of the community to excessive noise levels. The EIR/EIS should address any discrepancies with the City of Costa Mesa's Noise Element and provide appropriate noise mitigation measures to the City's adopted interior and exterior noise levels for sensitive uses.

Page 3.2.7-43: This indicates that "All noise abatement options were considered; however, because of the constrained configuration and suburban location of the proposed project, construction of noise barriers are the only abatement measure considered practical." The City's General indicates that it is the goal of the City of Costa Mesa to protect its citizens and property from injury, damage, or destruction from noise hazards and to work towards improved noise abatement. This goal includes protection of exterior and interior areas of sensitive uses. 23

Additionally, where noise barriers may have been identified, the EIR indicates that they may be dismissed due to cost/benefit determinations. General Plan Policy N-1A.4 "encourages Caltrans to construct noise attenuation barriers along State freeways and highways adjoining residential and other noise sensitive areas." General Plan Policy N-1A.3 requests that "appropriate site design measures are incorporated into residential developments, when required by an acoustical study, to obtain appropriate exterior and interior noise levels." The EIR/EIS should address conformance with the Costa Mesa General Plan.

VIII. ATERNATIVE 2 IS ENVIRONMENTALLY SUPERIOR TO ALTERNATIVE 3

According to 14 Cal. Code of Regs. Section 15126.6(c), the evidence supporting Caltrans' decision should be included in the administrative record. However, the number of factual errors and deferred impact analysis that Caltrans relies upon in supporting Alternatives 3 violates Section 15126.6(c). Furthermore, the EIR/EIS impact findings for Alternative 2 and Alternative 3 are comparable in a number of areas such that once the factual errors and deferred impact analysis are accounted for, Alternative 2 is in effect the best alternative under CEQA.[1]

The areas in which the EIR/EIS are comparable or more favorable to Alternative 2 include, but at not limited to:

Figure 3.1.6-3:Alternative 3 results in the loss of a mixed flow lane on northbound I-405 Freeway between Fairview Road and Harbor Boulevard. This will result in increased congestion in this segment of the freeway. 24

1 Costa Mesa's review of the EIR/EIS finds that Alternative 1 should not be given further consideration given its environmental impacts.

GL1 Continued

July 16, 2012
City of Costa Mesa Comments to I-405 Draft EIR/EIS
Page 10 of 11

Table 3.1.6-6: This table provides a speed index summary including average speeds over the I-405 corridor for various alternatives. The table indicates that the overall speeds in mixed-flow lanes are either better or very similar for Alternative 2 compared to Alternative 3. Given that over 80% of traffic is in the mixed-flow lanes, Alternative 2 provides the greatest benefit to most of the users of the corridor.

Table 3.1.6-7: This table provides travel times and confirms the earlier discussion on better speeds in mixed-flow lanes for Alternative 2. As an example, the travel times for southbound I-405 are approximately 15%better for Alternative 2 than Alternative 3 during the AM peak hour in year 2040.

Page 3.1.6-27: A comparison of vehicle hours of delay is shown for No Build and project alternatives. Alternatives 2 and 3 result in 84% and 86% reduction in vehicle hours of travel, respectively, compared to No Build Alternative. Therefore, there is no significant change in level of performance between these two alternatives.

The EIR/EIS indicates that 'the termini have been logically chosen based on geography and transportation needs to ensure adequate response to transportation deficiencies at and around these points of intersection." Based on this premise, additional comparative analysis should be given between the different alternatives. Specifically, Alternative 3 would be the environmentally weakest option compared to the Alternatives 1 and 2 due to the greater extent of impacted areas.

Page 3.1.6-98: Paragraph 1 provides information on access to the proposed Express Lanes in Alternative 3. Access is provided at SR-73, Magnolia Street/Warner Avenue, Bolsa Avenue/Goldenwest Street, SR-22 and I-605. Traffic from Costa Mesa entering at Fairview Road and Harbor Boulevard, two major gateways to/from Costa Mesa, will not have access to the Express Lanes for several miles. Thus, traffic is in the congested five mixed-flow lanes that are narrowed from the seven-lane section within Costa Mesa. **24**

IX. CONCLUSION

In conclusion, CEQA requires that a feasible alternative is capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors. The EIR/EIS does not meaningfully address the adverse social and economic impacts to Costa Mesa with regard to Alternative 3, given an unprecedented proposal to locate toll roads on a state highway and given the proximity to residential uses, the significant short-term and long-term impacts to the Costa Mesa's major employment and commercial centers. **25**

10

GL1 Continued

July 16, 2012
City of Costa Mesa Comments to I-405 Draft EIR/EIS
Page 11 of 11

The factual errors, a deferral of specific analysis of impacts, and inadequate mitigation measures are so extensive that the EIR/EIS should be recirculate with these issues addressed. Once recirculation is completed with accurate information and proper analysis, the City is confident that the environmental benefits of Alternative 2 far outweigh Alternative 3 subject to inclusion of appropriate mitigation measures proposed by Costa Mesa. **26**

Sincerely,

Thomas P. Duarte
City Attorney
City of Costa Mesa

Cc: Costa Mesa City Council
Costa Mesa Planning Commission
Tom Hatch, Chief Executive Officer
Peter Naghavi, Deputy CEO/Director of Economic and Dev. Services
Claire Flynn, Deputy Director of Development Services
Ernesto Munoz, Public Services Director
Raja Sethuraman, Transportation Services Manager

11

GL1 Continued

GL1 Continued

EXHIBIT LIST
TO CITY OF COSTA MESA – COMMENTS REGARDING
DRAFT I-405 IMPROVEMENT PROJECT
ENVIRONMENTAL IMPACT REPORT/
ENVIRONMENTAL IMPACT STATEMENT

EXHIBIT A	REGIONAL TRANSPORTATION PLAN 2012-2035 TABLE
EXHIBIT B	LETTER FROM COSTA MESA CITY COUNCIL MAYOR ERIC BEVER TO OCTA BOARD MEMBER PAUL GLAAB DATED MAY 30, 2012
EXHIBIT C	COSTA MESA CITY COUNCIL RESOLUTION NO. 12-40
EXHIBIT D	EMAILS FROM DPEDRN@GMAIL.COM, GQUINN2@CC.RR.COM, FREDDYPEREZ2011@YAHOO.COM JOELMAGGIE@SBCGLOBAL.NET, 3DOUGHTY@CC.RR.COM, TRISHCDC@GMAIL.COM, KATHLEENRAMP@YAHOO.COM, & TENNISHERITAGE@AOL.COM TO CITY OF COSTA MESA DATED MAY 5, 2012
EXHIBIT E	EMAILS FROM SLUCY61@AOL.COM, PAMELITAROSE@SBCGLOBAL.NET, JMS92648@CA.RR.COM, ERIKANDSUSYB@YAHOO.COM, UNITEDNEIGHBORS@CMPREPARED.COM TO CITY OF COSTA MESA DATED MAY 6, 2012
EXHIBIT F	EMAILS FROM HILLASSOCIATES@ATT.NET & FLOMAMA@AOL.COM TO CITY OF COSTA MESA DATED MAY 7, 2012
EXHIBIT G	EMAIL FROM PAULANNEKELLY@CA.RR.COM TO CITY OF COSTA MESA DATED JUNE 17, 2012
EXHIBIT H	LETTER FROM GARY PEACOCK TO PETER NAGHAVI DATED OCTOBER 19, 2010
EXHIBIT I	EMAIL FROM PETER NAGHAVI TO JACKNPEG91@CA.RR.COM DATED NOVEMBER 22, 2010; CALCS1224@GMAIL.COM DATED NOVEMBER 15, 2010; RSCHOWE173@AOL.COM DATED NOVEMBER 14, 2010; BEANCOUNTER-1@HOTMAIL.COM DATED OCTOBER 27, 2010; & STEVEM@IIS1.NET DATED OCTOBER 28, 2010.
EXHIBIT J	EMAIL FROM MLBRUM@ATT.NET TO RAJA SETHURAMAN DATED OCTOBER 22, 2010
EXHIBIT K	OPPOSITION SIGNATURES FROM CORINNE, LOUISE STOVER, FRED MERKLE AND JULIE ANN MERKLE
EXHIBIT L	HALECREST/HALL OF FAME RESIDENT PETITION DATED FEBRUARY 6, 2011
EXHIBIT M	CD OF CITY COUNCIL MEETING

EXHIBIT N LETTER FROM ANDRYA N. POWERS DATED JULY 16, 2012

EXHIBIT "A"

GL1 Continued

2012-2035 RTP

County	System	Lead Agency	RTP ID	FTIP ID	Begin PM	End PM	Route Number	Route Name	From	To	Description
Orange	State Highway	CALTRANS	2N0728			405	I-405	I-5	SR 55	SR 55	Add 2 MF lanes each direction from I-5 to SR-55 and improve merging
Orange	State Highway (LOCAL)	ORANGE COUNTY TRANS AUTHORITY	ORA030605			605	I-605	SR 55	I-605		I-405 FROM SR 73 TO I-605 IN ORANGE COUNTY, ADD 2 MIX LANE, CONVERT CONTINUOUS TO MIXED, ADD 2 ADDITIONAL GP LANE, AND ADDITIONAL GP TRL, IMPROVEMENTS
Orange	State Highway (LOCAL)	CALTRANS	2N0411E1			405	I-405 NB		I-405 NB		ADD AUXILIARY LANE
Orange	State Highway (LOCAL)	ORANGE COUNTY TRANS AUTHORITY	ORA030507	ORA030507	10.0	14.1	405			CLWT	CONSTRUCT FOURTH NB THROUGH LANE ON I405 - BEVERLY TRL TO ADD INTERCHANGE AND REMOVE CHR RAMP ON I-405 AT I605 (NORTH-EAST CORNER OF I605/ELDRIDGE), CO LEAD WITH WSDOT/WSTIP
Orange	State Highway (LOCAL)	ORANGE COUNTY TRANS AUTHORITY	ORA030507	ORA030507	10.0	14.1	405				CONSTRUCT FOURTH NB THROUGH LANE ON I405 - BEVERLY TRL TO ADD INTERCHANGE AND REMOVE CHR RAMP ON I-405 AT I605 (NORTH-EAST CORNER OF I605/ELDRIDGE), CO LEAD WITH WSDOT/WSTIP
Orange	State Highway	CALTRANS	OR A000033	ORA000033	0.61	1.3	I-405				NOW operational on Eastbound I-405 (at Euclid Ave) to I-605 (at Pine Ave) in cost direction on I-405 between the two direct connectors
Orange	State Highway	ORANGE COUNTY TRANS AUTHORITY (LOCAL)	ORA030605	ORA030605	10.0	24.1	I-605				I-405 FROM SR 73 TO I-605 ADD 2 MIX LANE EAST DIR AND PROVIDE ADDITIONAL CAPITAL IMPROVEMENTS. #137 Combined with ORA0405, ORA3151 and ORA123210

ADOPTED APRIL 2012

Roadway Segment Existing Lanes	Roadway Segment Proposed Lanes	Transit Segment Mode	Additional Details	RTP Baseline	2008	2012	2016	2034	2036	2035	2040	2045
			Existing Conditions									
			Existing Conditions							X		X
3	4			X	X	X						
3	5			X	X	X						
4	4					X						
12	14									X		X

GL1 Continued

EXHIBIT "B"

GL1 Continued

CITY OF COSTA MESA
CALIFORNIA 92628-1200 P.O. BOX 1200
FROM THE OFFICE OF THE MAYOR

RECEIVED
JUN 07 2012
PUBLIC SERVICES

May 30, 2012

Mr. Paul Glaab, Chairman, Board of Directors
Members of Board of Directors
Orange County Transportation Authority
P.O. Box 14184
Orange, CA 92863-1584

SUBJECT: I-405 IMPROVEMENT PROJECT

Dear Chairman Glaab and Honorable Board Members:

The City of Costa Mesa wishes to thank Orange County Transportation Authority (OCTA) staff, including Chief Executive Officer Will Kempton, for the informative presentation on the I-405 Improvement Project alternatives at the City Council Study Session on May 8, 2012. The City appreciates OCTA's efforts in planning and coordinating transportation improvements throughout Orange County and implementing transportation solutions that are vital to the long-term needs of residents and visitors of the Orange County area.

As home to nationally renowned retail centers, which are major tax generators in Orange County, the City of Costa Mesa is very keen and forward-looking in assuring that adequate transportation infrastructure, and appropriate access to all venues is in place. Accordingly, the City has extensively participated with OCTA on a significant number of projects, including the I-405/SR-55 Transitway, and I-405/SR-73 Confluence projects. Over the past several years, the City has also worked with OCTA on the I-405 Major Investment Study (MIS) and subsequent phases of this project.

In February 2005, at the conclusion of the I-405 MIS, the recommended study alternatives included the addition of either one or two General Purpose lanes on the I-405 in each direction north of the Santa Ana River. Given that the freeway widening and ultimate improvements within the City's section of I-405 have been completed, the selected improvement options were well received by the Costa Mesa community and we were looking forward to the completion of the I-405 Improvement Project. However, the later addition of Alternative 3, primarily as a financial mechanism for the I-405 improvements, is of utmost concern to our community.

This new Alternative 3 will impact the City of Costa Mesa in many ways, as listed below:

- Alternative 3 proposes a new direct High Occupancy Vehicle (HOV) connector from the SR-73 to the I-405, which will result in the widening of the freeway footprint between the SR-73 and the Santa Ana River;
- As the Costa Mesa segment of the I-405 between the SR-73 to the Santa Ana River has already been improved to its ultimate configuration using approximately $50m federal dollars, the new project offers no mixed-flow lanes added within Costa Mesa's City limits. In fact, between the SR-73 and north of Fairview Road, Alternative 3 results in the loss of one mixed-flow lane in the northbound direction;

77 FAIR DRIVE
PHONE: (714) 754-5285 • FAX: (714) 754-5330 • TDD: (714) 754-5244 • www.ci.costa-mesa.ca.us

GL1 Continued

- The City recently implemented ultimate improvements to the Fairview Road/I-405 interchange and the Harbor Boulevard/I-405 Interchange, with adequate capacity to handle the projected buildout of North Costa Mesa. The total cost of these improvements was approximately $11 million and the residents endured approximately 18 months of construction for these projects.
- The Fairview Road bridge over the I-405 Freeway and the Harbor Boulevard onramp to the southbound I-405 Freeway will need to be completely demolished and reconstructed as a result of Alternative 3, resulting in major impacts to the City's circulation system; and
- Implementation of Alternative 3 will result in major construction impacts to the neighborhoods for approximately 54 months. These residents have already endured several years of construction with the Transitway and Confluence projects, as well as the recent widening of the Fairview Road/I-405 Interchange and the Harbor Boulevard/I-405 Interchange reconstruction.
- The residents of the City, visitors to our major shopping centers and art venues, will have to pay to use the proposed High Occupancy Toll (HOT) lanes compared with the existing free HOV lanes.

As OCTA staff observed at the City Council Study Session of May 8, 2012, a large number of residents spoke against the project and submitted letters, e-mails, and petitions expressing their opposition to Alternative 3. This opposition is due to the many reasons mentioned above, as well as the lack of benefit to community and area residents.

While a formal position on the I-405 alternatives was not taken by the City Council at this meeting, several members have expressed their significant concern with the proposed Alternative 3. The City Council, as well as staff, believes that all long-term, planned improvements on the I-405 Freeway within the Costa Mesa City limits have already been implemented with the completion of the Transitway and Confluence projects and the focus on further improvements to the I-405 Freeway should be north of the Santa Ana River. Accordingly, the community would like to see a change in direction with regards to the proposed project.

As always, the City looks forward to working with OCTA on potential solutions to regional transportation issues. If you have any questions, please contact Ernesto Munoz, Public Services Director, at (714) 754-5343.

Sincerely,

Eric R. Bever
Mayor

c Costa Mesa City Council
Costa Mesa Planning Commission
Will Kempton, CEO, OCTA
Tom Hatch, Chief Executive Officer
Ernesto Munoz, Public Services Director
Raja Sethuraman, Transportation Services Manager

GL1 Continued

EXHIBIT "C"

GL1 Continued

RESOLUTION NO. 12-40

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF COSTA MESA, CALIFORNIA, SUPPORTING ALTERNATIVES 1 AND 2 AND OPPOSING ALTERNATIVE 3 IN THE SAN DIEGO FREEWAY (I-405) IMPROVEMENT PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT (EIR/EIS).

THE CITY COUNCIL OF THE CITY OF COSTA MESA HEREBY DETERMINES AND RESOLVES AS FOLLOWS:

WHEREAS, the City of Costa Mesa in cooperation with the Orange County Transportation Authority (OCTA) and the State of California Department of Transportation (Caltrans) implemented regional improvements and freeway widening within the City of Costa Mesa limits to meet existing and future transportation needs at a cost of over $100 million between SR-55 Freeway and Santa Ana River; and

WHEREAS, OCTA was the lead agency in the preparation of Major Investment Study (MIS) for the I-405 Freeway improvements between SR-73 Freeway and I-605 Freeway that resulted in recommendation of Alternatives 1 and 2, adding either one lane or two lanes in each direction to the I-405 Freeway between Euclid Street and I-405 Freeway, as locally preferred alternatives; and

WHEREAS, in January 2009 a new Alternative 3 was added to the I-405 Improvement Project during the Environmental Impact Report/Environmental Impact Statement (EIR/EIS) phase of the I-405 Improvement Project that extends the project widening and construction to SR-73 Freeway; and

WHEREAS, Alternative 3 includes construction of a new express lane connector between the SR-73 and I-405 Freeways and addition of two express lanes within the City of Costa Mesa limits; and

WHEREAS, Alternative 3 requires the complete demolition and reconstruction of the Fairview Road/I-405 Interchange that was upgraded by the City of Costa Mesa three years ago at a cost of approximately $7 million, and the removal and reconstruction of southbound Harbor Boulevard to southbound I-405 Freeway onramp; and

GL1 Continued

STATE OF CALIFORNIA)
COUNTY OF ORANGE) ss
CITY OF COSTA MESA)

I, BRENDA GREEN, Interim City Clerk of the City of Costa Mesa, DO HEREBY CERTIFY that the above and foregoing is the original of Resolution No. 12-40 and was duly passed and adopted by the City Council of the City of Costa Mesa at a regular meeting held on the 19th day of June, 2012, by the following roll call vote, to wit:

AYES:	COUNCIL MEMBERS:	BEVER, RIGHEIMER, LEECE, MENSINGER, MONAHAN
NOES:	COUNCIL MEMBERS:	NONE
ABSENT:	COUNCIL MEMBERS:	NONE

IN WITNESS WHEREOF, I have hereby set my hand and affixed the seal of the City of Costa Mesa this 20th day of June, 2012.

Brenda Green
BRENDA GREEN,
INTERIM CITY CLERK

(SEAL)

GL1 Continued

EXHIBIT "D"

GL1 Continued

SETHURAMAN, RAJA

From: HATCH, THOMAS
Sent: Monday, May 07, 2012 8:15 AM
To: MUNOZ, ERNESTO; SETHURAMAN, RAJA
Subject: FW: 405 Widening

From: DPEDRN [mailto:dpedrn@gmail.com]
Sent: Saturday, May 05, 2012 12:09 PM
To: HATCH, THOMAS
Subject: 405 Widening

Please don't allow Costa Mesa to suffer from widening the freeway, which isn't needed, and destroying a new (Fairview) bridge just to help generate building funds and grants. The work isn't needed, the cost to the community is great, and the responsibility for generating funds for work elsewhere (and job security, perhaps) should lie with those areas that might benefit, rather than those, like Costa Mesa, that will suffer with little or no benefit.

Thanks,

Dennis Popp

2078 Goldeneye, Costa Mesa

714.758.5251

1

GL1 Continued

SETHURAMAN, RAJA

From: HATCH, THOMAS
Sent: Monday, May 07, 2012 8:15 AM
To: MUNOZ, ERNESTO; SETHURAMAN, RAJA
Subject: FW: "NO 405 WIDENING" PLEASE!!!!!!!!!!

From: Georgette Quinn [mailto:gquinn2@ca.rr.com]
Sent: Saturday, May 05, 2012 12:11 PM
To: HATCH, THOMAS
Subject: "NO 405 WIDENING" PLEASE!!!!!!!!!!

Georgette M. Quinn OHST

President OCASSE 2011-2012

1750 Whittier Ave

Costa Mesa, CA 92627

SETHURAMAN, RAJA

From: HATCH, THOMAS
Sent: Monday, May 07, 2012 8:15 AM
To: MUNOZ, ERNESTO; SETHURAMAN, RAJA
Subject: FW: NO 405 WIDENING

-----Original Message-----
From: Freddy Perez [mailto:freddyperez2011@yahoo.com]
Sent: Saturday, May 05, 2012 1:59 PM
To: HATCH, THOMAS
Subject: NO 405 WIDENING

I vehemently disapprove of option 3 proposed by OCTA. Insufficient traffic assessment has been done in regards to its ramifications. I say NO 405 option 3!!!

Frederick Perez

Sent from my iPhone

2

GL1 Continued

SETHURAMAN, RAJA

From: HATCH, THOMAS
Sent: Monday, May 07, 2012 8:14 AM
To: MUNOZ, ERNESTO; SETHURAMAN, RAJA
Subject: FW: no 405 widening

-----Original Message-----
From: john doughty [mailto:3doughty@ca.rr.com]
Sent: Saturday, May 05, 2012 3:33 PM
To: HATCH, THOMAS
Subject: no 405 widening

no 405 widening, no alternative 3
John M. Doughty
1364 Garlingford St.
Costa Mesa, CA 92626

SETHURAMAN, RAJA

From: HATCH, THOMAS
Sent: Monday, May 07, 2012 8:14 AM
To: MUNOZ, ERNESTO; SETHURAMAN, RAJA
Subject: FW: No 405 widening

From: Patricia Camacho [mailto:trishcdc@gmail.com]
Sent: Saturday, May 05, 2012 4:05 PM
To: HATCH, THOMAS
Subject: No 405 widening

We are against this , Alternative 3 and the Fairview overpass bridge and the HOT lanes.
sincerely,
Dr. & Mrs. Hilario Camacho
Costa Mesa residents
1782 Kenwood Place

4

GL1 Continued

SETHURAMAN, RAJA

From: HATCH, THOMAS
Sent: Monday, May 07, 2012 8:14 AM
To: MUNOZ, ERNESTO; SETHURAMAN, RAJA
Subject: FW: NO 405 WIDENING

From: Kathleen Ramp [mailto:kathleenramp@yahoo.com]
Sent: Saturday, May 05, 2012 7:01 PM
To: HATCH, THOMAS; BEVER, ERIC
Subject: NO 405 WIDENING

We oppose Alternative 3 of the OCTA's freeway construction project because:

- It is woefully underfunded with a shortfall of $1.1 billion, with future speculative toll fees--witness the 73 toll shortfalls

- I eliminates the carpool lane near Costa Mesa

- It involves extensive years-long construction, meaning traffic delays and pollution for Costa Mesa

- It demolishes the recently rebuilt Fairview bridge, with the accompanying dislocation of traffic patterns.

Sincerely,

Kathleen and Larry Ramp

411 Gloucester Drive

Costa Mesa 92627

5

GL1 Continued

SETHURAMAN, RAJA

From: HATCH, THOMAS
Sent: Monday, May 07, 2012 8:14 AM
To: MUNOZ, ERNESTO; SETHURAMAN, RAJA
Subject: FW: 405 widening

From: tennisheritage@aol.com [mailto:tennisheritage@aol.com]
Sent: Saturday, May 05, 2012 10:53 PM
To: HATCH, THOMAS
Subject: 405 widening

There is no need to widen the 405. It will create more financial problems since the estimates are never correct. California is without such projects deep enough in the red and our taxes are already the highest in the Nation. Anything the Government touches is a lost cause. Let private investors get involved if they see they can make it work and they might

Unfortunately I cannot attend the meeting on Tuesday. Rolf Jaeger, 2048 Phalarope Court, Costa Mesa.

Thanks for sharing my view on this project.

SETHURAMAN, RAJA

From: HATCH, THOMAS
Sent: Monday, May 07, 2012 8:13 AM
To: MUNOZ, ERNESTO; SETHURAMAN, RAJA
Subject: FW: [BULK]

Importance: Low

-----Original Message-----
From: Debbie Serrano [mailto:Slucy61@aol.com]
Sent: Sunday, May 06, 2012 5:27 AM
To: HATCH, THOMAS
Subject: [BULK]
Importance: Low

Dear Mr. Hatch,

No Widening of the 405 at fairview. Our city is a cut through for Huntington Beach and Fountain Valley.

6

GL1 Continued

EXHIBIT "E"

GL1 Continued

I live in the Halecrest homes and the noise is already extreme with the past widening. The dirt and dust from the freeways are unhealthy for our City.

Stop the madness no widening of the 405 at fairview.

Thank you,
Debbie Serrano
Slucy61@aol.com

SETHURAMAN, RAJA

From: HATCH, THOMAS
Sent: Monday, May 07, 2012 8:13 AM
To: MUNOZ, ERNESTO; SETHURAMAN, RAJA
Subject: FW: no widening of the 405

-----Original Message-----
From: Debbie Serrano [mailto:Slucy61@aol.com]
Sent: Sunday, May 06, 2012 5:30 AM
To: HATCH, THOMAS
Subject: no widening of the 405

No widening of 405 at Fairview

Debbie Serrano
3023 Warren
Costa Mesa
Slucy61@aol.com

SETHURAMAN, RAJA

From: HATCH, THOMAS
Sent: Monday, May 07, 2012 8:13 AM
To: MUNOZ, ERNESTO; SETHURAMAN, RAJA
Subject: FW: "Build Alternative 3"

-----Original Message-----
From: Pamela Maddox [mailto:pamelitarose@sbcglobal.net]
Sent: Sunday, May 06, 2012 7:55 AM
To: HATCH, THOMAS
Subject: "Build Alternative 3"

My view is "NO 405 WIDENING"

Please share this at council mtg.

Thank you,

7

GL1 Continued

Pamela Maddox
3105 Loren Lane
Costa Mesa, CA 92626

Pamela Maddox
Metamorfosi Design
949.422.0266

Sent from my iPhone

SETHURAMAN, RAJA

From: HATCH, THOMAS
Sent: Monday, May 07, 2012 8:13 AM
To: MUNOZ, ERNESTO; SETHURAMAN, RAJA
Subject: FW: NO 405 WIDENING

From: Mark Sachs [mailto:jms92648@ca.rr.com]
Sent: Sunday, May 06, 2012 9:18 AM
To: HATCH, THOMAS
Subject: NO 405 WIDENING

Mr. Hatch,

A simple message NO 405 WIDENING!

Mark Sachs

2713 Sandpiper Dr.

Costa Mesa

8

GL1 Continued

SETHURAMAN, RAJA

From: HATCH, THOMAS
Sent: Monday, May 07, 2012 8:13 AM
To: MUNOZ, ERNESTO; SETHURAMAN, RAJA
Subject: FW: NO 405 WIDENING

From: Erik and Susy Brommers [mailto:erikandsusyb@yahoo.com]
Sent: Sunday, May 06, 2012 7:44 PM
To: HATCH, THOMAS
Subject: NO 405 WIDENING

Alternative 3 will NOT be beneficial to Costa Mesa. It is also a WASTE of taxpayer money.

Susana Brommers, homeowner

1218 Dorset Ln

Costa Mesa

SETHURAMAN, RAJA

From: HATCH, THOMAS
Sent: Monday, May 07, 2012 8:13 AM
To: MUNOZ, ERNESTO; SETHURAMAN, RAJA
Subject: FW: 405 Fwy. Project

Attachments: image002.gif

From: Diane [mailto:unitedneighbors@cmprepared.com]
Sent: Sunday, May 06, 2012 9:20 PM
To: HATCH, THOMAS
Subject: 405 Fwy. Project

Please don't widen the I-405 Fwy.

9

GL1 Continued

EXHIBIT "F"

GL1 Continued

SETHURAMAN, RAJA

From: HATCH, THOMAS
Sent: Monday, May 07, 2012 8:15 AM
To: MUNOZ, ERNESTO; SETHURAMAN, RAJA
Subject: FW: I405 project

From: Paul [mailto:hillassociates@att.net]
Sent: Monday, May 07, 2012 8:14 AM
To: HATCH, THOMAS
Cc: eric.beaver@costamesaca.gov
Subject: I405 project

No 405 widening in CM is needed or desired.

Paul Hill

1288 Londonderry St

Costa Mesa, CA 92626-2664

SETHURAMAN, RAJA

From: HATCH, THOMAS
Sent: Monday, May 07, 2012 8:14 AM
To: MUNOZ, ERNESTO; SETHURAMAN, RAJA
Subject: FW: no 405 widening!!

From: Maggie LeFave [mailto:joelmaggie@sbcglobal.net]
Sent: Saturday, May 05, 2012 3:27 PM
To: HATCH, THOMAS
Subject: no 405 widening!!

3

GL1 Continued

Diane Hill

1288 Londonderry St.

Costa Mesa

Description: Description: Description: Description: Description: image001

"Neighbors Helping Neighbors"

Diane Hill: (714) 546-4252 Voice (714) 540-1288 FAX

unitedneighbors@cmprepared.com: United Neighbors Website

SETHURAMAN, RAJA

From: HATCH, THOMAS
Sent: Monday, May 07, 2012 8:12 AM
To: MUNOZ, ERNESTO; SETHURAMAN, RAJA
Subject: FW: I oppose the reconfiguration of the 405/73 freeways.

From: Flo Martin [mailto:flomama@aol.com]
Sent: Monday, May 07, 2012 12:38 AM
To: HATCH, THOMAS
Subject: I oppose the reconfiguration of the 405/73 freeways.

As a long-resident of Costa Mesa, I oppose any reconfiguration of the 405/73 freeways' interchange. Enough is enough. We need to work to improve rapid transit, not freeways.

Flo Martin

Live today as if it were the first day of your life and also your last.

10

GL1 Continued

EXHIBIT "G"

GL1 Continued

CORDON, CHRISTINE

From: SHELTON, KELLY
Sent: Monday, June 18, 2012 8:39 AM
To: CITY COUNCIL
Cc: GREEN, BRENDA; CORDON, CHRISTINE
Subject: FW: I 405 improvement project
Importance: High

From: paulannekelly@ca.rr.com [mailto:paulannekelly@ca.rr.com]
Sent: Sunday, June 17, 2012 2:26 PM
To: op2council
Subject: I 405 improvement project
Importance: High

Dear Cost Mesa City Council Members;

I am very concerned about the plans to "improve the traffic flow" in the I 405 corridor between the I 605 and SR 73. I attended the Caltrans presentation about this project on June 4th at OCC. Although the current traffic situation and the projected situation for a few years down the road indicates that something should be done to improve the traffic flow-through, I believe that the third alternative that is being proposed would be very bad for the City of Costa Mesa.

First of all, it strikes me as being terribly wasteful to destroy the newly improved Fairview Ave. overpass bridge which cost us about $7,000,000 only 3 years ago.

Secondly, the use of HOV/"Express Lanes", rather than diamond lanes seems to me to be gimmick to generate revenue to off-set the large cost of this alternative, rather than a means of increase traffic through-put. The designs for the entrance and exit locations for these lanes make them almost inaccessible for Costa Mesans. People using these lanes would have a difficult time to exit them so as to shop in either South Coast Plaza or downtown Costa
Mesa.

Therefore, I strongly recommend that you write a resolution to Caltrans and OCTA expressing the city's strong objection to alternative # 3

Respectfully Submitted,
Paul D. Kelly (resident of Costa Mesa for 39 years)
2736 Mendoza Dr., Costa Mesa, CA 92626

GL1 Continued

EXHIBIT "H"

GL1 Continued

RECEIVED
OCT 26 2010
PUBLIC SERVICES

Gary R. Peacock, CPA
3063 Johnson Ave.
Costa Mesa, CA 92626-2818
Phone (714) 545-8661
Email: peacockgr@aol.com

October 19, 2010

Mr. Peter Naghavi, Director
Department of Public Services
City of Costa Mesa
P.O. Box 1200
Costa Mesa, CA 92628-1200

Re: Expansion of 405 Freeway through Costa Mesa

Dear Mr. Naghavi:

Thanks to you and Mr. Raja Sethuraman for both taking your personal time to brief the Directors and other members of Mesa North Community Association yesterday evening on the 405 Freeway Expansion project.

I am sure every one using this stretch of freeway would be in favor of improvements that eliminate to traffic compression caused by the lane reductions between the interception of the 605 Freeway and Harbor Blvd. I recall that when I lived in Laguna Beach some years ago, I would often avoid that stretch by taking Pacific Coast Highway to avoid the 405 congestion. Now that said, the widening will, no doubt, attract more traffic on the 405.

Since the added lanes would bring traffic closer to the sound walls, is it practical to raise their height to deflect the inevitable exhaust fumes from the traffic? If there are other ways to reduce the toxic emissions on the residents, I think that would be an important consideration. After all, public health is a consequence that has ethical and financial costs to the public.

Thank you for your consideration of my concerns.

Very truly yours,

Gary Peacock

Cc: Colin McCarthy
President, MNCA

GL1 Continued

EXHIBIT "I"

GL1 Continued

SETHURAMAN, RAJA

From: NAGHAVI, PETER
Sent: Monday, November 22, 2010 8:24 AM
To: 'jacknpeg91@ca.rr.com'
Cc: ROEDER, ALLAN; SETHURAMAN, RAJA
Subject: RE: 405 Expansion Project

Dear John and Margaret Higgins :
Thank you very much for your email and input with regards to proposed I-405 widening project.
While these alternatives are currently under review, no specific alternative has been selected as yet. Like you, many other local residents have voiced their concerns with one or more alternatives. Costa Mesa staff will collect all local concerns and will submit them to OCTA for their information and record.
Thanks again for caring about our community.

Peter Naghavi, Director
Dept. of Public Services
City of Costa Mesa, CA

-----Original Message-----
From: jacknpeg91@ca.rr.com [mailto:jacknpeg91@ca.rr.com]
Sent: Saturday, November 20, 2010 2:20 PM
To: NAGHAVI, PETER
Subject: 405 Expansion Project

Dear Mr Naghavi,

I write to protest Alternative 3 of the 405 Freeway expansion plan. This plan has a detrimental impact on Costa Mesa not only through significant inconvience to local citizens but also the potential for negative financial impact to the City. The communities south of the 405 from Euclid to Bristol would experience increased freeway noise as the lanes would be pushed closer to the sound walls and neighborhoods (e.g., Gisler park sound wall). This plan would also make it more difficult to travel locaily and would not make for convenient exiting of potential customers passing through the City.

This proposed I-405 widening project provides insignificant and minimal benefit to Costa Mesa residents and I encourage you and our City Council to reject it.

Thank you,
John & Margaret Higgins
Costa Mesa Residents since 1991

1

GL1 Continued

SETHURAMAN, RAJA

From: NAGHAVI, PETER
Sent: Monday, November 15, 2010 8:33 AM
To: SETHURAMAN, RAJA
Subject: FW: Proposed I-405 HOT plans

Peter Naghavi, Director
Dept. of Public Services
City of Costa Mesa, CA

From: The Stovers [mailto:calcs1224@gmail.com]
Sent: Monday, November 15, 2010 8:04 AM
To: NAGHAVI, PETER
Subject: Proposed I-405 HOT plans

The plans to add HOT lanes to access Toll-73 from and to I-405 are examples of wasteful spending, and not compatible for the community with elevated ramping. (Work completed at the Fairview bridge across I-405 caused traffic slowdowns far too long.)
Using private financing would benefit toll road users at the inconvenience to through traffic on I-405. We are occasional users of the toll road and find it used sparsely. Consider more lanes from South 55 to North 405 instead!
Corinne Stover

GL1 Continued

SETHURAMAN, RAJA

From: NAGHAVI, PETER
Sent: Monday, November 15, 2010 8:31 AM
To: 'rschowe173@aol.com'
Cc: SETHURAMAN, RAJA
Subject: RE: HOV-HOT LANES ON THE 405

Thank you and we will make sure to provide your comments to OCTA.

Peter Naghavi, Director
Dept. of Public Services
City of Costa Mesa, CA

From: rschowe173@aol.com [mailto:rschowe173@aol.com]
Sent: Sunday, November 14, 2010 8:53 AM
To: NAGHAVI, PETER
Subject: HOV-HOT LANES ON THE 405

Dear Sir,

I think this project would place yet another burden upon those who use the 405 freeway every day to go to work. Taking away the regular Car Pool lane would require those who need such a lane or its equivalent to pay for the privilege which is now free to those who are qualified to use the lane. I do not see how this could benefit the City of Costa Mesa where I live.

Best regards,

Richard N. Schowengerdt
714-546-7357

GL1 Continued

SETHURAMAN, RAJA

From: NAGHAVI, PETER
Sent: Thursday, October 28, 2010 10:07 AM
To: 'Steve F'
Cc: SETHURAMAN, RAJA
Subject: RE: 405 Widening Project to add toll roads

Thank you for your email Steve.
We will forward your email to OCTA.

Peter Naghavi, Director
Dept. of Public Services
City of Costa Mesa, CA

From: Steve F [mailto:beancounter-1@hotmail.com]
Sent: Wednesday, October 27, 2010 8:25 PM
To: NAGHAVI, PETER
Subject: 405 Widening Project to add toll roads

To Whom It May Concern:

As residents of the Halecrest track in North Costa Mesa, my entire family strongly opposes the proposed project to widen the 405 freeway near Fairview to add 405 toll lanes and eliminate the car pool lane.

My family uses Gisler Park near the freeway daily to walk to including taking my grandson Monday through Friday. The noise level even with the soundwall is already too much for the park and the homes next to the park. We oppose increased noise.

They just completed a $7 million project to widen the Fairview bridge. Now that money would be somewhat wasted by additional construction which is a further Fairview traffic burden on our Costa Mesa community which will not benefit by this new project.

Please do not do this and cancel this project.

Steve French (3058 Murray Lane, Costa Mesa 92626)
Maritza French
Verna French
Erika Browell

Danielle Tokarz (102 Pinon Tree Lane, Costa Mesa 92627)
Matt Tokarz
Rowan Tokarz

GL1 Continued

SETHURAMAN, RAJA

From: NAGHAVI, PETER
Sent: Thursday, October 28, 2010 10:05 AM
To: 'stevem@lis1.net'
Cc: SETHURAMAN, RAJA
Subject: RE: Can 405 HOT Lane Funding be used to build Reverse Toll Booths?

Thank you for your email. We will certainly include this email as part of a general package to OCTA at some point.
I would however, like to make a comment about using "HOT" lane funds towards other things such as ped. Bridges....
At this time, there is no "HOT" lane funding available. The funding will only become a reality if there is indeed a "HOT" lane in operation that generates the funding source, such as sale of bonds etc....

Peter Naghavi, Director
Dept. of Public Services
City of Costa Mesa, CA

-----Original Message-----
From: Steve Mariani [mailto:stevem@lis1.net]
Sent: Wednesday, October 27, 2010 5:47 PM
To: NAGHAVI, PETER
Subject: Can 405 HOT Lane Funding be used to build Reverse Toll Booths?

Instead of demolishing perfectly good new bridges on the 405, why not use the CAL TRANS HOT Lane money to build new WIDE pedestrian bridges that will attract pedestrians, bikes and golf carts. This will divert local traffic off the 405 at rush hour and lower emissions.

Imagine being able to walk, bike or golf cart over a wide bridge from residential park areas to commercial shopping areas across the 405.
Metro Point and IKEA come to mind. Most residents would prefer to walk, bike or Golf Cart all the time if it was safe and enjoyable.
OCC students would also have a safe, enjoyable path to bike to school or to go off campus for lunch.

HOT Lane funding could also be used to create a fund for "reverse"
toll booths that dispense store coupons with a hour time stamp on them to encourage bridge use to go shopping at the malls. Everyone wins.
Cal Trans gets to build new bridges and toll booths and life in Costa Mesa gets upgraded.

The Department.of Transportation will convert our town into an carelessly planned inner-city if we just roll with the default vision of the central planners in Sacramento and in DC. Was Costa Mesa made for the Freeway or was the Freeway made for Costa Mesa?

Best regards,
Steve Mariani
3062 Murray LN
Costa Mesa, CA 92626

GL1 Continued

EXHIBIT "J"

GL1 Continued

SETHURAMAN, RAJA

From: SETHURAMAN, RAJA
Sent: Monday, November 22, 2010 9:29 AM
To: SETHURAMAN, RAJA
Subject: FW: 405 MIS

From: mike brumbaugh [mailto:mlbrum@att.net]
Sent: Friday, October 22, 2010 8:43 AM
To: SETHURAMAN, RAJA
Cc: NAGHAVI, PETER
Subject: Re: 405 MIS

Thank you gentlemen. Mike Brumbaugh

- The goal is to connect the 73 with the 605 freeway with additional lanes
- The project cost is projected to be $1.7 billion
- Alternative 3 is the only one that impacts Costa Mesa
- Alternate 3 adds two additional lanes to the 405 that will be "HOT" lanes (High occupancy/toll lanes) and eliminates the car pool lane
- The 405 would be widened for the additional lanes and would push the lanes closer to the sound walls and neighborhoods (e.g. lanes closer to Gisler park sound wall) and could increase traffic noise
- The newly re-constructed Fairview Rd. bridge would have to be re-constructed again to make it wider for the additional lanes under it. The I-405 widening project that was completed almost 10 years ago was done for a traffic volume/speed demand with a forecast year of 2020. The cost for the recent bridge widening construction was 7 million dollars.
- This proposed I-405 widening project provides insignificant and minimal benefit to Costa Mesa residents who travel the 405 locally. People who currently travel the toll roads daily from Costa Mesa to some destination may see the benefit.
- It is not currently known where and if there will be a convenient entrance to the new "HOT" lanes from our community. It may also be difficult to exit the "HOT" lanes into our city.

GL1 Continued

EXHIBIT "K"

GL1 Continued

WE OPPOSE REVISED ALTERNATE #3 TO THE 405 FREEWAY IMPROVEMENT PLAN

1. Corinne P. Stover
signature 5/13/2011

Corinne P. Stover
1224 Conway Avenue
Costa Mesa, CA 92626
714-432-7371

2. Louise Stover
signature

Louise Stover
1224 Conway Avenue
Costa Mesa, CA 92626
714-432-7371

GL1 Continued

GL1 Continued

WE OPPOSE REVISED ALTERNATE #3 TO THE 405 FREEWAY IMPROVEMENT PLAN

1. Fred Merkle
Signature

Fred E. Merkle
1216 Conway Ave.
Costa Mesa, CA 92626
714-545-3798

2. Julie Ann Merkle
Signature

Julie Ann Merkle
1216 Conway Avenue
Costa Mesa, CA 92626
714-545-3798

EXHIBIT "L"

GL1 Continued

1 88 Londonderry

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

	Signature / Print	Street	City	State	Zip Code	Phone	email Address
1	Natalie Meyers	1386 Watson Ave	Costa Mesa	CA	92626	(714) 371-5124	NatMeyers@AOL.com
2	Martha Sue Atherton / Warren Atherton	3121 College Ave	Costa Mesa	CA	92626	714-549-2812	
3	Warren R Atherton	3121 College Ave	Costa Mesa	CA	92626	714 549 2812	
4	Cheryl Slaney	3095 College Ave.	Costa Mesa	CA	92626	714-557-0551	
5	Dennis Stone	1382 Watson Ave	Costa Mesa	CA	92626	714-337-3548	
6	Megan Stone	1382 Watson Ave	Costa Mesa	CA	92626		
7	Kaitlyn McCarty	1376 Watson Ave.	Costa Mesa	CA	92626	714-557-9839	
8	Ryan McCarty	1376 Watson Ave	Costa Mesa	CA	92626	714-557-9839	
9	Bernadette Chavis	3098 College Cm	Costa Mesa	CA	92626		glbc@aol.com
10	Jennifer Hornbuckle	3088 College Ave	Costa Mesa	CA	92626	714-979-7023	

GL1 Continued

Halecrest/Hall of Fame Resident Petition, February 6, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

	Signature / Print	Street	City	State	Zip Code	Phone	email Address
1	Courtney Perkins	1421 Shamrock	Costa Mesa	CA	92626	714 368-8162	Steve0811@gmail.com
2	Kim Cooper-Cosby	1425 Shamrock	Costa Mesa	CA	92626	714/632-1177	cooperkim2004@aol.com
3	Tom McCormick / Lanne Hilliard	1451 Shamrock	Cm	CA	92626	714-549-7177	310 Tom@mccormick.com
5	Ray Cowan / Ray Cowan	2406 Mandarin Way	92626	CA	92626	208 297 8009	pubspumbing@yahoo.com
6	Michael Lewis	3123 Dublin	Costa Mesa		92626	714-556-2365	NZ63192@AOL.com
7	Dawn Damago	3129 Dublin	Cm	CA	92626	714-557-0911	—
8	Kevin Kennedy	3121 College	Cm	CA	92626	714 600-4314	kevinpkennedy@gmail.com
9	Helen Sust	1409 Shamrock	Cm	CA	92626	714 641-4786	—
10	Judith Otto	1417 Shamrock	Cm	CA	92626		
11	Chris Otto	1417 Shamrock	Cm	CA	92626		
12	Paul Degiulio	3128 Dublin St	Cm	CA	92626		
13	Nancy Curtis	1427 Dublin	Cm	CA	92626		

GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature / Print	Street	City	State	Zip Code	Phone	email Address
Randilyn Nordstrom	3357 Alabama circle	Costa Mesa	CA	92626	714-434-1636	Randilyn14@hotmail.com
Kitty S. Nordstrom	"	"	"	"	"	Randilyn14@hotmail.com
CARLOS VARADY	3348 Alabama	Costa Mesa	CA	926		[illegible]
[illegible]	426 Elgin Rd.	CM	CA	92626	714-432-2464	[illegible]
[illegible]	3167 Barbados	Costa Mesa	CA	92626	714-979-9558	[illegible]2@yahoo.com

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GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature / Print	Street	City	State	Zip Code	Phone	email Address
[illegible]	1865 West 18th St	CM	CA	92626	714-751-4570	
M. Nicholas Abbott	3000 Ceylon Rd.	CM	CA	92626	714-979-3496	
Chris Schilling	3167 Barbados	CM	CA	92626	714-979-9558	mtnbk@cbcglobal.net
CHRIS MOORE	3360 ALABAMA CIR	CM	CA	92626	714-284-1527	CMOORE@FORTISTAR.com
[illegible]	954 Carnation Ave C.M.	CM	CA	92626	714-[illegible]	
Kate Graves	3237 Minnesota	CM	CA	92626		

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GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

RECEIVED
FEB 28 2011
PUBLIC SERVICES

Signature / Print	Street	City	State	Zip Code	Phone	email Address
Sandra K. Cuthill / SANDRA K. CUTHILL	1214 LONDONDERRY ST.	Costa Mesa	CA	92626	714-556-0709	
Mary Deane Craig / Mary Deane Craig	1218 Londonderry St.	Costa Mesa	CA	92626	7145403989	
Robin R. Craig	1218 Londonderry ST	Costa Mesa	CA	92626	7145403989	
Nadine Sturdy / Nadine J Sturdy	3157 Bray Lane	Costa Mesa	CA	92626	714 [illegible]	nadinesturdy@att.net
Zachary M. Limbaak	3153 Bray Ln	Costa Mesa	CA	92626	949-973-[illegible]	
Nick Blucker	3133 Bray Ln	Costa Mesa	CA	92626	714 488 [illegible]	
Carolyn Vieley	3135 Bray Ln.	Costa Mesa	CA	92626	714-576-[illegible]	
Vicky Vieley	3138 Bray Ln	Costa Mesa	CA	92626	714-541-[illegible]27	
Stephanie Pacheco	2904 Chestnut	CM	CA	92626	7144441339	Pacheco7134@yahoo.com

GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

RECEIVED
MAR 04 2011
ENGINEERING

Signature / Print	Street	City	State	Zip Code	Phone	email Address
Oran Stucker / ORAN STUCKER	3100 TAFT WAY	COSTA MESA	CA	92626	714-444-8545	oranstucker@netscape.net
VIOLA REESE / Viola Reese	3105 TAFT WAY	COSTA MESA	CA	92626	714-957-2496	
Derek McCormick / Derek McCormick	3100 TAFT WAY	Costa Mesa	CA	92626	714 310 8255	
Colin McGrath / Colin McGrath	3055 Johnson	Costa Mesa	CA	92626	714 641-4798	
Kelly McCarthy / Kelly McCarthy	3055 Johnson	Costa Mesa	CA	92626	714-641-4703	

GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature / Print	Street	City	State	Zip Code	Phone	email Address
Steve Dixon	3129 Limerick Ln	Costa Mesa	CA	92626	714-405-0775	stelizd@cox.net
Elvira Guerrero	1390 Garling Ford St	Costa Mesa	CA	92626	949-244-9850	Jacson Fabio@yahoo.com
Nancy Carrillo	1387 Garling ford St	Costa Mesa	CA	92626	714 546 7561	Nancy.carrillo65@yahoo.com
[illegible]	1387 Garlingford St.	Costa Mesa	CA	92626	714.546.7561	N/A
Christine Brandon	1387 GARLINGFORD ST.	Costa Mesa	CA	92626	714-546-7561	N/A
Julie Sutton	3145 Bray Ln	Costa Mesa	CA	92626	949 376 8855	julie.sutton@excite.com
Patricia Sutton	3145 Bray Ln	Costa Mesa	CA	92626	714-546-0776	n/a
MARY GIOM	1022 London Derry St	CM	CA	92626	562-242-7173	

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GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature / Print	Street	City	State	Zip Code	Phone	email Address
RANDY RANIERI	3141 LIMERICK LANE	COSTA MESA	CA	92626	714 246-5502	rrarch@aol.com
Matt Hickey	1391 Garling Ford	Costa Mesa	CA	92626	714-556-7124	MWD1391@AOL.com
BERNADETTE DEAN	1290 Country Club	" "	"	"	714 540 8445	bernie@dtsselectric.com
Veronica Osso	333 Nevada Ave	Costa Mesa	CA	92626	(714) 404-8809	vosso@mac.com
Elizabeth Dixon	3129 Limerick Ln.	Costa Mesa	CA	92626	714-747-9762	
Cindy Rodriguez	3138 Limerick Lane	Costa Mesa	CA	92626	714-546-4949	
Joe E. King	3037 Fernheath	Costa Mesa	CA	92626	(714) 921 8035	JKmickey@myway.com
Mitzi Lawrence	1240 Londonderry	Costa Mesa	CA	92626	714 668 0490	mitzilawrence@yahoo.com
Bea Burks	9716 Paularino	Costa Mesa	CA	92626	7)3432423	burksbea130@yahoo.com

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GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature / Print	Street	City	State	Zip Code	Phone	email Address
Scott Armsworth	1357 Garlingford	CM	CA	92626	714 549 1128	Sarmsworth@yahoo.com
Patrick Martin	1368 Garlingford St.	CM	CA	92626	909 896-1165	martinloans@gmail.com
Dave Manning	1344 Garlingford	CM	Ca	92626	714-662-0509	dlm1172drm30y@sbcglobal.net
Becky Manning	1344 Garlingford St	CM	Ca	92626	714-662-0509	blm1172drm30y@sbcglobal.net
DAVID Bunnell	3134 Kerry Lane	CM	Ca	92626	714 557-8406	dand-Marta@sbcglobal.net

GL1 Continued

3001-3017

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature / Print	Street	City	State	Zip Code	Phone	email Address
Ron & Mary Bennett / Ron Bennett / Mary Bennett	3001 Royce Ln.	Costa Mesa	CA	92626	714-754-4070	
Valentina Taylor / VALENTINA TAYLOR	3006 Royce Ln.	Costa Mesa	CA	92626	714-708-2228	
Asgeir Leifsson / ASGEIR LEIFSSON	1200 Londonderry St	Costa Mesa	CA	92626	7148504818	
[illegible]	[illegible]	[illegible]	[illegible]	92626	(714) 8508818	
Arceelia Hernandez	1254 Londonderry St	Costa Mesa	CA	92626	(714) 540-7826	
Lorena Zamora	1254 Londonderry St	Costa Mesa	CA	92626	(714) 540-7826	

GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature	Print	Street	City	State	Zip Code	Phone	email Address
		1336 Wallbank	Costa Mesa	CA	92626	714-641-4171	
		882 Walton	Costa Mesa	CA	92626		
		1340 Walton Ave	Costa Mesa	CA	92626	714-641-1641	marcia@1340@cox.net.com
		1740 Walton Ave	Costa Mesa	CA	92626	714-641-3515	d.henke@cox.net.com

GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature	Print	Street	City	State	Zip Code	Phone	email Address
		3011 Fairviewton Ln	Costa Mesa	CA	92626	714-337-4080	
		3098 Murray Ln	Costa Mesa	CA	92626	657-5589	jeffreydavis@cox.net.com
		2554 Kimberly	Costa Mesa	CA	92626	714-797-5781	kimberlyanson@cox.net.com

GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature / Print	Street	City	State	Zip Code	Phone	email Address
Rex Ranieri	3141 Limerick Cor	Costa Mesa	CA	92626	714-540-8975	
Avol Holtz	3145 Limerick Ln	Costa Mesa	CA	92626	714 540-8975	
WALTER HOLTZ	3145 LIMERICK LN	COSTA MESA	CA	92626	714 5408975	WNHOLTZ@YAHOO.COM
John Reiland	1336 WATSON AV	CM	CA	92626	714-754-1322	
Kyle Haberman	1447 deauville pl	Costa Mesa	CA	92626	714 435 PBO	Habermankyle@yahoo.com
	1103 Yucelton	Costa Mesa	CA	92626	714-549-0374	burkster@sbcglobal.net
Brittany Faroan Santos	355 Avocado St. #D2	Costa mesa	CA	92627	714.608-2601	
Gwen Faroan	355 Avocado St D2	Costa Mesa	CA	92627	714-916-5377	
BRIAN A GIESE	1222 WONDERLY ST	CM	CA	92626	310 721 3977	[illegible]bb55@hotmail.com

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GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature / Print	Street	City	State	Zip Code	Phone	email Address
Sharon Comer	1139 Salvador	Costa Mesa	Ca	92626	714 754 5790	
Marcel Stanley	3051 Killybrooke LANE	CM	CA	92626	714 429-0130	
Harry Teegarden	3107 Killybrooke	CM	CA	92626	714 545-5771	
MARIE GREATOREX	1379 WATSON AV	CM	CA	92626	714 251-4466	
JAMES E DUOTE	3161 YUKON AVE	C.M	CA	92626	714 540 4703	
BLENDA DUOTE	3161 YUKON AVE	C.M	CA	92626	714 540 4703	
Lois Smith	3050 Warren Ln Cost	C M	CA	92626	714 979-7810	
Larry Smith	3050 Warren Ln	CM	CA	92626	714 979-7810	
	3146 Killarny LN	C A	CA	92626	714 742 5968	Eliot.z@att.net

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GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature	Print	Street	City	State	Zip Code	Phone	email Address
		12276 LONDONDERRY	COSTA MESA	CA	92626	714 546-5161	CAROLINSCOTT@ATT.NET
		1280 Londonderry	Costa Mesa	Ca.	92626	714 641-2424	
		12244 Londonderry St	Costa Mesa	CA	92626	714-585-9608	
		3157 Kilbarney	Costa Mesa	CA	92626	714 557-0356	
		3151 KILLARNEY LN	COSTA MESA	CA	92626	714 557 0356	
		3154 Killarney Ln	Costa Mesa	CA	92626	714 957-1382	Kempedlerson@cox.net
		1211 Londonderry	Costa Mesa	CA	92626	714 641 0470	
		12240 Londonderry	Costa Mesa	CA	92626	(714) 668-0885	
		12181 LONDONDERRY ST.	COSTA MESA	CA	92626	714-540-3489	TEN@JTKONO@MAIL.COM

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature	Print	Street	City	State	Zip Code	Phone	email Address
	Janet Lee Krachman	3107 Trinity Drive	Costa Mesa	CA	92626	7143255318	janetakrachman.com
	Jorgana Lang	3103 Warren Ln	Costa Mesa	CA	92626		
	Justin Lang	3103 Warren Ln	Costa Mesa	CA	92626	714 751-5211	
	Mike Lang	3103 Warren Ln	Costa Mesa	CA	92626	714 726-9766	
	Bill Lillibridge	3099 Warren Ln	Costa Mesa	CA	92626	(949) 650-1025	BILLMARK@COX.NET
	Jackson Parker-Mitchell	1279 Conway Ave	Costa Mesa CA	CA	92626	(714) 662-5432	
	Carol Thorn	2820 San Juan Lane	Costa Mesa	CA	92626		
	Phoebe Deiwick	3120 Anderson Rd	Costa Mesa	CA	92626	714 641-2737	
	Linda Brandrup	3107 Loren Ln	Costa Mesa	CA	92626	714 545-8821	mibrm@adelphia.net

GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature / Print	Street	City	State	Zip Code	Phone	email Address
Patricia Timmons / Patricia Timmons	3145 Cork Lane Costa Mesa CA 92626	Costa Mesa	CA	92626	714 904 2258	
Todd Timmons	3145 Cork Lane	Costa Mesa	CA	92626	714 556 0811	
Maria Land / Maria Land	3153 Killarney Ln Costa Mesa, CA 92626	CM	CA	92626	714 765-8331	
Colleen Blair / Alistair Blair	3158 Limerick Ln Costa Mesa, CA 92626	CM	CA	92626	714 434 4844	
Kenneth L. Boyd / [illegible]	1309 Londonderry Costa Mesa, CA 92626	CM	CA	92626	714 751 1938	
Cynthia Ambrosse / [illegible]	1280 Londonderry Costa Mesa CA 92626	CM	CA	92626	714 654 9198	
[illegible] / [illegible]	1226 Carnaby Ln. C.M., CA 92626	C.M.	CA	92626	714 556-6455	
[illegible] / Brad Warrick	3095 Mercy Lane Costa Mesa CA 92626	C.M	CA	92626	(714) 540-7115	
[illegible] / [illegible]	3150 [illegible] Costa Mesa CA 92626	CM	CA	92626	714 668 7711	

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GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature / Print	Street	City	State	Zip Code	Phone	email Address
David D. Diamond / David D. Diamond	22912 Kingsley St. Lake Forest, Ca. 92630	Lake Forest	Ca	92630	949-215-4768	
Betty Holland / Betty Holland	2300 Holiday Rd	N B	Ca	92660	949-642-9755	
[illegible] / Stephen Paolett	3134 Beay Lane	Costa Mesa	CA	92626	714-840-5551	
Laura Buck	14802 Newport Ave #90	Tustin	CA	92780	714-979-8817	
Michael Poliqui / Bernard Ciekot	3130 Bray Ln Costa Mesa	Costa Mesa	CA	92626	714 850-1134	
Bernard Ciekot	26300 Lagescleon	Santa Ana	CA	92704		
Yvonne Dunn / [illegible]	3044 Donnybrook	Costa Mesa	CA	92626		
[illegible]	3044 Donnybrook	Costa Mesa	CA	92626	714-546-1189	
Len Santiago / Megan Santiago	3133 Bray Lane Costa Mesa, CA	Costa Mesa	CA	92626	714 204-1630	
Hay Tu	3158 Beay Ln Costa Mesa	Costa Mesa	CA	92626	(714) 595 6274	

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GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature / Print	Street	City	State	Zip Code	Phone	email Address
Margaret A. Iannelli / MARGARETA. IANNELLI	3233 MICHIGAN AVE	COSTA MESA	CA	92626	714 557-1060	
Carl Iannelli	1440 Deauville Pl.	Costa Mesa	CA	92626	714 981-7244	
Marcia Martin / Marcia Martin	1284 Londonderry	Costa Mesa	CA	92626	714 3154797	
Tara Lund	3153 Killarney Ln.	Costa Mesa	CA	92626	714 549-1681	
Tienna Zuniga	3146 Killarney Ln.	Costa Mesa	CA	92626	714-641-3963	
Jay Rodriguez II	3146 Killarney Ln.	Costa Mesa	CA	92626	714-641-3963	
KEVIN FISHER	3145 Killarney	Costa Mesa	CA	92626	714 979 0218	
Irma Fisher	3145 Killarney	Costa Mesa	CA	92626	" "	
Jana B. Sullivan / Jana B. Sullivan	3058 Tyler Wy	Costa Mesa	CA	92626	714) 751-6415	

GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature / Print	Street	City	State	Zip Code	Phone	email Address
Gregory H. Barnett	1382 Galway Lane	Costa Mesa	CA	92626	714-658-6782	gregory.h.barnett@boeing.com
Liz Barnett	1382 Galway Lane	Costa Mesa	CA	92626	714-349-4769	elizbarnett@msn.com
Ryan Barnett	1382 Galway Ln.	Costa Mesa	CA	92626	714 371-7080	
Bryan Williams	3116 McKinley Way	Costa Mesa	CA	92626	714 832-4332	
Ron Hayward	3085 Fernheath Ln	Costa Mesa	CA	92626	714 581-6126	
Barbara L. Hayward	3085 Fernheath Ln.	Costa Mesa	CA	92626	714 545-6126	
Steven Green	3190 Chapman Deer Ln	Costa Mesa	CA	92626	714 557-8616	gnlgreen@msn.com
[illegible]	3205 Massachusetts	CM	CA	92626	714-957-2710	
Barbara Thesing	3147 Cellesf	Costa Mesa	CA	92626	714 557-1492	bthesing@CA.RR.com

GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature / Print	Street	City	State	Zip Code	Phone	email Address
Pamela Wilson / PAMELA WILSON	3093 DONNYBROOK LN	COSTA MESA	CA	92626	714-545-3960	N/A
Marilyn J. Krogh / MARILYN J. KROGH	3098 DONNYBROOK LN	Costa Mesa	CA	92626	714-546-7533	N/A
[illegible] / [illegible]	3097 DONNYBROOK LL	COSTA MESA	CA	92626	714 434-6226	N/A
Keli Roche / Keli Roche	3094 Donnybrook Ln.	Costa Mesa	CA	92626	714 360.0213	N/A
[illegible] / Tagi Ray	3088 Donnybrook Ln	Costa Mesa	CA	92626	714-546-0328	N/A
[illegible] / [illegible]	3077 Donnybrook	Costa Mesa	CA	92626	714-585-3588	N/A
Joan E. Ron / [illegible]	1274 Conway Ave	Costa Mesa	CA	92626	714 979-8495	N/A
[illegible] / Dian [illegible]	1274 Conway	C.M.	CA	9266		[illegible]
[illegible] / MARGE COLICCHIO	3071 Fairchild	CM	CA	92626	714-585 1297	N/A

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GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature / Print	Street	City	State	Zip Code	Phone	email Address
[illegible] / Chris Conner	1139 SONADO ST.	COSTA MESA	CA	92626	714 754-5200	
[illegible] / Trent Christ	1218 Donegal Pl.	Costa Mesa	CA	92626	714 557-2606	
[illegible] / Jennifer Christ	1219 Donegal Pl.	Costa Mesa	CA	92626	714 557-[illegible]	jennifer@theochrists.com
Michelle DeCoursey	1218 Donegal Pl	Costa Mesa	CA	92626	714 557-9885	Mdecoursey@Hotmail.com
[illegible]	1218 Donegal Pl	Costa Mesa	CA	92627	714-932-6016	[illegible]@cdevram.com
[illegible] / Heidi McDowell	1112 Dorsey P	CM		92627	714 754 0778	
[illegible] / Kathleen Steck	80058 Anaheim	CM		92627		
Kirk Kistler / [illegible]	1298 BELFAST AVE	CM	CA	92626	714 754-4278	
Ryan Steck / [illegible]	3005 WATER LN	CM	CA	92626	714 335-763[illegible]	Ryan.steck@impactcontrol.com

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GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature / Print	Street	City	State	Zip Code	Phone	email Address
Charles L. Ropp / Charles L. Ropp	1373 Garlingford	Costa Mesa	CA	92626	714-595-2678	
Mary Jane Canfield / Mary Jane Canfield	1396 Garlingford Street	Costa Mesa	CA	92626	714-855-0165	maryjanecanfield@yahoo.com
Jean A Neumeyer / Jean A Neumeyer	1360 Garlingford St	Costa Mesa	CA	92626	714-545-1734	
Loan Tu / [illegible]	1361 Garlingford St	Costa Mesa	CA	92626	714-294-1133	
Aaron Jones / [illegible]	1367 Garlingford St	Costa Mesa	CA	92626	949-293-1828	Aaron3140@yahoo.com
[illegible] / John M. Dougherty	1364 Garlingford	Costa Mesa	CA	92626	714-556-1393	3DOUGHTY@CA.RR.COM
Johanna Dougherty / Johanna Dougherty	1364 Garlingford St	Costa Mesa	CA	92626	714 556-1393	
Lauren Dougherty / Lauren Dougherty	1364 Garlingford St	Costa Mesa	CA	92626	714 556-1393	
[illegible] / PATRICK GLEASON	1361 GARLINGFORD ST	COSTA MESA	CA	92626	714 437-9701	

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GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature / Print	Street	City	State	Zip Code	Phone	email Address
[illegible] / Jerry Brown	3093 Fernheath Ln	Costa Mesa	CA	92626	496-0144 714-831-1144	N/A
[illegible] / Dennis A Bloss	3097 Fernheath	Costa Mesa		92626	714-957-4016 714-957-4016	[illegible]
Thomas Mulligan / THOMAS MULLIGAN	3101 FERNHEATH LANE	" "		92626	714.540.7584	N/A
Kara Marks / [illegible]	1260 Belfast Ave	"		"	714 [illegible] 5831	karamarks@me.com
[illegible] / CARLOS & NORA	1270 BELFAST AVE	COSTA MESA	CA	92626	714 721 1773	evelia.carlos@yahoo.com N/A
[illegible] / FRANK DOTOLO	1280 BELFAST AVE	COSTA MESA	CA	92626	714 557 2161	N/A
[illegible] / Shannon M. Trejo	1284 Belfast Ave	C.M.	Ca	92626		s.s.trejo@slcglobal.net
[illegible] / Deborah Keller	1298 Belfast Ave	C.M.	CA	92626	714 754 4278	N/A
[illegible] / LESLIE CHRISTIE	3101 Donnybrook Ln	CM	Ca	92626	714 556-1975	[illegible]

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GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature / Print	Street	City	State	Zip Code	Phone	email Address
PAUL HILL	1288 LONDONDERRY	CO STA MESA	CA	92626	714 546-4754	BILLASSOCIATES@ ATT.NET
JOHN PLOSKI	3154 BRAY LN	COSTA MESA	CA	92626	(714) 546-4029	
Vaughan Barker	3037 Warren Lane	Costa Mesa	CA	92626	(714) 271-3949	vbarker4@gmail.com
SCOTT CHRISTIANSEN / ~~Aurora B. Romero~~ 1221 McCormack Ln.	3149 BRAY LANE	COSTA MESA	CA	92626	714 557 2543	SCOTTR RAY@ SBCGLOBAL.NET
Aurora B. Romero	1221 Mc Cormack Ln.	Costa Mesa	CA	92626	714 957 0249	

GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature / Print	Street	City	State	Zip Code	Phone	email Address
JOHN HIGGINS	3130 KILLYBROOKE LANE ~~COSTA MESA~~	COSTA MESA	CA	92626	714 545 9258	JACKNPEGGI@ CA.RR.COM
MARGARET HIGGINS	3130 KILLYBROOKE	COSTA MESA	CA	92626	714 545 9258	
WM. JOHN WHITTAKER	3126 KILLYBROOKE	COSTA MESA	CA	92626	714 549 9150	wjwhittaker@hotmail.com
Melanie Whittaker	3126 Killybrooke Ln.	Costa Mesa	CA	92626	714-549-9150	mwhitt29@hotmail.com
LORINE DELGADO	1213 DORSET LN	COSTA MESA	CA	92626	310 961-1105	
RON ARNOLD	3154 KILLYBROOKE	COSTA MESA	CA	92626	714 545-5214	
Jeffrey Cosa	1346 Gourlayford	Costa Mesa	CA	92626	714-557 7460	Jeffrey.cosa@sbcglobal.net
Lex Munger	1348 Gourlayford	Costa Mesa	CA	92626	949 707-5007	
Christine Schlater	1352 Gourlayford	C. Mesa	Ca	92626		

GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature / Print	Street	City	State	Zip Code	Phone	email Address
Debra Wanbaugh	3158 Killybrooke Ln	Costa Mesa	CA	92626	714-353-5317	wanbaughd@sbcglobal.net

GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature / Print	Street	City	State	Zip Code	Phone	email Address
David R Shumaker / DAVID R SHUMAKER	3160 Killybrooke	Costa Mesa	CA	92626	714 556 8569	
Mike L Valencia / MIKE L VALENCIA	3138 KILLYBROOKE	COSTA MESA	CA	92626	714 549-1359	
Josephine L. Valencia / Josephine L. Valencia	3138 Killybrooke	Costa Mesa	CA	92626	714-549-1359	
Matt Va / Matt Valencia	3138 Killybrooke	Costa Mesa	CA	92626	714-549-1359	

GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature / Print	Street	City	State	Zip Code	Phone	email Address
Joseph Schlater	1352 Garlingford	Costa Mesa	Ca	92626		
Don Remmel	1372 Garlingford St.	Costa Mesa	CA	92626	714 549 2357	dremmel@cambro.com
Joe Flanagan	1349 Garlingford St	Costa Mesa	Ca	92626	714 545-0300	
Charles S. Alms	1341 Garlingford	Costa Mesa	CA	92626	714 557-0524	
Thomas Tersigni	1376 Garlingford St	Costa Mesa	CA	92626	714 546-2472	tom@tersigniinc
Mary L. Tersigni	1376 Garlingford St.	Costa Mesa	CA	92626	714-546-2472	
Lori Fleurent	1356 Garlingford	Cm	Ca	92626	714 651-4601	
Lori Fleurent	1356 Garlingford St	CM	Ca	92626	714 651-4601	
James E Fleurent	1356 Garlingford St	CM	CA	92626	7146449322	

GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature / Print	Street	City	State	Zip Code	Phone	email Address
Cynthia Morton	1345 Garlingford St	Costa Mesa	CA	92626	714 546-9002	
Rita M Morton	243 Virginia Pl	Costa Mesa	CA	92627	(949) 548-7922	
Paul K. Morton	243 Virginia Pl.	Costa Mesa	CA	92627	548-7922	
[illegible]	1345 Garlingford St	Costa Mesa	CA	92626		
Mary V Morton	3064 Madison Ave	Costa Mesa	CA	92626	714 957 6862	
Elizabeth A Dilsizian	2761 Lorenzo Ave	CM	CA	92626	714 241 8440	
Kevin Morton	3068 Madison Ave	Costa Mesa	CA	92626	714) 803-3115	

GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature	Print	Street	City	State	Zip Code	Phone	email Address
	Nancy C. Hunsaker	3160 Killybrooke	Costa Mesa	CA	92626	(714) 556-8563	hlh023@aol.com
	Richard Kasper	1836 Carrington Ct	Costa Mesa	CA	92626	(714) 957-2665	Karen Kasper@hotmail.com
	Steve French	3058 Navarre	Costa Mesa	CA	92626	(949) 979-5919	bonesinfrench@hotmail.com
	Dixie Frazier	1371 Ellington Ln	Costa Mesa	CA	92626	714 546-8159	dixe@me.com
	Adrienne Dodge	1270 Londonderry St	Costa Mesa	CA	92626	714-654-7495	
	John T Dodge	1270 Londonderry	Costa Mesa	CA	92626		
	Sandra Ploski	3154 Bray Ln	Costa Mesa	CA	92626	714-546-1629	Plosk1s@aol.com
	Ed Mazzarella	1207 Donegal	Costa Mesa	CA	92626	949 548-5038	mmedesigns@cox.net
	Susan Rogers	1288 Bethany Ave	Costa Mesa	CA	92626	714 641-2141	Sroger@Aol.Com

GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature	Print	Street	City	State	Zip Code	Phone	email Address
	Laura Robbs	3065 Rosemont Ln	Costa Mesa	CA	92626	(714) 850-7937	Langsylkeex@sbcglobal.net
	Chris Robbs	3141 Limerick	Costa Mesa	CA	92626	714-328-0475	rexsmom@aol.com
	Julann Reynen	1276 Londonderry	Costa Mesa	CA	92626	(949) 574-5811	MAbbotBrooks@yahoo.com
	Julann Reynen	3058 Lorem Ln	Costa Mesa	CA	92626	(949) 759-1591	
	Mary Abbott Brooks	3101 Lorem Ln	Costa Mesa	CA	92626	714 931-8292	mlaruin@att.net
	Bertine Abbott	3057 Murnaghan	Costa Mesa	CA	92626	(714) 204-2329	Dianemoore5940@sbcglobal.net
	Bertine Abbott	1288 Londonderry St	Costa Mesa	CA	92626	714 546-1857	unitedneighbors@cmqcexperts.com
	Henry P.	1391 Darlingford St	Costa Mesa	CA	92626	714 556-7124	mattammie@aol.com
	Mike Brumbaugh	3011 Fernheath	Costa Mesa	CA	92626	714 337-6190	howard.lefebvre@att.net
	Diana Moore						
	Diana Moore						
	Marian Hill						
	Diane Hill						
	Pam Dickey Matt						
	Jennifer Lefebvre						
	Howard Lefebvre						

GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature	Print	Street	City	State	Zip Code	Phone	email Address
	Judith Stucker	3100 TAFT WAY	COSTA MESA	CA	92626	714 504-6907	ORANSTUCKER@netscape.net
	Randy Stucker	~~[illegible]~~					
	Dwayne Nelson	1200 FARWELL Place	C M	CA	92626	714-549 5792	Dnelsonisom@aol.com
	Kristina Gruber	3057 Green Ln.	CM	CA	92626	(949) 887-1996	Kgruberlore@yahoo.com
	Dan Wales	CM	Costa Mesa	CA	92626	949 San 3604	dwales@yahoo.com
	Thomas Flynn						
	Bernadette Kane	3037 Royce Ln	CM	CA	92626	714 600 9623	
	Heidi Fox	3007 Donnybrook	CM	CA	92626	949 2244-1095	heidi@justinfox.com
	LEDI FOX						
	Justin Fox	3007 Donnybrook Ln	CM	CA	92626	949 241-7039	justin@justinfox.com
	Jim Horan	3142 Ridgecrest	CM	CA	92626		
	[illegible]						
	Colleen Blair	1162 Bristol Pl	C.M.	CA	92626	714 [illegible]	

GL1 Continued

Halecrest/Hall of Fame Resident Petition, January 29, 2011

We oppose revised alternative #3 to the 405 Freeway Improvement Plan

Signature	Print	Street	City	State	Zip Code	Phone	email Address
	[illegible]	1336 Burlingford St	Costa Mesa	CA	92626	(714) 957-2665	Karenkirsch@rocketmail.com
	Karen Kirsch	3146 Barclay Place	Costa Mesa	CA	92626	714 556-0472	Lois1220 76@SBCGLOBAL.NET
	Hall Kimmerle						
	LOIS KIMMERLE	3146 BARCLAY PLACE	COSTA MESA	CA	92626	(714) 556 0472	BOBHEINGNETBUNN@SBCGLOBAL.NET
	Bob Kimmerle						
	George Bonnesch	3129 Corklin	Costa Mesa	Ca	92626	714 751-3193	gbonvecchio 3@ca.rr.com
	Shirley Bonnesch						
	Sheryl L. Stacy	3095 College Ave.	Costa Mesa	CA	92626	714 557-0554	mustangmaxine@sbcglobal.net
	Paul L. Stacy						
	Paul Beauchesne	3137 Cork Lane	Costa Mesa	CA	92626	949 673-1095	MAY BEAUCHESNE@SBCGLOBAL.NET
	Judy Beauchesne						
	[illegible]	1241 Londonderry St.	Costa Mesa	Ca	92626	714 549 3631	Bragrace@att.net
	Maria Gomez						
	[illegible]	1241 Londonderry St.	Costa Mesa	Ca	92626	714 549-3631	Bragrace@att.net
	[illegible]						
	Alba Romero	1221 McCormack Ln	C M	CA	92626	(714) 957-0249	ARomero_11@hotmail.com
		Costa Mesa					

GL1 Continued

EXHIBIT "M"

GL1 Continued

EXHIBIT "N"

GL1 Continued

Andrya N. Powers
3354 Nevada Ave.
Costa Mesa, CA 92626

July 16, 2012

To OCTA and CalTrans:

The following are my comments concerning the San Diego Freeway (I-405) Improvement Project.

I am against ALL options! I am against all of them because they ALL include a new Ellis on-ramp which will cause the sound wall in the Mesa Verde North area to be moved substantially closer to Residential structures and therefore residents.

There appears to be no consideration for any reconfiguration of the current onramp at Ellis Ave. If the described new on-ramp and/or current on-ramp could be reconfigured, I would support Option 1 because I know that Option 2 will be affecting the (Seal Beach) College Park Residents' sound wall, too.

I am not against the changes that need to be made to the Freeway, but I am when it actively affects Citizens' homes and quality of life both in the short and long term for no apparent reason.

Furthermore, I feel that the EIR as it currently stands is absolutely NOT complete and there is not enough information for a final decision to be made in August. I feel that all possible alternatives to adding the Ellis on-ramp have not been thoroughly explored. In addition, I feel that the environmental impact on the Residents and to California Elementary and TeWinkle Middle Schools has not been adequately researched. While these schools are not directly adjacent to the project, their school yard is within 100 yards of the proposed construction in all 3 options.

Besides my specific concerns on the EIR, I do have questions included that I would like more information about. If I need to submit those to another contact, please let me know. My further comments below are all in relation to the Ellis on-ramp construction phase on all of the options.

Background Information:

From attending the Costa Mesa Hearing, the Fountain Valley Hearing, and the Costa Mesa City Council Meeting, I have learned that due to the Ellis on-ramp reconfiguration, the sound wall between my home and the freeway will move 22 feet closer to my house. That will now be 5-6 feet from my property line. A 15 foot retaining wall will be built and on top of that a 12 foot sound wall will be built. In addition, at the Fountain Valley Hearing I spoke to an Engineer who said that my wall on my current property line will be removed and a footer for the retaining wall will need to come partially into my property (approximately 1 foot). He said they will need access to my yard. I have since spoke to Christina Byrne

GL1 Continued

and she said that when she looked into it she was told there will need to be a construction easement, but the wall will not need to be removed.

- Will access to my property be needed for this construction? If so, to what extent?

The On-Ramp Itself:

1. What is the reason for the change to the on-ramp? From my understanding it is to prepare for the projected increase in traffic over the next 30 years. However, from what I can tell, all the land surrounding is already built out. There is no anticipation of more housing to be built. So where would this increase in traffic on Ellis come from? And wouldn't the additional lanes from Magnolia and Brookhurst/Talbert also work toward reducing the Ellis traffic?
2. I CANNOT understand why even more lanes need to be added for this on-ramp south of the Santa Ana River. There are already SEVEN lanes at that stretch of the freeway. It is one of the widest stretches of the entire freeway. If the on-ramp needs to be added there has got to be a way to do that within the current 7 lanes. I can't imagine that one on-ramp would cause the need for a NINE lane freeway.
3. Has there been a traffic study done on where the traffic is coming from? Has there been a traffic study on the impact of improved traffic circulation due to reconfigurations of Magnolia, Brookhurst/Talbert and increased flow on the 405 itself?
   a. After the freeway is widened at Magnolia, Brookhurst/Talbert, will there still be a need to change the configuration? I can only assume that with easier access to the freeway, Citizens would be more apt to take those on-ramps, thus, reducing the traffic on the Ellis on-ramp.
4. I have observed the Ellis SB on-ramp during rush hour morning traffic and noticed that the main reason there is a backup is because of the "meter" light which restricts traffic entering the freeway. Even though there are 2 lanes on the on-ramp and 2 entry lanes from Ellis, the traffic has to stop even if their traffic light is green because the meter is not allowing cars to enter the freeway. Has changing the timing of the meter or changing it from 1 car per light to 2 cars per light been considered? If this option hasn't been tried, we should not be adding an Ellis on-ramp until we have done so.
5. Has adding a third lane to the current on-ramp (to store more cars waiting for access to the freeway) been a consideration?
6. Has adding additional lanes to the Magnolia and/or Brookhurst/Talbert on-ramp been considered? It seems short-sighted to build an entire new ramp, move the sound wall, build more freeway, build retaining walls and deal with the effects on Residents without adding on to where construction is already occurring.
7. It is interesting that the configuration was able to be done in a way to accommodate the Sanitation District Driveway, but cannot be modified in a way to reduce the inconvenience and negative effects it will have on the quality of life for the Mesa Verde North Residents.

GL1 Continued

Structure:

1. The houses in the Mesa Verde North Track are not like your standard single family residence built in Costa Mesa. They have zero lot lines and several homes have a "back yard" that wraps around the house in an L or U formation. In addition, for several of these houses, like mine, this means my house is 10 feet from the property line. Most houses in Costa Mesa have a full back yard, ours do not. Because of the zero property line, instead of a fence between us and our neighbor, we have a 10 foot wall which is actually the exterior side of our neighbor's house. If the sound wall is moved in this will create a dry hot terrarium-like environment due to the close proximity of the houses in this area.

    a. I understand that all structures will be physically within the freeway right of way. However, have there been sufficient studies to discover if there is any potential for damage to my house? There will be active construction and pile driving less than 15 feet from the actual structure of my home. I have heard from neighbors that when the last sound wall was built several people experienced structural damage and cracked foundations. At the June 19th Costa Mesa City Council Meeting a resident living near the Fairview Bridge experienced foundation issues when the bridge was re-built.
    b. It was explained to me at the Fountain Valley Hearing that due to the height of the retaining wall, part of the footer would actually have to come in to my property. Will the foundation of my house have to be reinforced? If a pool is put in too close, the foundation of the house needs to be reinforced; I can only imagine that would apply to supporting a freeway, too.
    c. Is it safe to have a sound wall/retaining wall 15 to 16 feet from the physical building? My children's rooms are at that end of the house and will be the 15 to 16 feet from the sound wall.
    d. With the widening of the freeway and a 15 foot retaining wall being put in, that will literally put the freeway above my house. Have there been studies done for the safety to the residents in this situation? What level of impact will be protected from penetration by the final Retaining Wall/Sound Wall? If, for example, a truck was to crash through the sound wall as planned, it will only have 15 feet to travel before hitting my house. Since the wall is now closer to my house by 22 ft. and several feet above my house, the trajectory of travel with no contact with the ground will most likely cause the truck to land on top of my home.
    e. Is there a code or pre-determining distance a sound wall/retaining wall can be from a house? Does the City's or State Building code dictate how far a house must be from such a structure?
    f. The property line walls built are not very solid. They will probably not hold up to the adjacent construction.

Maintenance:

GL1 Continued

1. Who will be responsible for maintaining the leftover 5-6 feet of right-of-way? It has yet to be maintained for the last 10 months we've owned our home. We were constantly inspecting it for the 9 months prior to purchasing it and there was no maintenance during that time. According to the neighbors it has been several years since it has been maintained. If it is this unimportant to maintain at approximately 27 feet, how can we expect the 5-6 feet to be maintained? Most equipment won't fit an area of that size.

Construction:

1. What hours and days of the week will construction occur? Our neighbor, who was living in his house on Nevada Ave. when the current sound wall was built, said that construction most of the time was around the clock. Large lights were brought in to do work at night and there were several sleepless nights.
2. How long is the construction from Moon Park to Harbor Blvd. expected to last?
3. We just bought our house and unfortunately this expansion was not disclosed. We still do not have blinds on most of our sliding glass doors. Will we lose all privacy? Will privacy screening be provided?
4. What pre-cautions will be taken during the period that access will be needed to my property?
    a. How long will construction that specifically needs access to my property last for?
    b. How long will I need to tell my children they cannot play outside for?
    c. Will my backyard/house be exposed to the freeway? Will motorists be able to see us?
    d. Will there be tarps or will temporary fencing be provided?
    e. How will my home and yard be protected from potential criminals?
    f. How will my property be protected from snakes and other dangerous pests disrupted due to the construction?
5. Children's lungs are still developing into their teens. Who do I call if my children develop lung/breathing issues? What remedies will be provided to protect them against breathing the dusty and polluted air during construction?
6. If you need construction access to my property, how far into my property will your activities impact?

Compensation:

1. What kind of compensation can we expect from a project like this?
    a. How will we be compensated for our homes decrease in value?
    b. What will be done to mitigate the extra heat that will be not only generated from the wall itself that will be 22 feet closer to our home, but also from the reduced airflow that we'll experience due to the reduced cross sectional area of free wind movement.
    c. Will there be new, tall landscape to act as screening and heat deflection? If so, will we have a say in what is chosen?

GL1 Continued

d. How will we be compensated for the new view of a 27-foot wall in our yard? Will there be mature and tall landscaping installed to camouflage the wall? If so, will we have a say in what is chosen?

e. The property line walls built are not very solid. They will probably not hold up to the adjacent construction. If they are damaged, will our property walls get replaced? Who will pay for them? Will we have to find our own contractor to do this?

f. We have planter boxes with irrigation and landscape against our back wall. How will this get replaced, repaired, etc.? We also have large juniper trees; will those get moved or replaced?

g. If the property line wall is removed and it affects the planter boxes, it will affect the concrete, as well. If the concrete needs to be repaired, will all of it in our backyard be replaced so it matches?

h. How will we be compensated for any resulting damage to our house? What if we experience cracks in our foundation? What if it causes our house to sink toward the freeway? What if we get cracks in our walls?

i. What mitigation measures will be used to minimize the construction dirt, dust, noise and what standard will be used to determine the efficiency of those measures?

j. How will we be compensated for the increase in dust, dirt, and pollen? Will there be a domestic cleaning crew hired to help homeowners with the extra cleaning requirements caused by your construction?

   i. Who will be responsible if my young children develop asthma, breathing problems, or other medical issues? Who do I call, specifically?

k. My husband drives for a living and it is a safety issue for him and the public that he gets ample sleep. Can we be guaranteed no night disturbances? If he needs to call in sick due to night construction how will we be compensated?

l. What is the potential for temporary relocation?

I implore upon you to please look deeper into another alternative for the reconfiguration of the Ellis on-ramp that will not affect the Residents.

GL2

CITY OF COSTA MESA

CALIFORNIA 92628-1200 P.O. BOX 1200

FROM THE OFFICE OF THE MAYOR

August 27, 2012

Chairman and Board of Directors
Orange County Transportation Authority
550 South Main Street
Orange, CA 92863

Dear Mr. Chairman and Board of Directors:

The Orange County Transportation Authority (OCTA) recently unveiled a new alternative, Alternative 3-A to the I-405 Improvement Project. This alternative modified Alternative 3 that included construction of a new mixed-flow lane, new High Occupancy Vehicle (HOV) connectors between SR-73 and I-405 Freeways, construction of a new express toll lane between the SR-73 and I-605 Freeways and conversion of existing HOV lane to express toll lane. 1

In Alternative 3-A, the express toll lanes are proposed to start north of Fairview Road bridge. This is expected to ensure that the Fairview Road bridge is not impacted and the construction of the I-405/SR-73 direct carpool connectors is not part of the project. The City of Costa Mesa understands that this alternative will require a detailed traffic analysis as well as review of other environmental aspects and potential new issues. The City offers the following concerns that will need to be addressed in the review:

- Alternative 3-A will result in the existing seven free lanes (six mixed-flow lanes plus one carpool lane) section in Costa Mesa to be narrowed to five free lanes and two express toll lanes to the north. While the express toll lanes will accommodate some traffic, this alternative is not expected to result in any significant relief to existing congestion on the Costa Mesa side of the I-405 Freeway, especially in the northbound direction.
- There will be significant weaving as traffic from the existing free carpool lane attempts to merge into the mixed-flow lanes and traffic from mixed-flow lanes merges onto the express toll lanes within the section of freeway in Costa Mesa. This is compounded with SR-73/I-405 merge/weave traffic, which will result in significant additional congestion.
- The addition of toll lanes north of Fairview Road will require installation of several overhead signs in advance. This will result in visual impacts to adjacent neighborhoods which will need to be evaluated and presented.
- Impacts to Nevada Avenue residents remain with this option and will need to be addressed through design exceptions.

77 FAIR DRIVE
PHONE: (714) 754-5285 • FAX: (714) 754-5330 • TDD: (714) 754-5244 • www.ci.costa-mesa.ca.us

GL2 Continued

OCTA Letter
RE: Alternative 3
August 27, 2012
Page 2

- The express toll lanes do not provide the flexibility of continuous access carpool lane that is proposed with Alternative 2.
- Alternative 2 provides consistent lane designation and will provide the greatest benefit at a lower cost.

The City of Costa Mesa respectfully requests that OCTA and the Board of Directors conduct due diligence to review the above concerns and conduct public outreach so the community will have a clear understanding of the proposed project. This outreach and review should occur before any decisions are made on this alternative by the OCTA Board or any of its committees. The City strongly feels that the impacts of Alternative 3-A are different from any of the alternatives that were analyzed in the Environmental Impact Report/Environmental Impact Statement (EIR/EIS) prepared for the I-405 Improvement Project. Consequently in order to meet legal requirements, there will be a need for recirculation of EIR/EIS in order to solicit additional public input.

The City of Costa Mesa appreciates OCTA's interest in addressing local agencies' concerns while formulating regional solutions and looks forward to continued cooperation on this and other important projects. If you have any questions, please contact Ernesto Munoz, Public Services Director, at 714-754-5343.

Sincerely,

Eric R. Bever
Mayor

c: Costa Mesa City Council
Will Kempton, OCTA CEO
Tom Hatch, CEO
Tom Duarte, City Attorney
Ernesto Munoz, Public Services Director
Raja Sethuraman, Transportation Services Manager

GL3

CITY of CYPRESS
5275 Orange Avenue, Cypress, California 90630
Phone 714-229-6700 www.ci.cypress.ca.us

July 10, 2012

Ms. Smita Deshpande
Branch Chief - Caltrans District 12
"Attn: 405 DEIS/DEIR Comment Period"
2201 Dupont Drive, Suite 200
Irvine, CA 92612

Subject: Response to Draft Environmental Impact Statement/Environmental Impact Report (DEIS/EIR) for the Proposed I-405 Freeway Improvement Project.

Dear Ms. Deshpande:

The City of Cypress staff has reviewed the Draft Environmental Impact Statement/ Environmental Impact Report (DEIS/EIR) for the proposed San Diego Freeway (Interstate 405) Improvement Project. Although there are philosophical arguments against using existing right-of-way for paid carpool lanes, it appears that the project will not adversely impact the City of Cypress. We would request, as was done with the previous OCTA project, that funding be provided for any impacts found to the City's local street system including traffic control. 1

If you have any questions regarding this letter, you may contact me at (714) 229-6727.

Sincerely,

Douglas Hawkins, AICP
Planning Manager
Community Development Department

cc: John Bahorski, City Manager
Doug Dancs, Director of Public Works/City Engineer and Acting Director of Community Development

Doug Bailey, Mayor
Prakash Narain, M.D., Mayor Pro Tem Phil Luebben, Council Member
Leroy Mills, Council Member Todd W. Seymore, Council Member

GL4

CITY OF FOUNTAIN VALLEY
CITY HALL 10200 SLATER AVENUE FOUNTAIN VALLEY, CALIFORNIA 92708
OFFICE OF CITY MANAGER
(714) 593-4410
Fax (714) 593-4494
Email: ray.kromer@fountainvalley.org

July 17, 2012

Smita Deshpande, Branch Chief
Caltrans District 12
Attn: 405 DEIR-DEIS Comment Period
2201 Dupont Drive, Suite 200
Irvine, CA 92612

RE: 405 DEIR-DEIS Comment Period

Dear Ms. Deshpande:

Following are the City of Fountain Valley's observations and comments regarding the I-405 Study.

Comments Regarding Alt. 2 vs. Alt. 3

The City of Fountain Valley supports Alternative No. 2 as it provides more general purpose mainline capacity to further reduce congestion and cut-through traffic on adjacent local arterials.

Has there been any consideration given to extend Alternative 2 to SR-73? If not, will it be considered? **1**

The City of Fountain Valley disagrees with the statement that Alternative No. 3 provides the greatest improvements. It is access restricted, costs to use it, and provides benefits to those who pay tolls while the General Purpose lane capacity is decreased to accommodate the express lanes. **2**

Alternative No. 3 only allows free use for HOV +3 vehicles whereas the current HOV operation allows free travel for 2+ vehicles. Under Alternative No. 3 during peak congestion periods even HOV +3 vehicles must pay 50% of normal tolls. For all others, it costs 100% of normal tolls all the time.

Alternative No. 3 requires the conversion of a currently non-tolled HOV lane to a tolled express lane. No alternative should take away existing lanes and require a toll to be paid for use of those lanes. **3**

GL4 Continued

Ms. Smita Deshpande
July 17, 2012
Page 2 of 6

In Alternative No. 3, do the two intermediate access points currently included in the design include acceleration/deceleration lanes? This isn't readily discernible in the design drawings included. If not, what is their R-O-W impact? What is the operational impact on capacity and throughput of the express lanes due to weaving and speed differential between express lanes and general purpose lanes with regard to ingress/egress when considering these two intermediate access points? **4**

The need for legislation to allow for additional tolling authority has not yet been secured. If not secured, Alternative No. 3 would not be viable. **5**

Right-of-Way Impacts

Section 3.1.4.3 Environmental Consequences - acknowledges three (3) businesses are subject to full acquisition; however this Chapter fails to discuss the impacts resulting from the partial acquisition of the Mike Thompson's RV (MTRV). Economic impacts resulting from the partial acquisition of the MTRV site are not analyzed. It should be noted that MTRV leases the site from the City of Fountain Valley. Lease revenues may also be impacted. **6**

In the discussion regarding economic impacts to the City of Fountain Valley, the report fails to address transient occupancy tax revenues lost as the result of the full acquisition of the Day's Inn property. **7**

The approximately $1 million in lost revenue to the City if businesses that are taken by full right-of-way acquisitions do not relocate within the City needs to be mitigated. The report states the loss of revenues to the City "is usually minimal with businesses relocating within the same municipality and continuing to pay taxes after resettling". How is this assumption made? Are there facts to support the claim? What properties have been identified for the relocation? **8**

Why can't the braided ramp design at the Warner/Magnolia interchange be eliminated in favor of a condition similar to existing to avoid the need for full takes of property?

The City does not want to see right-of-way impacts created by Alternative No. 3 at the following properties: **9**

- Mike Thompson RV, the property on which the business operates is owned by the City of Fountain Valley
- Truckee River Court in the Tiburon residential community
- Spencer Avenue

Will private parking lot reconfigurations be considered to offset/replace lost parking due to property acquisitions? The City requests that this be included as mitigation to for parking impacts. **10**

GL4 Continued

Ms. Smita Deshpande
July 17, 2012
Page 3 of 6

Alternative No. 3 proposes the acquisition of approximately 10' along Spencer Avenue. The report states 13 on-street parking spaces the project area could be lost but their location is not identified (page 3.1.4.22). The acquisition from Spencer Avenue may have an impact to parking on the north side of the street. Parking in this area is heavily used by surrounding businesses. 11

Any excess R-O-W should be made available to the local agency within which the property is located for first right of refusal for purchase. 12

Soundwalls

Soundwalls should be modified beyond what is shown on the plans in the EIR documents as follows:

On the north side of the freeway approaching Brookhurst Street, the City requests the soundwall be extended further up the off ramp toward Brookhurst Street to fully shield the homes immediately adjacent to this facility. 13

The City requests the soundwall along the north side of the freeway between Talbert Avenue and Brookhurst Street be entirely constructed along the line of the existing residential property walls. This provides better sound protection for the residential properties immediately adjacent to the I-405. It also prevents the creation of an attractive nuisance area which would be created if the soundwall was constructed adjacent to the freeway leaving the existing residential walls between which is a drainage channel. This area would become an area for loitering and unwanted activity. 14

On the north side of the freeway approaching Magnolia Street, the City requests the soundwall be extended further up the off ramp toward Magnolia Street to fully shield the homes immediately adjacent to this facility. 15

On the south side of the freeway at the Talbert Avenue on-ramp, the City requests the soundwall be extended to the end of the property of the multi-family homes near the gore point of the on-ramp to fully shield the homes immediately adjacent to this facility. 16

On the south side of the freeway approaching immediately after Slater Avenue, the City requests the soundwall be extended from its current planned terminus further north toward the Slater Avenue overcrossing to fully shield the view of the freeway from Dolphin Avenue and the residential and high school land uses immediately adjacent. 17

On the south side of the freeway at the Warner Avenue on-ramp, the City requests the soundwall be extended from the current 16'-8" property wall adjacent to the recent KB home development to the end of the residential neighborhood near the gore point of the on-ramp. 18

GL4 Continued

Ms. Smita Deshpande
July 17, 2012
Page 4 of 6

Construction Staging/Traffic Management During Construction

The City requests that the Talbert Avenue overcrossing construction be phased/staged similar to Brookhurst, Magnolia, and Warner wherein the new bridge structure is constructed in phases keeping traffic flowing on the bridge during all phases of construction. Talbert Avenue is a critical east/west corridor and provides access to Orange Coast Memorial Hospital.

Provisions for emergency access up to and possibly including emergency access only lanes need to be provided on all staged bridge constructions. 19

Similar to the provisions wherein no two consecutive interchanges will be closed, no two consecutive bridges should be closed as well.

There should be provisions made to fund traffic signal timing support and resources to assist local agencies in traffic management and signal timing efforts during construction.

Local Street Designs

At the intersection of Brookhurst/Talbert, the creation of a 4th EB lane cannot be accommodated east of Brookhurst except into the shopping center. How will this be addressed? The creation of a 3rd WB thru lane requires careful design to avoid R-O-W impacts to residential properties near the intersection of Talbert/Mt. Coulter. Please provide a detailed design for this entire intersection giving careful consideration to the above points. 20

Providing increased queue storage for westbound left turns at the intersection of Slater/Brookhurst has the potential for impacting median landscaping and access to private properties. How will these impacts be addressed? 21

At the intersection of Warner/Magnolia how are dual lefts NB and three thru lanes SB accommodated without R-O-W impacts? 22

Fountain Valley prefers to see the minimum width of sidewalks within Fountain Valley to be six feet. Lane widths can be reduced to 11' except curb lane widths must be 12' from lane line to curb width. Please address these design criteria. 23

Coordination with a proposed improvement that will be complete by the time the construction of the I-405 commences needs to be incorporated in the project planning. This improvement is the construction of a right turn lane from Brookhurst Street into a new Ayres Hotel. This lane begins right near Caltrans right-of-way on the north side of I-405 immediately adjacent to the existing NB offramp at NB Brookhurst Street. 24

GL4 Continued

Ms. Smita Deshpande
July 17, 2012
Page 5 of 6

Utilities

Utility relocations must maintain water and sewer operational throughout construction. Also, fiber optic communications for signal interconnect must be preserved or relocated during construction and then re-installed in the bridge cells for permanent installation. It is critical to keep communications during construction to provide the best opportunity for signal coordination, which will be greatly needed for the various Traffic Management Plan (TMPs). Specifically, the City has fiber optics in the bridges at Brookhurst Street, Magnolia Street, and Warner Avenue. 25

The Utility Conflict Matrix table indicates the utilities that are in conflict with the I-405 construction project as well as identifying the party responsible for the cost. In no case should the local agency be responsible for relocation costs. This is a project impact which needs to be fully mitigated and paid for by the project. 26

Visual/Aesthetics

Visual impacts need to be addressed in a comprehensive manner while maintaining sensitivity and identification of local communities along the corridor. A corridor-related landscaping, bridge, and other amenities design needs to be developed that also incorporates the unique characteristics and identifying landmarks of each local agency. 27

Other Comments

Best Management Practices (BMPs) for water quality purposes should be incorporated into the landscape/visual theme. 28

There must be no impact to the flood plain designations due to construction. 29

It is requested that all pilings be pre-drilled or augered to reduce noise and vibrations. 30

In Chapter 3, the document states the Fountain Valley Agency for Community Development is responsible for redevelopment in the City and discusses the goals and objective of the project area relative to the proposed Alternatives. AB1X26 has eliminated redevelopment throughout the state. 31

The report states nighttime noise is expected to avoid disruption to traffic during daytime hours. The document does not discuss the nighttime construction noise and its impact to local noise ordinances. 32

The soils and geology chapter should discuss the potential impact from ground vibration from construction activities such as pile driving. A mitigation measure should be included to compensate homeowners near the project site for any potential property damage occurring from excessive ground vibration. 33

GL4 Continued

Ms. Smita Deshpande
July 17, 2012
Page 6 of 6

It should be noted that these comments are submitted by staff to adhere to the established public review comment period deadline of 5 pm on July 17, 2012. The City Council has requested an opportunity to review the City of Fountain Valley comment letter to the I405 DEIR/DEIS prepared by staff. However, the City Council will not be meeting until 6 pm on July 17th. As such should the City Council amend any of the comments noted in this letter we will inform you as soon as possible. 34

Sincerely,

Raymond H. Kromer
City Manager

C: City Council
Public Works Director
Planning Director

GL5

From: Tony Aquino [tony1@ci.garden-grove.ca.us]
Sent: Tuesday, July 17, 2012 4:33 PM
To: Parsons, 405.dedcomments
Cc: Dan Candelaria; Bill Murray
Subject: Interstate 405 Improvement Project - Draft Environmental Impact Report

The City of Garden Grove does not have any comments at this time. 1

Sincerely,

Tony Aquino, P.E.
Associate Engineer
City of Garden Grove
Public Works Dept.
(714) 741-5193

GL6

City of Huntington Beach
2000 MAIN STREET CALIFORNIA 92648

DEPARTMENT OF PLANNING AND BUILDING
www.huntingtonbeachca.gov

Planning Division
714.536.5271

Building Division
714.536.5241

July 17, 2012

Via E-Mail and US Mail

Smita Deshpande
Branch Chief
Caltrans District 12
2201 Dupont Drive, Suite 200
Irvine, CA 92612

Subject: I-405 Improvement Project Draft Environmental Impact Report (EIR)

Dear Ms. Deshpande:

Thank you for the opportunity to review the subject EIR. The City of Huntington Beach has the following comments:

1. Pages S-10 and 2.23 – Why does the No Build Alternative include the future completion of Project EA 0J440K which would provide continuous ingress and egress from the HOV lanes on the entire length of the I-405 in Orange County? 1
2. Pages 1-11 – The population growth projections (Table 1-7) for 2010 for Huntington Beach were not realized. 2
3. Page 3.1.1-14 – The Bella Terra Mall area description should be updated to reflect more recent development including Costco and Bella Terra Mixed Use. 3
4. Page 3.1.1-20 – Alternative 1 – It would be helpful to include a figure/table illustrating or listing the 90 public and privately owned parcels with partial acquisitions in the text or appendix. 4
5. Page 3.1-1-32 – The temporary construction easements noted (on 112 parcels for Alternative 1 and 224 parcels for Alternative 2) should be identified. 5
6. Pages 3.1.4-27, Line 8 and 3.1.6-103, Line 16 – "Providing sidewalks on the . . . east *south* side of Edinger Avenue." 6
7. Page 3.1.5-2 – Are there no Huntington Beach water or sewer lines in Beach Blvd.? 7
8. Page 3.1.5-8 – There is a Huntington Beach Police substation at Bella Terra. 8

GL6 Continued

9. Page 3.2.5-5 – What part is proposed to be acquired from Mobil at 15001 Goldenwest Street, Huntington Beach? **9**

10. Page 3.6-4 – Table 3.6-1 (Reasonably Foreseeable Projects) should be updated to include the approval of the Boardwalk project which is part of the Beach and Edinger Corridors Specific Plan. The Boardwalk Mixed Use Project is located on the northeast corner of Edinger Avenue and Gothard Street and includes a 487 multi-family residential apartment development with 14,500 square feet of ground floor commercial area, a 4,500 square-foot leasing area, 9,000 square feet of residential recreation amenities, and a 0.5-acre public open space area. **10**

11. Page 3.1.6-23 – The shaded cells in Table 3.1.6-4 do not include all segments with lower V/C ratios as indicated. Examples: AM, Alt2 SB Brookhurst to SR22 (1.15 vs. 1.24); PM, Alt 2 SB SR 22 to I-605 (1.13 vs. 1.16). **11**

12. It has been represented that the project TMP would specifically require that the Heil Avenue Pedestrian bridge be built prior to the demolition of the existing bridge. However, we could not find any discussion of this issue within the section of page 3.1.6-108 or anywhere else in the document. **12**

13. Unlike the detail provided for park impacts in Chapter 3, it is difficult to determine where the property impacts are located and therefore assess whether or not the impacts have been adequately identified. One area of particular concern is whether property impacts associated with the reconstruction of the McFadden overcrossing have been identified. **13**

14. The City of Huntington Beach Fire Department should be notified at least one week in advance before any of the on and off ramps will be closed during construction so that emergency response can be planned accordingly. **14**

Thank you in advance for considering our comments. Please contact Mary Beth Broeren, Planning Manager, at (714)536-5550 or mbroeren@surfcity-hb.org; or me at (714)536-5624 or rramos@surfcity-hb.org if you have any questions regarding our comments.

Sincerely,

Ricky Ramos
Senior Planner

xc: Fred A. Wilson, City Manager
Paul Emery, Deputy City Manager
Bob Hall, Deputy City Manager
Scott Hess, Director of Planning and Building
Travis Hopkins, Director of Public Works
Bill Reardon, Fire Marshall/Division Chief
Bob Stachelski, Transportation Manager
Mary Beth Broeren, Planning Manager

GL7

CITY OF IRVINE 1971

Community Development www.cityofirvine.org

City of Irvine, One Civic Center Plaza, P.O. Box 19575, Irvine, California 92623-9575 (949) 724-6000

June 19, 2012

Ms. Smita Deshpande
Branch Chief - Caltrans District 12
Attn: 405 DEIR / DEIS Comment Period
2201 Dupont Drive, Suite 200
Irvine, CA 92612

Subject: Draft EIR for San Diego Freeway (I-405) Improvement Project

Dear Ms. Deshpande:

The City of Irvine has reviewed the above-referenced project and is providing the comments outlined below:

- While the construction of the proposed I-405 Improvement Project will add capacity to the corridor between SR-73 and I-605, this improvement has the potential to cause a chokepoint located south of the project limit through Irvine where there will be a reduced number of lanes. City staff recommends that the Orange County Transportation Authority and Caltrans expedite the delivery of the I-405 (SR-55 to I-5) project, also known as Project L from the Renewed Measure M Transportation Investment Plan, so that construction can immediately follow this project. **1**

- The traffic analysis only analyzes arterial interchanges immediately within the project limits (SR-73 to I-605), and doesn't address any impacts on other city arterials or intersections. City staff recommends that additional traffic analysis be conducted to assess the alternatives' impacts on the City's major roadways in the Irvine Business Complex such as Main Street, MacArthur Boulevard and Michelson Avenue which are a few of the major employment destinations for the I-405 trips. **2**

GL7 Continued

Ms. Smita Deshpande
Branch Chief - Caltrans District 12
June 19, 2012

Thank you for the opportunity to review and comment on the proposed document. City of Irvine staff would appreciate the opportunity to review any further information regarding this project as the planning process proceeds. If you have any questions, please contact me at (949) 724- 6521or by email at bjacobs@ci.irvine.ca.us.

Sincerely,

Bill Jacobs, AICP-CEP
Principal Planner

ec: Shohreh Dupuis, Manager of Transit and Transportation
Katie Berg-Curtis, Project Development Administrator
Kerwin Lau, Project Development Administrator

GL8

LA PALMA

Via E-Mail
July 17, 2012

Smita Deshpande
Caltrans District 12
2201 Dupont Drive, Suite 200
Irvine, California 92612

Dear Mr. Deshpande:

At its July 17, 2012, City Council meeting, the City of La Palma City Council voted to support the Orange County Transportation Authority's (OCTA) I-405 Improvement Project Alternative 1, which proposes one general purpose lane in each direction from Euclid to I-605. The City Council opposed the No Build option as it would not keep the Measure M2 promise to the voters; they were opposed to Alternative 2 as there was no identification for the funding of the additional $100 million; and they were opposed to Alternative 3 due to the addition of toll lanes. 1

Thank you for considering the City's comments as they relate to the Draft Environmental Impact Report (EIR).

Sincerely,

Terry Matz
Interim City Manager

c: OCTA
City Council

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7822 Walker Street
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GL9

CITY OF LOS ALAMITOS

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Mayor Pro Tem:
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July 17, 2012

Smita Deshpande
Branch Chief - Caltrans District 12
"Attn: 405 DEIR / DEIS Comment Period"
2201 Dupont Drive
Suite 200, Irvine, CA 92612

SUBJECT: MEASURE M-2 SAN DIEGO FREEWAY (I-405) IMPROVEMENT PROJECT

Dear Branch Chief Deshpande:

The City of Los Alamitos is supportive of improvements to the sixteen mile stretch of the San Diego (I-405) Freeway between the City of Costa Mesa and the City of Long Beach. We understand the goal of the project is to improve the flow of traffic, reduce congestion, and improve lane continuity on the I-405. We appreciate Cal Trans and OCTA's commitment to obtaining public input prior to selecting the appropriate alternative.

While we remain supportive of improving the flow of traffic, the Draft Environmental Impact Report falls short in its analysis of a potential "bottle neck" as the northbound I-405 crosses the County line into Los Angeles County. The improvements proposed are meant to relieve congestion along a heavily used stretch of the I-405 freeway between SR-73 and the I-605 interchange within Orange County; however, the Draft Environmental Impact Report lacks regional coordination and does not address the impacts the widening will have on freeway ramps and major streets north of the project along the I-405 in Long Beach or the I-605 in Los Alamitos.

The proposed widening project has the potential to negatively impact the City of Los Alamitos and specifically Katella Avenue. We feel that our concerns should be addressed within the Draft Environmental Impact Report. Furthermore, the proposed widening of the I-405 will negatively impact a rather evident future bottle neck at the 405/22/605 interchange which provides an alternative to traffic traveling east west along Katella Avenue, the main corridor through Los Alamitos.

From a policy perspective the City of Los Alamitos:

- Supports Alternative 1 and feels that this Alternative offers the promised improved traffic flow with minimal impacts.

1

GL9 Continued

- Opposes Alternative 2 as this alternative has costly mitigation that outweighs the benefits.
- Supports the City of Seal Beach in its desire to retain the existing sound wall adjacent to the College Park East neighborhood.
- Opposes Toll Lanes and thus is opposed to Alternative 3 of the project.

1

The Draft Environmental Impact Report should be technically revised to be a legally adequate assessment. In order to meet legal requirements, this letter shall serve as our formal response to the Draft EIR, meeting the deadline of July 17, 2012. Concurrently, the City will continue to express its concerns regarding the three alternatives from a policy perspective to OCTA's Regional Planning and Highways Committee and OCTA's Board of Directors.

2

The City of Los Alamitos thanks you for the opportunity to comment on the I-405 Improvement Project and look forward to continued involvement as the project moves forward.

Sincerely,

CITY OF LOS ALAMITOS

Troy Edgar

Troy D. Edgar
Mayor

GL10

Los Alamitos
Unified School District

10293 Bloomfield Street • Los Alamitos, CA 90720-2200

(562) 799-4700 • FAX (562) 799-4711

Patricia L. Meyer
Deputy Superintendent

July 17, 2012

Smita Deshpande
Caltrans – District 12
2201 Dupont Drive, Suite 200
Irvine, CA 92612

Subject: I-405 Freeway Expansion

Dear Ms. Deshpande:

This letter is being sent to comment on the I-405 freeway expansion.

The project as presented in the Environmental Impact Report/Environmental Impact Statement (EIS/EIS) has three alternatives. Two of which involve relocation of the existing sound wall that lies between the I-405 freeway and Almond Avenue in Seal Beach.

The Los Alamitos Unified School District (LAUSD) has concerns regarding the expansion of the 405 Freeway Project and in particular, reduction of the street width of Almond Avenue. Almond Avenue serves as a collector road for the College Park East neighborhood and the street is utilized for bus service to pick up and drop off children every school day. Many of the streets that intersect Almond Avenue are cul de sac streets that provide no other options for planning of alternate routes for bus service. The project alternatives relocate the existing sound wall as much as ten (10) feet to the north. This reduction will make it more difficult for the busses to turn and reduce the safe area for drop off and pick up. **1**

The Los Alamitos Unified School District opposes any reduction in the width of Almond Avenue.

If there are any questions please contact me at (562) 799-4700 ext. 80449.

Sincerely,

Patricia L. Meyer
Deputy Superintendent

Board of Education: Jeffrey Barke • David Boyer • Megan Cutuli • Diana D. Hill • Karen Russell

GL11

CITY OF LONG BEACH
DEPARTMENT OF PUBLIC WORKS
333 WEST OCEAN BOULEVARD • LONG BEACH, CA 90802 • (562) 570-6383 • FAX (562) 570-6012

June 12, 2012

Smita Deshpande
Branch Chief
Caltrans District 12
2201 Dupont Drive, Suite 200
Irvine, CA 92612

Subject: Draft EIR for the Caltrans San Diego Freeway (I-405) Improvement Project

Dear Ms. Deshpande:

Thank you for the opportunity to review the draft Environmental Impact Report for the San Diego Freeway (I-405) Improvement Project. The following requests are submitted for your consideration:

1. The City of Long Beach respectfully requests a meeting with project team representatives from Caltrans District 12 and OCTA to discuss the draft EIR. The City would like to better understand how the project is being coordinated with Caltrans District 7 and Metro.
2. The City of Long Beach respectfully requests the end date for submittal of public comments be extended an additional 45 days, from July 2 to September 5. Insufficient time exists for the City to thoroughly review and prepare comments. **1**

Thank you again for the opportunity to review the draft Environmental Impact Report for the San Diego Freeway (I-405) Improvement Project. The City of Long Beach looks forward to working with Caltrans and OCTA staff to resolve the concerns stated in this letter.

Sincerely,

David Roseman
City Traffic Engineer

cc: Derek Wieske
Michael Conway
Niall Barrett

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GL12

CITY OF LONG BEACH
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July 17, 2012

Smita Deshpande
Caltrans District 12, Branch Chief
Attn: 405 DEIR - DEIS Comment Period
2201 Dupont Drive, Suite 200
Irvine, CA 92612

Re: Draft Environmental Impact Report / Environmental Impact Statement for the San Diego Freeway (I-405) Improvement Project

Dear Ms. Deshpande:

Thank you for the opportunity to review the Draft Environmental Impact Report / Environmental Impact Statement for the San Diego Freeway (I-405) Improvement Project (Project). On July 3, 2012, the Long Beach City Council adopted a motion to address potential traffic impacts to the City of Long Beach from this Caltrans Project. After careful review of the draft EIR/S, as well as a recent meeting with Caltrans and OCTA staff to discuss the City's concerns, the City of Long Beach respectfully submits the attached comments.

As a Participating Agency of the Project, Long Beach submitted comments in 2009, in response to the original Notice of Preparation. The City is disappointed that many of the issues raised at that time are not addressed in the current draft EIR/S. The 2009 comment letter, dated October 22, is attached for reference, and notes the City's request that regional traffic impact evaluations, including traffic movements at arterial ramps in the City of Long Beach, be included in the draft EIR/S. Since the release of the draft EIR/S, Long Beach sees the document is noticeably silent on traffic impacts immediately north of the project area, and in the City of Long Beach. Given the importance that traffic impact studies immediately north of the project area be included in the EIR/S, Long Beach is reiterating the City's request for Caltrans to conduct and publish traffic impact evaluations consistent with those described in the attached comments. 1 2

Additionally, the Project proposes signage and striping changes in the County of Los Angeles, but the draft EIR/S fails to provide evaluation of traffic flow and potential impacts within the City of Long Beach. By not studying traffic flow north of the county-line, this draft EIR/S is inadequate. 3

The draft EIR/S also does not demonstrate that the proposed Project has been planned in coordination with the Metropolitan Transportation Authority and Caltrans District 7. The draft EIR/S fails to acknowledge previous intercounty planning efforts, including the Orange and Los Angeles Intercounty Transportation Study, which was completed jointly by the 4

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GL12 Continued

Smita Deshpande
July 17, 2012
Page 2

Orange County Transportation Authority and the Metropolitan Transportation Agency in 2005. The study proposes several conceptual alternatives, including the addition of one general-purpose lane in each direction to the I-405 freeway from the I-605 freeway to the I-710 freeway. 4

On behalf of the City, Iteris, Inc. was contracted to conduct a review of the City's 2009 comment letter on the NOP and of the DEIR / EIS document. Iteris' written summary of its technical review, dated July 17, 2012, is attached for reference. 5

The City of Long Beach recognizes the need for improvements to mitigate congestion along the I-405 freeway, and looks forward to working with Caltrans and OCTA to ensure that potential traffic impacts within Long Beach boundaries are identified and mitigated, and that intercounty planning and coordination can be effectively performed. In the spirit of improving transportation through Southern California, Long Beach respectfully submits the attached comments.

Sincerely,

Mike Conway, Director of Public Works
City of Long Beach

cc: Mayor and Members of the City Council

GL12 Continued

Hamrick

ITERIS

I-405 Improvement Project DEIR/EIS Comments, July 17, 2012

July 17, 2012

David Roseman
City Traffic Engineer
City of Long Beach
333 W. Ocean Boulevard
Long Beach, CA 90802

Re: Review of OCTA San Diego Freeway (I-405) Improvement Project DEIR/EIS and Supporting Documentation

Dear Mr. Roseman,

Iteris, Inc. has completed the review of the Orange County Transportation Authority (OCTA) San Diego (I-405) Freeway Improvement Project Draft Environmental Impact Report/Environmental Impact Statement. Our comments are focused in two sections; 1) how the DEIR/EIS documentation responds or fails to adequately respond to the City of Long Beach's 2009 Notice of Preparation (NOP) comment letter, and 2) other general review of the DEIR/EIS and supporting materials with respect to issues of interest to the City of Long Beach. In this letter we first summarize our review of the comment letter and associated issues, and then we summarize our overall comments on other DEIR/EIS-related issues and analyses.

I-405 Improvement Project DEIR/EIS – 2009 CITY OF LONG BEACH NOTICE OF PREPARATION COMMENTS

In October of 2009, a comment letter was submitted to Caltrans District 12 by the City of Long Beach in response to the NOP of the Draft EIR for the Caltrans San Diego Freeway (I-405) Improvement Project (herein known as "proposed project"). In that letter, the City of Long Beach expressed several concerns with respect to the limits of the proposed project and its potential impact on the City of Long Beach.

With respect to the City of Long Beach's 2009 NOP comments, Iteris, Inc., on behalf of the City, has reviewed the May 2012 I-405 Improvement Project DEIR/EIS, and has evaluated whether or not the comment was taken into consideration partially or in its entirety. The City's NOP comments from 2009 are listed below, along with a description of how the comment was addressed in the I-405 Improvement Project DEIR/EIS.

1. **The City of Long Beach respectfully request the Draft EIR evaluate both operational and construction-related impacts to traffic on the freeway system and adjacent arterial streets.**

   This comment was only partially addressed in the DEIR/EIS. Additional information regarding how the 2009 City of Long Beach NOP Comment 1 was not adequately addressed is provided below.

   Construction-related impacts associated with the proposed project were not evaluated in detail on the freeway system or on adjacent arterial streets in the proposed project study area or in the City of Long Beach. Rather, a Transportation Management Plan (TMP) was prepared to present the overall framework for traffic management during construction. The TMP includes general topics such as construction staging, closures and lane restrictions, demand management, alternate route strategies, and contingency plans, to name a few. Although the Draft TMP provides a list of ramp/street closures and lane restrictions, it does not evaluate construction-related level of service impacts in the proposed project study area or in the City of Long Beach. 6

GL12 Continued

ITERIS

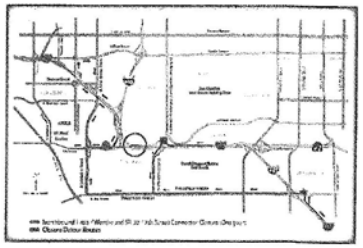
I-405 Improvement Project DEIR/EIS Comments, July 17, 2012

As discussed under Chapter 3.1, Section 3.1.6 Traffic and Transportation/Pedestrian and Bicycle Facilities, Comment 9, the I-405 southbound off-ramp at Seal Beach Boulevard is expected to be closed between 10 to 30 days during construction. Closure of the Seal Beach Boulevard off-ramp will likely result in cut-through traffic in the City of Long Beach. The DEIR/EIS for the proposed project states that tentative detours for the ramp closures are identified in the Ramp Closure Study (RCS), but when the RCS was reviewed, detours associated with the Seal Beach Boulevard southbound ramp were not provided. Detour routing analysis is critical to ensure efficient mobility through the City of Long Beach and should have been performed, as previously requested.

It should be noted that before construction of the northbound I-405/Westbound SR-22/7th Street Connector closure associated with the West County Connectors project, OCTA presented information at a neighborhood association meeting related to traffic detours through parts of east Long Beach. During construction of the I-405/7th Street connector bridge, four detours were provided, as shown in **Figure 1** below. In addition, OCTA helped mitigate traffic associated with the detour route via signal synchronization and various improvements to the Stearns Street freeway on-ramp, the 2nd Street and North Studebaker Road intersection, and the southbound I-405 and westbound SR-22 ramps. The DEIR/EIS should, at a minimum, provide preliminary detour routes and projected traffic impacts associated with the I-405 Seal Beach Boulevard southbound off-ramp closure during construction.

Operational impacts on the freeway system and on a limited number of arterial streets were addressed in the DEIR/EIR. However, only a limited number of interchanges and arterial street intersections along I-405 between SR-73 and I-605 were evaluated. No interchanges or arterial intersections were evaluated on I-405 north of I-605 in the City of Long Beach. 6

Figure 1: West County Connectors Project, Detours and Alternative Routes for I-405/7th Street Connector



2. **It's the City of Long Beach's understanding Caltrans currently does not plan to add lanes to the I-405 freeway north of the I-605 freeway. It's unclear how the proposed additional lanes would integrate thru the interchange with the existing freeway segments that won't be widened. The proposed project could create potential significant traffic flow impacts due to capacity constraints and the creation of a bottleneck thru the interchange.**

   This comment was not taken into consideration in its entirety in the DEIR/EIS. Additional information regarding how the 2009 City of Long Beach NOP Comment 2 was not adequately addressed is provided below. 7

GL12 Continued

ITERIS

I-405 Improvement Project DEIR/EIS Comments, July 17, 2012

The proposed project extends along I-405 between SR-73 and I-605. The DEIR/EIS did not evaluate the impacts associated with the drop of one to two general purpose lanes (Alternatives 1 or 2), or the drop of two Express Lanes (Alternative 3) on I-405 north of I-605 in the City of Long Beach. It remains unclear how the added lanes will transition beyond the Orange County line into Los Angeles County and the City of Long Beach and the operational impacts associated with the lane transitions. An additional detailed review relating to this comment is provided under the discussion of Chapter 2, Project Alternatives, Comment 1 and Chapter 3.1, Section 3.1.6 Traffic and Transportation/Pedestrian and Bicycle Facilities, Comment 4. 7

3. **The City of Long Beach respectfully requests that Caltrans consider the combined impacts of the West County Connectors project and the proposed new project, which would result in the addition of up to three lanes in each direction beyond what exists today.**

   This comment was addressed in the DEIR/EIS.

   The West County Connectors project was incorporated into the proposed project. The Traffic Study explains that the No Build Alternative represents "baseline" conditions. With this alternative no additional lanes or interchange improvements would be constructed. Two projects were assumed to be complete under all future conditions; the SR-22 Freeway West County Connectors project from SR-22 east to I-605 (will add a second HOV lane in each direction and HOV direct connectors between I-605 and I-405 to/from the south and also between SR-22 east and I-405 to/from the north), and continuous access HOV lanes along I-405 throughout the study area (p.1-8). 8

4. **The City of Long Beach respectfully requests that Caltrans use regional modeling software to determine the potential diversion of traffic on freeway segments within Los Angeles County resulting from any bottlenecks created by the project alternatives.**

   This comment was not taken into consideration in its entirety in the DEIR/EIS. Additional information regarding how the 2009 City of Long Beach NOP Comment 4 was not adequately addressed is provided below.

   Traffic forecasts for the proposed project were developed using the OCTA Model (OCTAM). However, OCTAM was not used to evaluate the potential diversion of traffic associated with the proposed project in Los Angeles County or in the City of Long Beach. The modeling methodology is also flawed in that it does not include model runs for each alternative. An additional detailed review relating to this comment is provided under the discussion of Chapter 3.1, Section 3.1.6 Traffic and Transportation/Pedestrian and Bicycle Facilities, Comment 4. 9

5. **The City of Long Beach respectfully requests that the study area be expanded to include the I-405 corridor from Lakewood Boulevard to the I-605 freeway and the study include evaluation of impacts to traffic movement in the expanded study area, including movements at the Lakewood Boulevard, Bellflower Boulevard, Woodruff Avenue and Palo Verde Avenue ramps.**

   This comment was not taken into consideration in the DEIR/EIS. Additional information regarding how the 2009 City of Long Beach NOP Comment 5 was not adequately addressed is provided below.

   The study area was not extended west to include the I-405 corridor from Lakewood Boulevard to the I-605 freeway, and movements at Lakewood Boulevard, Bellflower Boulevard, Woodruff Avenue and Palo Verde Avenue ramps were not considered, per the City of Long Beach's request. 10

GL12 Continued

ITERIS

I-405 Improvement Project DEIR/EIS Comments, July 17, 2012

6. **The City of Long Beach respectfully requests that the study area be expanded to include CA-22 from the I-405 freeway to CA-1. It's possible that CA-22 into Long Beach could become a diversion around the bottleneck created thru the interchange.**

   This comment was not taken into consideration in its entirety in the DEIR/EIS. Additional information regarding how the 2009 City of Long Beach NOP Comment 6 was not adequately addressed is provided below.

   The study area extends to the intersection of the I-405 and I-605 freeway. It was not extended west to include SR-22 from the I-405 freeway to SR-1, per the City of Long Beach's request. 11

7. **The City of Long Beach respectfully requests that the study area be expanded on the I-605 freeway from the I-405 to Carson Street. It's possible that traffic currently using the I-405 could divert to the I-605 to avoid the bottleneck created thru the interchange.**

   This comment was not taken into consideration in the DEIR/EIS. Additional information regarding how the 2009 City of Long Beach NOP Comment 7 was not adequately addressed is provided below.

   The study area extends along I-605 to Katella Avenue. It was not extended north to Carson Street, per the City of Long Beach's request. Additional comments regarding the lack of appropriate level of analysis in Long Beach is provided in the detailed comments. 12

8. **The proposed project may create a potential significant impact in the form of substantial traffic disruption on streets within Long Beach during construction. Traffic mitigation may be required in Long Beach to accommodate additional traffic on arterial streets and to keep commuter traffic out of neighborhoods during the construction phase. The City of Long Beach respectfully requests that a preliminary Traffic Management Plan be developed as a part of the EIR process.**

   This comment was only partially addressed in the DEIR/EIS. Additional information regarding how the 2009 City of Long Beach NOP Comment 8 was not adequately addressed is provided below.

   A Draft Traffic Mitigation Plan (TMP) was prepared in accordance with the Caltrans Guidelines Deputy Directive 60 to minimize motorist delays when performing work activities on the State Highway System. The Draft I-405 Improvement Project TMP was prepared to present the overall framework for traffic management during construction. The Draft TMP includes general topics such as construction staging, closures and lane restrictions, demand management, alternate route strategies, and contingency plans, to name a few. Although the Draft TMP was prepared, it does not address traffic mitigation issues in the City of Long Beach. 13

I-405 Improvement Project DEIR/EIS – TECHNICAL COMMENTS

In addition to a review of the City's 2009 NOP comment letter, Iteris, Inc. also conducted a technical review of the complete environmental document as it pertains to traffic and other issues of interest to the City of Long Beach. The following provides a chapter-by-chapter summary of the technical comments and observations from the DEIR/EIS and its supporting documents. Note, the Traffic Study (Appendix L), the Draft Transportation Management Plan (TMP), and the Ramp Closure Study (RCS) are intermittently referenced throughout the technical review.

GL12 Continued

ITERIS

I-405 Improvement Project DEIR/EIS Comments, July 17, 2012

I-405 Improvement Project DEIR/EIS: SUMMARY CHAPTER

1. **Project description includes the City of Long Beach, but the DEIR/EIS fails to conduct any technical analysis within the City.** As stated in the Project Description (p.S-2), "The approximately 16-mile-long project corridor is primarily located in Orange County on I-405 and traverses the cities of Cost Mesa, Fountain Valley, Huntington Beach, Westminster, Garden Grove, Seal Beach, Los Alamitos, ***Long Beach*** and the community of Rossmoor." The Project Description also describes the proposed project's limits as "...in Los Angeles County from the county line to 1.4 miles north of I-605 (p.S-2)." The project clearly acknowledges that the northern terminus of the project is located in the City of Long Beach. However, evaluation of the project clearly terminates at the Orange County/Los Angeles County line. The project description states, "Encroachments into Los Angeles County and work on SR-22 are associated with signing and striping (p.S-2)" only, and do not include any analysis in the City of Long Beach. Missing analyses in Long Beach/Los Angeles County must be added to the document. 14

2. **Project description acknowledges the intra/inter-regional significance of I-405, but the DEIR/EIS fails to conduct any technical analysis of I-405 through the City of Long Beach beyond the Orange County/Los Angeles County line.** As stated in the Project Description, "I-405 is part of the National Highway System and is considered a bypass route to I-5 (the Santa Ana/Golden State Freeway) providing intra-regional and inter-regional access between Orange and Los Angeles Counties. I-405 also serves as a critical goods movement corridor connecting the San Diego and U.S./Mexico border region with the ports of Long Beach and Los Angeles (p.S-3)." Despite these statements concluding the significance of I-405 as an intra/inter-regional corridor between Orange and Los Angeles County, no evaluation of I-405 north of the Orange/Los Angeles County line was conducted. An additional detailed review relating to this comment is provided under the discussion of Chapter 1, Proposed Project, Comment 3. Missing analyses in Long Beach/Los Angeles County must be added to the document. 15

3. **Project description states the northern terminus of the project (I-605) was chosen "to ensure adequate response to transportation deficiencies", but the "transportation deficiencies" along I-405 clearly don't end at I-605.** As stated in the Project Description, "the north and south termini of the project, at the I-605 and SR-73 respectively, are locations where multiple freeways converge, generating congestion and causing delay. The termini have been logically chosen based on geography and transportation needs to ensure adequate response to transportation deficiencies at and around these points of intersection (p.S-3)." The northern terminus of the proposed project is clearly based on the location of the Orange County/Los Angeles County line. The DEIR/EIS should take into consideration the effect of the proposed project on the adjacent segments of I-405, north of I-605 in Los Angeles County. An additional detailed review relating to this comment is provided under the discussion of Chapter 1, Proposed Project, Comment 5. The statements regarding beneficial effects on neighborhoods, even if correct, only would apply in the Orange County communities since no capacity enhancements are proposed in Long Beach. Within Long beach, the opposite effect could occur, and the possibility of impacts in Long Beach must be investigated. Missing analysis of possible neighborhood impacts within Long Beach must be added. 16

4. **The DEIR/EIS assumes the proposed project will result in a "beneficial effect on neighborhoods by reducing cut-through traffic" without providing any technical analysis or modeling results.** Table S-1 (Project Impact Summary Table) states under Community Impacts, Alternatives 1, 2 and 3, "implementation of the proposed project is anticipated to result in a beneficial effect on neighborhoods and community cohesion by reducing cut-through traffic within the adjacent neighborhoods. At present, motorists traveling along I-405 often exit the freeway and seek less-congested alternative routes within the adjacent neighborhoods when freeway conditions deteriorate (p.S-14)." A discussion on how the 17

GL12 Continued

ITERIS

I-405 Improvement Project DEIR/EIS Comments, July 17, 2012

analysis revealed that proposed project will result in a benefit to the community by reducing cut-through traffic in adjacent neighborhoods should be provided. An additional detailed response relating to this comment is provided under the discussion of Chapter 3.1, Section 3.1.4 Community Impacts, Comment 1. Missing analysis of possible neighborhood impacts within Long Beach must be added. 17

5. **The DEIR/EIS fails to provide a detailed analysis of how the additional anticipated 13 to 25 percent increase in vehicle throughput on I-405 will transition beyond I-605 through the City of Long Beach.** Table S-1 (Project Impact Summary Table) states under Traffic and Transportation/Pedestrian and Bicycle Facilities, Alternatives 1, 2 and 3, the proposed project will result in a permanent increase in vehicle throughput on the freeway by 13 to 25 percent between SR-22 East and I-605 (p.S-19). How will the additional throughput transition beyond the Orange County line into Los Angeles County? An additional detailed review relating to this comment is provided under the discussion of Chapter 2, Project Alternatives, Comment 1 and Chapter 3.1, Section 3.1.6 Traffic and Transportation/Pedestrian and Bicycle Facilities, Comment 4. Missing analysis of impacts of added vehicle throughput in the City of Long Beach must be added. 18

I-405 Improvement Project DEIR/EIS: Chapter 1 – PROPOSED PROJECT

1. **Project map includes portions of the City of Long Beach, but the DEIR/EIS fails to conduct any technical analysis within the City.** According to Figure 1-2 (Project Location map), the proposed project area extends approximately one mile north of the Orange County/Los Angeles County line to Palo Verde Avenue in Los Angeles County and the City of Long Beach (p.1-3). While that study area presented extends into Long Beach, analysis was not performed for the proposed project area north of the Orange County/Los Angeles County line. Interchanges along I-405 north of the Orange County/Los Angeles County line should be evaluated, as well as arterial intersections in the City of Long Beach based on the Project Location map. An additional detailed review relating to this comment is provided under the discussion of Chapter 3.1, Section 3.1.6 Traffic and Transportation/Pedestrian and Bicycle Facilities, Comment 1. Missing analysis in Long Beach must be added to the document. 19

2. **2009 ADT volumes in the I-405 Improvement Project Traffic Study may have been underestimated near the City of Long Beach.** In the Capacity, Transportation Demand, and Safety section of Chapter 1 (p.1-6 to 1-8), 2009 traffic volumes were discussed. As stated in the footnote of Table 2.2.1 of the I-405 Improvement Project Traffic Study conducted by Albert Grover & Associates, existing 2009 ADT volumes were based on 2008 Caltrans published data, *"adjusted down by one percent in accordance with similar measured decreases throughout the area"* (p.2.2-1). However, Caltrans peak hour and AADT data was reviewed (Source: http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/index.htm) near the City of Long Beach and the data indicates that when 2008 and 2009 AADT volumes are compared on I-405 near the City of Long Beach, there is no measureable decrease in traffic volume between 2008 and 2009. Conversely, as shown in **Table 1** below, the Caltrans 2008 and 2009 data indicates a slight increase in traffic volumes (between 0.77 and 1.55 percent) during the peak hour, peak month, or for AADT. Adjusting the 2008 traffic volumes down by one percent to calculate existing 2009 traffic volumes may have underestimated the existing 2009 mainline, ramp and weaving level of service near the City of Long Beach. The noted methodology must be reviewed and corrected, if required. 20

Table 1: 2008 and 2009 Caltrans Traffic Volumes Near the City of Long Beach

District	Route	County	Post Mile	Description	Back Pk Hr	Back Pk Mo	Back AADT	Ahead Pk Hr	Ahead Pk Mo	Ahead AADT
2008										
12	405	ORA	22.643	SEAL BEACH, SEAL BEACH BLVD INTERCHANGE	26,500	381,000	374,000	26,500	392,000	366,000

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12	405	ORA	24.044	SEAL BEACH, JCT. RTE. 605	26,500	392,000	366,000	17,900	261,000	253,000	
12	405	ORA	24.178	ORANGE LOS ANGELES COUNTY LINE	17,900	261,000	253,000				
07	405	LA	0.266	ORANGE/LOS ANGELES COUNTY LINE				18,300	258,000	253,000	
07	405	LA	0.448	LONG BEACH, STUDEBAKER RD INTERCHANGE	18,300	258,000	253,000	16,900	265,000	261,000	
07	405	LA	1.112	LONG BEACH, PALO VERDE AVE INTERCHANGE	16,900	265,000	261,000	17,100	258,000	254,000	
2009											
12	405	ORA	22.643	SEAL BEACH, SEAL BEACH BLVD INTERCHANGE	26,500	381,000	374,000	26,500	392,000	366,000	
12	405	ORA	24.044	SEAL BEACH, JCT. RTE. 605	26,500	392,000	366,000	18,100	262,000	255,000	
12	405	ORA	24.178	ORANGE LOS ANGELES COUNTY LINE	18,100	268,000	255,000				
07	405	LA	0.266	ORANGE/LOS ANGELES COUNTY LINE				18,500	262,000	253,000	
07	405	LA	0.448	LONG BEACH, STUDEBAKER RD INTERCHANGE	18,500	262,000	253,000	17,100	269,000	261,000	
07	405	LA	1.112	LONG BEACH, PALO VERDE AVE INTERCHANGE	17,100	269,000	261,000	17,300	261,000	254,000	
% Change											
12	405	ORA	22.643	SEAL BEACH, SEAL BEACH BLVD INTERCHANGE	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
12	405	ORA	24.044	SEAL BEACH, JCT. RTE. 605	0.00%	0.00%	0.00%	1.12%	0.77%	0.79%	
12	405	ORA	24.178	ORANGE LOS ANGELES COUNTY LINE	1.12%	0.77%	0.79%				
07	405	LA	0.266	ORANGE/LOS ANGELES COUNTY LINE				1.09%	1.55%	0.00%	
07	405	LA	0.448	LONG BEACH, STUDEBAKER RD INTERCHANGE	1.09%	1.55%	0.00%	1.18%	1.51%	0.00%	
07	405	LA	1.112	LONG BEACH, PALO VERDE AVE INTERCHANGE	1.18%	1.51%	0.00%	1.17%	1.16%	0.00%	

Source: Caltrans Traffic Volumes, 2008 and 2009.

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3. **The DEIR/EIS fails to analyze any freeway segments or report any population/growth/employment projections in the City of Long Beach.** Under Section 1.2.2.5 (Modal Inter-Relationships and System Linkages), the DEIR/EIS states that "I-405 is part of the National Highway System and is considered a bypass route to I-5 (the Santa Ana/Golden State Freeway) providing intra-regional and inter-regional access between Orange and Los Angeles Counties (p.1-19)." The City of Long Beach is also listed as a "significant employment center" along the proposed project corridor (p.1-12), and the "northern segment (of I-405), between Valley View Street and the I-605, is considered one of the heaviest traveled sections of freeway in the nation (p. 1-20)." Despite these statements concluding the significance of I-405 as a heavily traveled regional access route, the DEIR/EIS fails to analyze any freeway segments or report any population/growth/employment projections within the proposed "project area" (theoretically I-405 to Palo Verde Avenue in the City of Long Beach) on I-405 in the City of Long Beach. Examples of tables in the DEIR/EIS that omit the City of Long Beach include:

   a. Table 1-2 and 1-3 (Existing and Projected 2020 and 2040 LOS and V/C Northbound and Southbound General Purpose Lanes);

   b. Table 1-4 (Existing and 2040 No Build Travel Time on I-405 from SR-73 to I-605 for Existing Condition and Year 2040 No Build Alternative);

   c. Table 1-6 Existing and Projected 2020 and 2040 Daily and Peak-Hour Traffic Volumes on I-405 within the Project Limits);

   d. Table 1-7 (Population Projections and Growth Trends), and

   e. Table 1-8 (Employment Projections and Growth Trends).

   Missing information and analysis in the City of Long Beach must be added to the document.

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4. **The DEIR/EIS fails to explain how the added lanes associated with the proposed project on I-405 will transition beyond the Orange County line into Los Angeles County and the City of Long Beach.** Section 1.2.2.2, Roadway and Operational Deficiencies, states that "operation problems occur on I-405 primarily because of physical bottlenecks (p.1-14)". However, it remains unclear how the added lanes will transition beyond the Orange County line into Los Angeles County and the City of Long Beach. An additional detailed review relating to this comment is provided under the discussion of Chapter 2, Project Alternatives,

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Comment 1 and Chapter 3.1, Section 3.1.6 Traffic and Transportation/Pedestrian and Bicycle Facilities, Comment 4. Missing analysis of impacts in the City of Long Beach, including traffic volumes, added lane transitions, traffic diversion, level of service and all other relevant issues must be added.

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5. **The DEIR/EIS fails to provide sufficient evidence supporting the claim that the proposed project would not result in a chokepoint north of I-605 in the City of Long Beach. In addition, the northern terminus of the proposed project does not meet the Logical Termini requirement of the FHWA.** Under the discussion of logical termini, the DEIR/EIS states with respect to the northern terminus, "the proposed additional lanes would enhance lane continuity along I-405 and terminate new lanes into available lanes on these other freeways (p.1-23)." The DEIS/EIS also states, "Carrying lanes north to the I-405/I-605/SR-22 interchange would not result in a chokepoint (p.1-24)." If the proposed project's northern most study interchange is the I-405/I-605/SR-22 interchange, how was it determined that the proposed project alternatives would not result in a chokepoint north of the northern termini? The I-405/I-605/SR-22 interchange does not seem like a "logical termini" for the northern segment of the I-405 Improvement Project. Traffic should be further evaluated after the termination of the proposed project's additional lanes to ensure that a choke point does not occur north of the Orange County/Los Angeles County line in the City of Long Beach. The City of Long Beach does not feel that the northern terminus of the proposed project meets the "logical termini" requirement of the FHWA, as stated in the DEIR/EIS (p.1-24), thus resulting in an issue of "segmentation". The FHWA's discussion on logical termini and segmentation is provided below (The Development of Logical Project Termini, November 1993).

   "In developing a project concept which can be advanced through the stages of planning, environment, design, and construction, the project sponsor needs to consider a "whole" or integrated project. This project should satisfy an identified need, such as safety, rehabilitation, economic development, or capacity improvements, and should be considered in the context of the local area socioeconomics and topography, the future travel demand, and other infrastructure improvements in the area. Without framing a project in this way, proposed improvements may miss the mark by only peripherally satisfying the need or by causing unexpected side effects which require additional corrective action. A problem of "segmentation" may also occur where a transportation need extends throughout an entire corridor but environmental issues and transportation needs are inappropriately discussed for only a segment of the corridor."

   Missing analysis of impacts in the City of Long Beach, including traffic volumes, added lane transitions, traffic diversion, level of service and all other relevant issues must be added.

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I-405 Improvement Project DEIR/EIS: Chapter 2 – PROJECT ALTERNATIVES

1. **The DEIR/EIS fails to provide an illustration of how the additional lanes associated with the proposed project on I-405 will transition beyond Orange County into Los Angeles County and the City of Long Beach.** Figures 2-1 and 2-2 (Lane Configurations, Northbound and Southbound) graphically illustrate the proposed lane configurations on I-405 between SR-73 and I-605 (p.2-6 and 2-7), but fail to show how the lanes will transition beyond Orange County into Los Angeles County. Proper evaluation of I-405 north of the Orange County/Los Angeles County line needs to be conducted to ensure that a choke point does not occur north of the Orange County/Los Angeles County line in the City of Long Beach. Missing analysis of impacts in the City of Long Beach, including traffic volumes, added lane transitions, traffic diversion, level of service and all other relevant issues must be added.

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2. **Alternative 2 lacks consistency with the current RTP and FTIP.** In the discussion of Alternative 2, the DEIR/EIS states that Alternative 2 is "considered a viable project alternative because it would achieve the

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project's purpose and need (p.2-10)." However, as stated in the Summary section of the DEIR/EIS, one of the proposed project's main purposes is to "be consistent with regional plans (p.S-1)." Table S-1 (Project Impact Summary Table) clearly states that Alternative 2 is "not consistent with the current RTP or FTIP. OCTA is currently pursuing revisions to both documents (p.S-13)." Discussion of the pursuit of Alternative 2's inclusion in the RTP or FTIP amendment should be discussed. Further coordination with regional plans and other regional and local planning agencies is required in order to assess the viability of this alternative. 25

3. **Alternative 3 lacks consistency with the current RTP and FTIP.** In the discussion of Alternative 3, the DEIR/EIS states that Alternative 3 is "considered a viable project alternative because it would achieve the project's purpose and need (p.2-14)." However, as stated in the Summary section of the DEIR/EIS, one of the proposed project's main purposes is to "be consistent with regional plans (p.S-1)." Table S-1 (Project Impact Summary Table) clearly states that Alternative 3 is "not consistent with the current RTP or FTIP. OCTA is currently pursuing revisions to both documents (p.S-13)." Further coordination with regional plans and other regional and local planning agencies is required in order to assess the viability of this alternative. 26

4. **The DEIR/EIS lacks consistency between its chapters with respect to anticipated ramp closures.** Table 2-1 (I-405 Improvement Project Alternatives Comparison) indicates that the northern-most ramp to be closed during construction is the Bolsa Chica Road southbound off-ramp (p.2-30). However, in Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, it states that the southbound off-ramp at Seal Beach Boulevard will be closed between 10 and 30 days (p.3.1.6-106). Please confirm as the closure of the I-405 Seal Beach Boulevard southbound off-ramp will likely impact the City of Long Beach. Closure of a ramp for this duration warrants further evaluation of potential traffic impacts associated with detour routes. An additional detailed review relating to this comment is provided under the discussion of Chapter 3.1, Section 3.1.6 Traffic and Transportation/Pedestrian and Bicycle Facilities, Comment 9. Missing analysis of the potential ramp closure impacts on Long Beach must be added. 27

I-405 Improvement Project DEIR/EIS: Chapter 3.1 – Human Environment, Section 3.1.4 – COMMUNITY IMPACTS

1. **The DEIR/EIS assumes the proposed project will result in a "beneficial effect on neighborhoods by reducing cut-through traffic" without providing any technical analysis or modeling results.** Under the discussion of permanent Build Alternative impacts, the DEIR/EIS states that "implementation of the proposed project is anticipated to result in beneficial effects on community cohesion by reducing cut-through traffic within the adjacent neighborhoods. Currently, motorists traveling along I-405 often exit the facility and seek less congested alternative routes within the adjacent neighborhoods when freeway conditions deteriorate. Community members living within the vicinity of the I-405 corridor and people commuting between Los Angeles County and Orange County would benefit from the reduced congestion and the improved freeway operations (p. 3.1.4-19)". How was it determined that the proposed project would reduce cut-through traffic in adjacent neighborhoods? Is there empirical evidence (i.e. OCTAM modeling results, peak hour/AADT LOS, V/C analysis) supporting the reduction in cut-through traffic, specifically through the City of Long Beach? Please provide quantitative support that cut-through traffic exists and the magnitude of the cut-through activity. How will the cut-through activity be reduced through implementation of one of the proposed project alternatives? As future volumes increase through the corridor and level of service degrades, what is the impact on Long Beach due to cut-through traffic under future conditions? Additional explanation and supporting documentation of claims made regarding cut-through traffic must be added. Missing analysis of cut-through impacts in Long Beach must be added. 28

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I-405 Improvement Project DEIR/EIS: Chapter 3.1 – Human Environment, Section 3.1.6 – TRAFFIC AND TRANSPORTATION/PEDESTRIAN AND BICYCLE FACILITIES

1. **Project map includes portions of the City of Long Beach, but the DEIR/EIS fails to conduct any technical analysis within the City.** According to Figure 1-2 (Project Location map) in Chapter 1, Proposed Project, the proposed project area extends approximately one mile north of the Orange County/Los Angeles County line to Palo Verde Avenue in Los Angeles County and the City of Long Beach (p.1-3). However, in Section 3.1.6.2, Affected Environment, the traffic study area is defined as "16 miles along I-405 between SR-73 and I-605 (p.3.1.6-3)." As shown in Figure 3.1.6-1 (Traffic Study Area) (p.3.1.6-5), the study area does not include any interchanges on I-405 within Los Angeles County or the City of Long Beach. In addition, Table 3.1.6-1 lists the study intersections included in the DEIR/EIS (p.3.1.6-7 to 3.1.6-9), and no arterial intersections in the City of Long Beach were included in the analysis. Missing analysis of freeway and arterial intersections in the City of Long Beach must be added. 29

2. **The DEIR/EIS fails to provide an illustration of how the additional lanes associated with the proposed project on I-405 will transition beyond Orange County into Los Angeles County and the City of Long Beach.** Figures 3.1.6-3 and 3.1.6-4 (I-405 Lane Schematic, Northbound and Southbound) graphically illustrate the proposed lane configurations on I-405 between SR-73 and I-605 (p.3.1.6-16 and 3.1.6-17). Same comment as Chapter 2, Project Alternatives, Comment 1. Missing analysis of impacts in the City of Long Beach, including traffic volumes, added lane transitions, traffic diversion, level of service and all other relevant issues must be added. 30

3. **2009 ADT volumes in the I-405 Improvement Project Traffic Study may have been underestimated near the City of Long Beach.** The freeway mainline discussion used Caltrans-published traffic data from the Caltrans website to calculate their 2009 freeway volumes (p.3.1.6-21). 2009 traffic volumes are also shown in Table 3.1.6-2 (I-405 Mainline Average Daily Traffic) (p.3.1.6-22). Same comment as Chapter 1, Proposed project, Comment 2. The noted methodology must be reviewed and corrected if required. 31

4. **The DEIR/EIS fails to provide a detailed analysis of how the additional anticipated increase in vehicle throughput associated with the project alternatives will transition beyond I-605 through the City of Long Beach.** Table 3.1.6-2 (I-405 Mainline Average Daily Traffic) shows that the proposed alternatives have the potential to increase the mainline ADT up to 142,000 additional daily vehicles (28 to 38 percent increase) beyond existing 2009 conditions on I-405 between SR-22 East and I-605 by 2040 (see **Table 2A**). Similarly, Table 3.1.6-2 also shows that the proposed alternatives have the potential to generate up to 108,000 additional daily vehicles (18 to 27 percent increase) beyond the No Build scenario on I-405 between SR-22 East and I-605 by 2040 (see **Table 2B**). It is unclear how the increase in vehicle throughput will be addressed north of the Orange County/Los Angeles County line (specifically in the City of Long Beach) after the proposed project ends. Additional impact analyses need to be evaluated in Los Angeles County and in the City of Long Beach to address the increase in throughput associated with the proposed project alternatives, and the potential for chokepoints and traffic diversion onto adjacent freeways and arterials. 32

Table 2A: 2009 vs. Alternatives

Segment		2020				2040			
	2009	No Build	Alt 1	Alt 2	Alt 3	NB	Alt 1	Alt 2	Alt 3
SR-22 East to I-605 [1]	370,000	404,000	433,000	453,000	455,000	427,000	475,000	509,000	512,000
Increase in ADT over 2009		34,000	63,000	83,000	85,000	57,000	105,000	139,000	142,000
Percent increase over 2009		9%	17%	22%	23%	15%	28%	38%	38%

[1] Source: Table 3.1.6-2, I-405 Mainline Average Daily Traffic, p. 3.1.6-22

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Table 2B: No Build vs. Alternatives

Segment		2020				2040			
	2009	No Build	Alt 1	Alt 2	Alt 3	NB	Alt 1	Alt 2	Alt 3
SR-22 East to I-605 [1]	370,000	404,000	433,000	453,000	455,000	427,000	475,000	509,000	512,000
Increase in ADT over No Build			29,000	49,000	51,000	23,000	71,000	105,000	108,000
Percent Increase over No Build			7%	12%	13%	6%	18%	26%	27%

[1] Source: Table 3.1.6-2, I-405 Mainline Average Daily Traffic, p. 3.1.6-22

Missing analysis of impacts in the City of Long Beach, including traffic volumes, added lane transitions, traffic diversion, level of service and all other relevant issues must be added. 32

5. As discussed in the DEIR/EIS Traffic Forecasting Model discussion, "A single demand forecast was prepared for the proposed project area. Freeway mainline forecasts for each of the alternatives utilize the same total traffic volumes on a segment but redistribute volumes among the different lane types, as necessary (p.3.1.6-39)." It also states that, "Because of a very small variation in projected traffic volumes during the peak hours at the freeway interchanges among the three proposed project alternatives, it was jointly agreed by Caltrans, OCTA, and the Project Consulting Team that only one set of future traffic volumes would be used for analyzing the proposed project condition on the arterials (p.3.1.6-39)." The following comments are related to the aforementioned assumptions:

   a. **The DEIR/EIS assumes travel demand is fixed through the corridor, irrespective of actual corridor capacity.** The traffic study indicates that OCTAM was applied to generate future forecast volumes for the corridor. However, it has been noted that one future model run was prepared to generate future corridor forecast volumes and the traffic volumes were distributed across the various lane assumptions for each alternative. This approach is flawed in that it assumes travel demand is fixed through the corridor and irrespective of actual corridor capacity. Which future scenario was run with OCTAM to determine corridor travel demand and how was that determination made?

   b. **The DEIR/EIS should provide further justification for using a single forecast to develop future forecast volumes.** Application of OCTAM for other congested corridors in Orange County has revealed a sensitivity to capacity with traffic demand varying based on the amount (i.e. number of lanes) and type (general purpose, HOV, toll) of capacity provided. For the congested I-405 corridor, Table 3.1.6-12 reveals that every segment of I-405 is significantly over capacity for each proposed project alternative (p.3.1.6-73). With congestion levels of this magnitude, OCTAM would be expected to generate different levels of traffic demand for each proposed project alternative which would result in a more appropriate comparative analysis between the proposed project alternatives. It is not understood, nor explained, how a single forecast model run could generate the demand volumes for the various future project alternatives. Justification for using a single forecast to develop future forecast volumes should be provided. OCTAM has been applied to evaluate various HOV, toll and express lane projects throughout the County; why would it not be applied for each alternative?

   c. **The DEIR/EIS should provide clear documentation of future year model network assumptions.** Future year model assumptions that were applied to generate the future corridor traffic volumes are not clearly defined. The recently adopted Regional Transportation Plan includes Express Lanes on I-405 in Los Angeles County and the traffic study does not clearly define network assumptions incorporated into the model run that was performed to generate the future forecasts. The alternative lane schematics seem to indicate that Express Lanes were not assumed in Los Angeles County. Regional projects could impact traffic demand on I-405 including capacity on I-5 in Orange and Los Angeles County, Express Lanes on I-405 in Los Angeles County, implementation of High Speed Rail and other regional multi-modal projects. It has been noted 33

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elsewhere in the document that I-405 serves as a bypass route to I-5 (the Santa Ana/Golden State Freeway) providing intra-regional and inter-regional access between Orange and Los Angeles Counties and as such improvements to I-5 would impact I-405 traffic demand. Clear documentation of future year model network assumptions based on the adopted Regional Transportation Plan should be provided to appropriately assess future forecast volumes.

   d. **Clarification should be provided documenting why a 2020 scenario was not modeled directly to generate the opening year volumes.** Year 2020 traffic volumes were interpolated from the 2009 and 2040 forecast volumes. Clarification should be provided as to why a 2020 scenario was not modeled directly to generate the opening year volumes. As noted in the study, the OCTAM horizon year is 2035 and post-processing was applied to generate 2040 forecasts. Since 2040 is a post-processed volume, why would the interpolation not be performed between 2009 and the actual model horizon year of 2035 to generate a more accurate interim year forecast volume if a 2020 scenario is not directly modeled? Interpolating volumes for a corridor of this magnitude may not provide accurate results as interpolation does not appropriately consider network assumptions and timing of those infrastructure improvements that may impact forecast volumes. Consistent with the 2040 forecast volumes, corridor capacity assumptions for the alternatives would likely result in varying levels of demand across alternatives. Forecasts for Alternative 3 are suspect since the Express Lane volumes appear to be rounded to 100's while HOV volumes for all alternatives along with mainline volumes are presented as exact numbers with no rounding. The rounded Express Lane volumes appear inconsistent with the methodology applied to generate the volumes for the other alternatives.

   e. **High future forecast volumes in the City of Long Beach raise concerns regarding future traffic operations. Traffic should be evaluated north of the Orange County/Los Angeles County line.** The magnitude of future forecast volumes approaching the City of Long Beach are very high, thus concerns exist about how the future forecast volumes are generated and ultimately impact traffic operations in and through the City of Long Beach.

A significant amount of information is missing and must be provided in the sections of the EIR/EIS describing the traffic modeling methodology and results. Missing information relating to several key modeling issues must be provided. Much more detailed information describing how one future model run could adequately capture future travel, what would be the differences in corridor travel demand and travel demand in Long Beach if OCTAM was run with the actual alternatives coded in the model, what would be the differences if a 2020 model run was conducted versus "interpolating" model results, what would the resulting travel demand be if Express Lanes were coded into the model within Orange County as well as within Los Angeles County, and other similar issues. 33

6. **The DEIR/EIS lacks a sufficient discussion regarding the travel demand forecasts assumptions under Alternative 3.** As discussed under Alternative 3, the travel demand forecasts for Alternative 3 use the same travel demand forecasts as the other alternatives. No discussion is provided regarding the effect that toll lanes may have on the travel demand in the study area, nor outside of the study area into the City of Long Beach and Los Angeles County. Recent work undertaken in the City of Long Beach and the Gateway Cities reveals that tolling assumptions can have a significant impact on travel demand forecasts and allocation of traffic among the types of lanes on the facility. In addition, coordination of assumptions across county lines is critical to this analysis. For example, assumptions such as peak/off-peak tolling rates and the decision to charge or not charge vehicles with various vehicle occupancy thresholds (such as 3+ carpools) can significantly affect the results in terms of Express Lane usage. The amount of demand in the Express Lanes not only affects the corridor under study but also could significantly affect local arterials and the State Highway System in the City of Long Beach. As of now, there is not a consistent policy regarding how to handle Express Lane toll rates and operations across county lines. All of these issues 34

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are ignored within the traffic study and the resulting travel demand and associated analysis could be significantly affected. Discussion of these issues must be included in the analysis of Alternative 3 along with detailed analysis of the affects that the tolling will have on travel demand and operations into the City of Long Beach on both I-405 and I-605. The following important questions are raised:

a. What happens if the proposed project is built but the Express Lanes are not continued into Los Angeles County?

b. How would the lanes transition and operate in the City of Long Beach if the proposed project is built?

c. Metro is currently considering Express Lanes on I-405 in Los Angeles County. What happens if the proposed project is built and the Express Lanes are carried into the City of Long Beach and Los Angeles County? How would that not only affect freeways in Los Angeles County, but how would that affect the travel forecasts for the proposed project in Orange County as well? With the modeling conducted as described, there is no way to understand the variation in the proposed project area volumes that would occur under these scenarios and thus the EIR does not disclose the true impacts of the proposed project either in the study area nor in the area that should have additionally been studied in the City of Long Beach.

d. What types of coordination would be required and how would the lanes operate, specifically as a result of implementing the proposed project?

e. What are the differences in travel demand in the City of Long Beach for the scenarios with and without Express Lanes carried across the county line?

Significant additional information and analysis is required to understand potential impacts of the alternatives in both Orange County as well as into Long Beach. Model run tests are needed to test impacts of alternative scenarios in the project area as well as in the missing affected areas in Long Beach. It is appropriate to test potential extensions of Express Lanes into Los Angeles County, as well as if Express Lanes were ended at the county line. If Express lanes are not extended into Los Angeles County, significant additional analysis of operational and geometric issues in Long Beach must be included so that there is documentation of potential impacts in Long Beach under all alternatives, with and without Express Lanes. **34**

7. **The DEIR/EIS lacks analysis regarding possible increases the general purpose lanes or diversion to other routes in the City of Long Beach due to increased congestion.** It is known that Express Lanes will likely result in some shifting of traffic from the Express Lanes (prior HOV lanes) to the General Purpose lanes. This could either increase the general purpose lane volume in the City of Long Beach, or result in diversion to other routes in the City of Long Beach due to increased congestion in the general purpose lanes, or both. These possible significant impacts have not been considered or analyzed in the traffic study. Missing information on Express Lane impacts on the freeway system must be added. **35**

8. **The DEIR/EIS fails to provide details regarding the transition area beyond the Orange County line into Los Angeles County and the City of Long Beach.** Table 3.1.6-17 (Transition Area LOS) summarizes the AM and PM LOS in each of the transition areas anticipated in 2020 and 2040 under Alternative 3 and No Build (p.3.1.6-97). However, no transition areas were evaluated on I-405 north of the I-605/I-405/SR-22 intersection in Los Angeles County or the City of Long Beach. Missing information and analysis of impacts in the City of Long Beach must be added. **36**

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I-405 Improvement Project DEIR/EIS Comments, July 17, 2012

9. **The DEIR/EIS lacks consistency between its chapters and associated reports with respect to anticipated ramp closures.** As discussed under Temporary Build Alternative Impacts (p. 3.1.6-106), the I-405 southbound off-ramp at Seal Beach Boulevard is expected to be closed between 10 to 30 days during construction. Closure of the Seal Beach Boulevard off-ramp will likely result in cut-through traffic in the City of Long Beach. The DEIR/EIS for the proposed project states that tentative detours for the ramp closures are identified in the Ramp Closure Study (RCS) (Appendix C of the Community Impact Assessment). When the RCS was reviewed, Table 1 (Local Service Interchange Ramps and Anticipated Closure within the I-405 Improvement Project) indicated that the Seal Beach Boulevard southbound off-ramp has an AADT of 10,500 and will be closed for up to 30 days. However, in the "Description of Prolonged Closure Sites and Proposed Detour Route" section of the RCS, all ramps with anticipated long-term ramp closures (10 or more days) were listed and described in detail, with the exception of the Seal Beach Boulevard southbound ramp. The "Bolsa Chica Road Southbound Off-Ramp" was described where the "Seal Beach Boulevard Southbound Off-Ramp" description should have been. The alternate route maps in the report's attachment also omit the Seal Beach Boulevard Southbound Off-Ramp. This is a noteworthy discrepancy because closure of the Seal Beach Boulevard southbound off-ramp could significantly impact construction-related traffic in and around alternate I-405 ramps and adjacent arterials in the City of Long Beach.

   a. The "Ramp Closure" list in the Transportation Management Plan (TMP) for the proposed project is also inconsistent with the DEIR/EIS and Table 1 of the RCS. The DEIR/EIS and Table 1 of the RCS indicate that the southbound off-ramp at Seal Beach Boulevard will be closed for up to 30 days and the list of ramp closures from the TMP (p.11) indicates that Bolsa Chica Road southbound off-ramp will be closed.

   Missing analysis of potential ramp closures in Long Beach must be added. **37**

I-405 Improvement Project DEIR/EIS: Chapter 3.6 – CUMULATIVE IMPACTS

1. **The DEIR/EIS fails to analyze the cumulative impact of future growth in the City of Long Beach.** As discussed in Section 3.6.2 of the Cumulative Impact section, Methodology, future growth was considered within "the Cities of Costa Mesa, Fountain Valley, Garden Grove, Huntington Beach, Los Alamitos, Westminster, and Seal Beach as well as the County of Orange unincorporated community of Rossmoor (p.3.6-2)." The list of cities and unincorporated areas included in the cumulative analysis includes all of the cities and areas listed in the proposed Project Description (p.5-2) in the DEIR/EIS Summary, with the exception of the City of Long Beach. The growth in City of Long Beach should be included in the proposed project's cumulative analysis. The proposed project description in the DEIR/EIS Summary is as follows:

   *"The approximately 16-mile-long project corridor is primarily located in Orange County on I-405 and traverses the cities of Cost Mesa, Fountain Valley, Huntington Beach, Westminster, Garden Grove, Seal Beach, Los Alamitos, **Long Beach** and the community of Rossmoor."*

   Missing cumulative analysis must be added. **38**

This concludes our summary of comments on the EIR/EIR documents. There are likely other comments that will be appropriate following receipt of responses. Please let us know if you have any questions or concerns. Iteris, Inc. would be happy to meet with City staff to discuss the results of the review and technical memorandum.

GL12 Continued

ITERIS

I-405 Improvement Project DEIR/EIS Comments, July 17, 2012

Sincerely,

Gary Hamrick
Vice President
Transportation Systems
Iteris, Inc.

GL12 Continued

CITY OF LONG BEACH
DEPARTMENT OF PUBLIC WORKS
333 WEST OCEAN BOULEVARD • LONG BEACH, CA 90802 • (562) 570-6383 • FAX (562) 570-6012

October 22, 2009

Smita Deshpande
Branch Chief
Caltrans District 12
Attn: 405 Scoping
2201 Dupont Drive, Suite 200
Irvine, CA 92612

Subject: Notice of Preparation of a Draft EIR for the Caltrans San Diego Freeway (I-405) Improvement Project

Dear Ms. Deshpande:

Thank you for the opportunity to review the Notice of Preparation for the San Diego Freeway (I-405) Improvement Project. The following comments are submitted for your consideration in the preparation of the Draft EIR.

1. The City of Long Beach respectfully requests the Draft EIR evaluate both operational and construction - related impacts to traffic on the freeway system and adjacent arterial streets.
2. It's the City of Long Beach's understanding Caltrans currently does not plan to add lanes to the I–405 freeway north of the I–605 freeway. It's unclear how the proposed additional lanes would integrate thru the interchange with the existing freeway segments that won't be widened. The proposed project could create potential significant traffic flow impacts due to capacity constraints and the creation of a bottleneck thru the interchange.
3. The City of Long Beach respectfully requests that Caltrans consider the combined impacts of the West County Connectors project and the proposed new project, which would result in the addition of up to three lanes in each direction beyond what exists today.
4. The City of Long Beach respectfully requests that Caltrans use regional modeling software to determine the potential diversion of traffic on freeway segments within Los Angeles County resulting from any bottlenecks created by the project alternatives.
5. The City of Long Beach respectfully requests the study area be expanded to include the I–405 corridor from Lakewood Boulevard to the I–605 freeway and the study include evaluation of impacts to traffic movement in the expanded study area, including movements at the Lakewood Boulevard, Bellflower Boulevard, Woodruff Avenue and Palo Verde Avenue ramps.

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GL12 Continued

Smita Deshpande
Page 2 of 2

6. The City of Long Beach respectfully requests the study area be expanded to include CA-22 from the I-405 freeway to CA-1. It's possible that CA-22 into Long Beach could become a diversion around the bottleneck created thru the interchange.

7. The City of Long Beach respectfully requests the study area be expanded on the I-605 freeway from the I-405 to Carson Street. It's possible that traffic currently using the I-405 could divert to the I-605 to avoid the bottleneck created thru the interchange.

8. The proposed project may create a potential significant impact in the form of substantial traffic disruption on streets within Long Beach during construction. Traffic mitigation may be required in Long Beach to accommodate additional traffic on arterial streets and to keep commuter traffic out of neighborhoods during the construction phase. The City of Long Beach respectfully requests that a preliminary Traffic Management Plan be developed as a part of the EIR process.

Thank you again for the opportunity to review the Notice of Preparation for the San Diego Freeway (I-405) Improvement Project. The City of Long Beach looks forward to working with Caltrans and OCTA staff to resolve the outstanding issues identified in this comment letter.

Sincerely,

David Roseman
City Traffic Engineer

cc: Mark Christoffels
Michael Conway

GL13

ROSSMOOR COMMUNITY SERVICES DISTRICT
3001 BLUME DRIVE, ROSSMOOR, CA 90720 / (562) 430-3707 / FAX (562) 431-3710

July 16, 2012

Smita Deshponde, Branch Chief
Caltrans-District 12
Attn: I-405 DEIR-DEIS Comment Period
2201 Dupont Drive, Suite 200
Irvine, CA 92612

Re: Rossmoor Community Services District Response to DEIR-I-405 Improvement Project

Ms. Deshponde:

I am writing to provide comments on the above-referenced DEIR on behalf of the Rossmoor Community Services District (the "District"). The District is a local government agency that provides a number of services to the community of Rossmoor. At its regular meeting of July 10, 2012, the District's Board authorized the submission of these comments.

As you may know, this community has been engaged with the planning and construction impacts of the West Coast Connector Project for about a decade. We are therefore quite concerned about the impacts resulting from this new project.

You may also be aware that Rossmoor is a small community and that the District has a very small staff. Therefore, we are relying on the good offices of the City of Seal Beach and its substantive critique of the DEIR. Rossmoor and the City of Seal Beach share a common border with the proposed project. Rossmoor is bounded on the south by the I-405 and the SR 22 and on our western border by the I-605 (probably a longer stretch than most cities along the project).

The District has thoroughly reviewed the DEIR and the comments thereon prepared by the City of Seal Beach. To the extent that the City's comments parallel the District's concerns, we incorporate the City's submittal by reference. Most specifically, the residents of Rossmoor have expressed strong concerns over the following aspects of the project:

1. The bottleneck that will occur with the added capacity of the northbound I-405 at the Los Angeles/Orange County line. This backup of traffic will become increasingly exacerbated with Alternatives 2 and 3. The increased number of traffic lanes being squeezed into existing LA County freeways will, in all likelihood, stall traffic, particularly as vehicles jockey between lanes to access the options provided by the I-405, I-605 and the SR 22. 1

2. As a result of No. 1, above, the amount of pollution emission for slow or stopped vehicles will dramatically increase. This will have an adverse affect on children attending Rossmoor's three elementary schools which are very close to the project. The District is deeply troubled by the substantial stress this project will relentlessly impose on sensitive receptors like the elderly, infirm and young children; particularly the impact it will have on Hopkinson Elementary School, 2

GL13 Continued

located at 12582 Kensington Road in Rossmoor, CA, less than 600 ft. from the number 3 and 4 lanes. This exceptionally tight proximity to the roadway raises serious safety concerns for our elementary school children attending class on weekdays, between the hours of 8:30 a.m. and 3:00 p.m. The increasing intrusion of the freeway will also negatively impact those residents whose property backs up or is close to the project's sound wall. 2

3. Also, as a result of No. 1, above, noise levels will increase dramatically as a result of the increased through put of vehicles, most particularly with Alternatives No. 2 and No. 3. The overall affect on the quality of life in the Rossmoor community will be reduced for a majority of residents who already experience the disturbance created by the current freeway system. 3

As I have previously stated, the District is unable to perform the level of analysis done by the corridor cities and is grateful to the City of Seal Beach for granting the District access to its work product. Even though the District has only articulated a few specific issues, we stand with our neighboring communities in the belief that the DEIR inadequately addresses the environmental effects on our communities and the region. The District respectfully request that you respond to the comments provided by the City of Seal Beach as well as those articulated herein. 4

Cordially,

Alfred A. Coletta

Alfred Coletta, Board President
Rossmoor Community Services District

GL14

City of Seal Beach

CITY HALL 211 EIGHTH STREET
SEAL BEACH, CALIFORNIA 90740
(562) 431-2527 • www.ci.seal-beach.ca.us

RECEIVED
JUL 17 2012
By

July 16, 2012

Smita Deshpande, Environmental Chief
California Department of Transportation
District 12, Branch A
2201 Dupont Drive, Suite 200
Irvine, California 92612

VIA HAND DELIVERY

Subject: Draft Environmental Impact Report/Environmental Impact Statement
San Diego Freeway Improvement Project, Orange and Los Angeles Counties, CA
SCH #2009091001

Dear Ms. Deshpande:

The City of Seal Beach (City) hereby submits the following comments to the California Department of Transportation (Caltrans or Lead Agency) in response to your agency's recent release of the "Draft Environmental Impact Report/Environmental Impact Statement – San Diego Freeway Improvement Project, Orange and Los Angeles Counties, California, SCH #2009091001" (DEIR/S), dated May 7, 2012, for the San Diego Freeway Improvement Project. These comments are submitted within the designated comment period established by the Lead Agency and, by their hand delivery within that time period, become a component of the environmental review record for the proposed action. In compliance with the provisions of the California Environmental Quality Act (CEQA), the National Environmental Policy Act (NEPA), and their implementing guidelines, detailed written responses to the issues, comments, and inquiries presented in the attached document are required. As further stipulated therein, the Lead Agency's draft responses shall be submitted to the City not less than ten (10) days prior to any formal action by your agency.

Based on the information presented in the DEIR/S, the City believes that it is a "participating agency" under NEPA and a "responsible agency" under CEQA. In that capacity, the City is required to utilize the Lead Agency's CEQA documentation as the environmental basis for those discretionary actions that may be required from the City for the approval, construction, and operation of the proposed project. As evidenced by the attached comments, the City has identified a number of unaddressed environmental and socioeconomic issues with regards to the proposed project. In its present form, the City believes that the DEIR/S fails to identify and effectively mitigate the significant and potentially significant environmental and socioeconomic effects of the proposed project (e.g., air quality, human health, noise, land use, circulation, environmental justice), requires substantive augmentation in order to address those issues, and necessitates recirculation.

At a community meeting conducted by the City on June 26, 2012 at the Seal Beach Community Center (3333 St. Cloud, Seal Beach), William Kempton, the Orange County Transportation

GL14 Continued

Authority's (OCTA) Chief Executive Officer (CEO), stated that the "OCTA is the decision-making body" for the proposed project. In contrast, the DEIR/S only identifies the OCTA as the "project sponsor." This apparent inconsistency is problematic since Caltrans' "lead agency" status and the role that the OCTA and its contractors played in the preparation of the DEIR/S is brought into question. At that same meeting, the City was informed that the OCTA's Board of Directors would be taking formal action on the project at their August 13, 2012 meeting, substantially in advance of the culmination of the environmental process. Prior to the certification of the EIR and approval of the environmental impact statement (EIS), the City believes that any action committing any public agency (inclusive of the OCTA) to a specific course of action would be premature.

Additional correspondence concerning the proposed project and the adequacy of the DEIR/S have been submitted to Caltrans and the OCTA under separate cover.

On behalf of its residents and business community, the City appreciates the opportunity to submit comments on the DEIR/S. Should you have any questions concerning these comments or would like to schedule a meeting to discuss the City's concerns, please contact me at (562) 431-2527, extension 1318.

Sincerely,

Mike Levitt
Mayor

Enclosures

cc: Will Kempton, OCTA CEO
Niall Barrett, OCTA Project Manager (w/enclosures)
405.dedcomments.Parsons@parsons.com (w/ enclosures)

Proof of Delivery:

Signature of accepting party or date stamp

GL14 Continued

Third-Party Review
Technical Comments
(July 12, 2012)

Draft Environmental Impact Report
Environmental Impact Statement
San Diego Freeway Improvement Project
Orange and Los Angeles Counties, California
SCH No. 2009091001

Prepared for:
Sean Crumby
Assistant City Manager/Director of Public Works
City of Seal Beach
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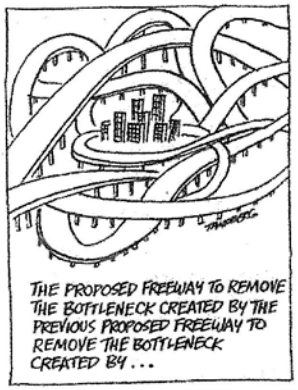
July 12, 2012

GL14 Continued



Source: Federal Highway Administration, An Agency Guide on Overcoming Unique Challenges to Localized Congestion Reduction Projects, September 2011.

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A W.G. Zimmerman Engineering, Inc. Alternative Design Configurations, July 2012

B Council on Environmental Quality, Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact, January 14, 2011

C Cervero, Robert and Hansen, Mark, Induced Travel Demand and Induced Road Investment, A Simultaneous Equation Analysis, Journal of Transport Economics and Policy, Volume 36, Part 3, September 2002, pp. 469-490

D Environmental Council of Sacramento v. California Department of Transportation, Case No. 07CS00967, July 15, 2008

E Cervero, Robert, Beyond Travel Time Savings: An Expanded Framework for Evaluating Urban Transport Projects, World Bank, 2011

F Grahame, Thomas J. and Schlesinger, Richard B., Cardiovascular Health and Particulate Vehicular Emissions: A Critical Evaluation of the Evidence, Air Quality, Atmosphere and Health, 3:3-27, 2010; Knibbs, Luke D., Cole-Hunter, Tom, and Morawska, Lidia, A Review of Commuter Exposure to Ultrafine Particles and its Health Effects, Atmospheric Environment 25:2611-2622, 2011; Zhu, Yifang et al., Study of Ultrafine Particles Near a Major Highway with Heavy-Duty Diesel Traffic, Atmospheric Environment 36:4323-4335, 2002; Hu, Shishan et al., A Wide Area of Air Pollutant Impact Downwind of a Freeway during Pre-Sunrise Hours, Atmospheric Environment 43:2541-2549, 2009; Araujo, Jesus A. et al., Ambient Particulate Pollutants in the Ultrafine Range Promote Early Atherosclerosis and Systemic Oxidative Stress, Circulation Research, March 14, 2008, p. 589; Li, Ning et al., Ultrafine Particulate Pollutants Induce Oxidative Stress and Mitochondrial Damage, Environmental Health Perspectives, Vol. 111, No. 4, April 2003, p. 455; Delfino, Ralph J. et al., Association of Biomarkers of Systemic Inflammation with Organic Components and Source in Quasi-Ultrafine Particles, Environmental Health Perspectives, Vol. 118, No.. 6, June 2010, p. 756; and Hankey, Steve, Marshall, Julian D., and Brauer, Michael, Health Impacts of the Build Environment: Within-Urban Variability in Physical Inactivity, Air Pollution, and Ischemic Heart Disease Mortality, Environmental Health Perspectives, Vol. 120, No. 2, February 2012, p. 247

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List of Attachments
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Attachment

G Brugge, Doug et al., Near Highway Pollutants in Motor Vehicle Exhaust: A Review of Epidemiologic Evidence of Cardiac and Pulmonary Health Risks, Environmental Health, August 9, 2007.

H Gauderman, James W. et al., Effects of Exposure to Traffic on Lung Development from 10 to 18 Years of Age: A Cohort Study, Lancet, Vol. 368, 2006

GL14 Continued

List of Acronyms

Acronym	
A	
AADT	annual average daily trips
AASHTO	American Association of State Highway and Transportation Officials
AB	Assembly Bill
ADT	average daily traffic or average daily trips
AQR	Air Quality Report - San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties
B	
BAU	business as usual
BC	black carbon
BRT	bus-rapid-transit
C	
CAA	Clean Air Act
CAAA	Federal Clean Air Act Amendments
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBO	Congressional Budget Office
CCR	California Code of Regulations
CDPH	California Department of Public Health
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CEQ Memorandum	Memorandum to Heads of Agencies on the Application of the National Environmental Policy Act to Proposed Federal Actions in the United States with Transboundary Effects
CEQ Regulations	Council on Environmental Quality Regulations
C.F.R.	Code of Federal Regulations
CH_4	methane
CIA	Community Impact Assessment – San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties"
City	City of Seal Beach
CMP	2011 Orange County Congestion Management Program or congestion management process
CMS	Congestion Management System
CO	carbon dioxide
CO_2	carbon monoxide
CRS	California Road System
CSMPs	Corridor System Management Plans
CTC	California Transportation Commission
CTC Needs Assessment	Statewide Transportation Needs Assessment, Final Report
D	
dB	decibel
dBA	decibel – A weighted
DEIR/S	Draft Environmental Impact Report/Environmental Impact Statement – San Diego Freeway Improvement Project, Orange and Los Angeles Counties, California, SCH #2009091001
Department	California Department of Transportation
diesel PM	diesel particulate matter
DOT	United States Department of Transportation
E	
EIR	environmental impact report
EO	Executive Order
ESA	Environmentally Sensitive Area
F	
F&E System	California Freeway and Expressway System
FHWA	Federal Highway Administration

GL14 Continued

List of Acronyms
(Continued)

Acronym	
FTA	Federal Transit Administration
G	
GHG	greenhouse gas
GP	general purpose
H	
HC	hydrocarbons
HCA	high consequence areas
HCM	Highway Capacity Manual
HFCs	hydrofluorocarbons
HOT	high-occupancy toll
HOV	high-occupancy vehicle
HP	high pressure
H.R.	House Resolution
HUD	United States Department of Housing and Urban Development
I	
I	Interstate
I-405	San Diego Freeway
I-5	Santa Ana Freeway
I-5 FEIR/S	Final Environmental Impact Report/ Environmental Impact Statement – Interstate 5 (Santa Ana Freeway) from State Route 91 in Orange County to Interstate 605 in Los Angeles County, California
I-710	Long Beach Freeway
I-710 Corridor DEIR/S	Draft Environmental Impact Report/Environmental Impact Statement and Section 4(f) Evaluation - I-710 Corridor Project, Los Angeles County, California, District 07-LA-710-PM 4.9/24.9, EA 249900
ILEV	inherently low-emission vehicle
IMP	integrity management program
ISA	Initial Site Assessment – San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties"
K	
kV	kilovolt
L	
LACMTA	Los Angeles County Metropolitan Transportation Authority
Lead Agency	California Department of Transportation
LEM	low-emission vehicle
level of service	LOS
LSP	Final Report - Traffic Congestion and Reliability: Linking Solutions to Problems
LRTP	2008 Long-Range Transportation Plan
2010 LRPT	Destination 2035 – Moving Toward a Green Tomorrow
M	
MAOP	maximum allowable operating pressure
MATES-II	Multiple Air Toxics Exposure Study, Final Report (2000)
MATES-III	Multiple Air Toxics Exposure Study (2008)
Measure M2	Renewed Measure M Program
Methodology	Final Localized Significance Threshold Methodology
Metro	Los Angeles County Metropolitan Transportation Authority
MF	mixed flow
MIS	Interstate 405 Major Investment Study, Final Report
MOE	measures of effectiveness
MOV	multiple-occupant vehicle
MP	Mile Post

GL14 Continued

List of Acronyms
(Continued)

Acronym	
MPAH	Master Plan of Arterial Highways
MPO	metropolitan planning organization
MSATs	mobile source air toxics
N	
NAVWPNSTA	Naval Weapons Station
NEPA	National Environmental Policy Act
NH_3	ammonia
N_2O	nitrous oxide
NOI	Notice of Intent
NOP	Notice of Preparation
NOx	oxides of nitrogen
NRC	National Research Council
O	
OBNE	Our Built and Natural Environments: A Technical Review of the Interactions between Land Use, Transportation, and Environmental Quality
OC/LA Intercounty Study	Orange and Los Angeles Intercounty Transportation Study – Conceptual Alternatives Report
OCTA	Orange County Transportation Authority
OCTAM	Orange County Transportation Analysis Model
OH	overhead
OPR	Governor's Office of Planning and Research
OPS	Office of Pipeline Safety
P	
p.	page
P&N	purpose and need
Parsons	Parsons Transportation Group
PDT	project development team
PFCs	perfluorocarbons
PIR	potential impact radius
PM	particulate matter
PRC	Public Resources Code
psi	pounds per square inch
PSR/PDS	Project Study Report/Project Development Support
P3	public-private partnership
PTI	planning time index
R	
RCR	Route Concept Report – Interstate 405, San Diego Freeway, 12-ORA P.M. 0.23/24.18
RIM	Draft Relocation Impact Memorandum – San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties
RCS	Ramp Closure Study
ROW	right-of-way
RTP	regional transportation plan
2012 RTP/SCS	2012-2035 Regional Transportation Plan/Sustainable Communities Strategy
S	
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SAFETEA-LU Guidance	SAFETEA-LU Environmental Review Process Final Guidance
SANBAG	San Bernardino Associated Governments
SB	Senate Bill
SCAG	Southern California Association of Government
SCAQMD	South Coast Air Quality Management District'
SCE	Southern California Edison

GL14 Continued

List of Acronyms
(Continued)

Acronym	
Seal Beach	City of Seal Beach
SF	self finance
SFDU	single-family dwelling units
SF_6	sulfur hexafluoride
SGP	Strategic Growth Plan
SHELL	Subsystem of Highway for the Movement of Extra Legal Loads
SHOPP	State Highway Operations and Protection Program
SHS	State Highway System
SOV	single-occupant vehicle
SOx	sulfur oxides
SR	State Route
SR-55	Costa Mesa Freeway
STAA	1990 Federal Surface Transportation Assistance Act
State CEQA Guidelines	Guidelines for the Implementation of the California Environmental Quality Act
STPP	Surface Transportation Policy Project
T	
TAC	toxic air contaminants
TASAS	Traffic Accident Surveillance and Analysis System
TCA	Transportation Corridors Agency
TDM	transportation demand management
Tg CO_2 Eq.	teragrams of CO_2 equivalent
TMA	Transportation Management Areas
TMP	Draft Transportation Management Plan for Interstate 405 Improvement Project
TOAR	I-710 Corridor Project Traffic Operations Analysis Report, Final Report
TOD	transit-oriented development
TOPS	Traffic Operations Strategies
TOT	truck only toll
Traffic Study	Traffic Study – San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties
TRB	Transportation Research Board
Triennial Report	Measure M2 Triennial Performance Assessment Status Report, Staff Report
TSM	transportation management system
TTI	travel time index
U	
UFP	ultrafine particulates
U.S.	United States
U.S.C.	United States Code
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
USNWP	United States Naval Weapons Station
V	
VIA	Visual Impact Assessment – San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties
VMT	vehicle miles traveled
VOCs	volatile organic compounds
vph	vehicles per hour
vphpl	vehicles per lane per hour'
W	
WCC	West Orange County Connector Project
WCC FEIR/S	Final Environmental Impact Statement and Environmental Impact Report – State Route 22/West Orange County Connector, SCH No. 98064001
WGZE	W.G. Zimmerman Engineering, Inc.

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1.0 INTRODUCTION

Although not clearly specified as such, the proposed action is predicated, in whole or in part, on the passage of both "Measure M," as approved by Orange County voters in November 1990, authorizing a 20-year program (sunset on March 31, 2011) to finance specific transportation projects, and the "Renewed Measure M Program" (Measure M2) Program, as approved by Orange County's voters on November 7, 2006 (sunset on March 31, 2041). Specifically identified therein was "Project K (San Diego Freeway [I-405] Improvements between the I-605 Freeway in Los Alamitos area and Costa Mesa Freeway [SR-55])," authorizing the construction of "new lanes on the San Diego Freeway between the I-605 and SR-55 Freeways, generally within the existing right-of-way." Because it was a voter-approved measure, the Orange County Transportation Authority (OCTA) has an obligation to Orange County's voters to pursue that mandate. Within the mandate of Measures M/M2, OCTA's transportation planners have sought to fulfill that obligation and to "make best use of available freeway property, update interchanges and widen all local overcrossings according to city and regional master plans" (Measure M2). Because "best" can be highly subjective, the term "best use" must first be defined so that an objective, measureable yardstick can be established against which alternatives can be judged.

To the extent that the proposed action is directly tied to specific freeway improvements previously identified and supported by more than two-thirds of the Orange County's voters, surprising absent from the project's declared "purpose and need" (P&N) statement and specified project objective(s) is any explicit reference to Measures M/M2 therein. If so linked and if a more voter-specific alternative had been presented for public consideration, accomplishable within the budgetary limitations approved by the voters, it is reasonable to assume that greater support for the proposed action could have been engendered within the City of Seal Beach (City or Seal Beach). Whether the result of subsequent engineering analysis or a behind-the-scenes determination that a more extensive improvement project could be undertaken within the general confines of the existing right-of-way, the project has now mushroomed into something barely resembling the Measure M/M2 project description and subsequent voter's authorization.

A larger and more encompassing project may, in fact, have merit from a traffic engineering perspective. However, if the project is no longer that which was first envisioned by the County's voters (and costing substantially more than the amount authorized), sound planning and prudent management of public funds suggests that a "step back" rather than a blind "leap forward" is called for, including a reasonable dialogue as to what might constitute "best use." Since that did not occur, the City must respond specifically to the information and analysis (or absence of information and analysis) presented in the "Draft Environmental Impact Report/Environmental Impact Statement – San Diego Freeway Improvement Project, Orange and Los Angeles Counties, California, SCH #2009091001" (DEIR/S) rather than working cooperatively with the OCTA to engage Seal Beach's residents, business community, and the California Department of Transportation (Lead Agency or Caltrans, or Department) in a broader discussion of sound transportation planning solutions to the mobility and accessibility issues confronting the region.

1.1 Introduction to the City's Written Comments

The following comments are submitted by or on behalf of the City in response to Caltrans' release of the DEIR/S on May 18, 2012 and are intended for inclusion in the environmental review record established under the provisions of the: (1) National Environmental Policy Act (NEPA), as codified in Sections 4321-4347 in Title 42 of the United States Codes (U.S.C.); (2) the Council on Environmental Quality's (CEQ) "Regulations for Implementing the Procedural

GL14 Continued

Provisions of the National Environmental Policy Act" (CEQ Regulations), as codified in Parts 1500-1508 in Title 40 of the Code of Federal Regulations (C.F.R.); (3) the California Environmental Quality Act (CEQA) as codified as Sections 21000 et seq. in the California Public Resources Code (PRC), and (4) the "Guidelines for the Implementation of the California Environmental Quality Act" (State CEQA Guidelines), as codified in Sections 15000 et seq. in Title 14, Chapter 3 of the California Code of Regulations (CCR).

Through the presentation of these comments, the City seeks to raise certain environmental and socioeconomic issues with regards to the proposed action, articulate the concerns which have been presented to City staff and Seal Beach's elected officials by City residents and members of the City's business community, ensure that the City's issues and concerns become part of the environmental review process for the proposed project, and elicit detailed, written responses from the Lead Agency and OCTA for the purpose of promoting informed decisionmaking.

Because the I-405 (San Diego) Freeway traverses the City, any physical changes to that facility or functional changes affecting its operation and use have the potential to adversely affect Seal Beach, its residents, and business community. In recognition of the project's potential to adversely affect this community and the long-term environmental consequences of the proposed action, the City (acting on its on and on-behalf of the City's affected residents and businesses) constitutes an affected stakeholder with legitimate and appropriate standing to actively participate in the CEQA and NEPA process.

The Lead Agency states that the project's effectuation may be dependent upon the issuance or approval of one or more discretionary actions from the City (Table 2-2, p. 2-52). As a result, since Seal Beach must satisfy its own environmental compliance obligations, these comments are presented in the context of CEQA and NEPA and are intended to seek clarification of and/or expansion upon the information presented in the DEIR/S and the planning process upon which that analysis was derived. Because of our many shared interests, the need for cooperation and effective communication is particularly evident when regional and subregional issues are at hand. For all activities undertaken within its corporate boundaries, the City seeks to ensure a collaborative and cooperative planning and entitlement process through which Seal Beach's issues and concerns are given both ample voice and deferential consideration with regards to project-related and cumulative impacts on the residents and business interests within the City.

The City recognizes that prudent short-term and well-founded, long-term actions are called for in order to address existing and reasonably foreseeable traffic and transportation-related issues affecting the southern California area. As the major regional conduit serving Seal Beach, the City recognizes that improvements to and/or modifications of the I-405 Freeway may be required as part of a broader strategy to address those traffic and transportation needs. As a likely beneficiary, the City is an advocate for both prudent, well-planned improvements to the interstate and arterial highway system and for other accessibility-enhancing travel options.

Except where another document is first identified, excerpts and page references cited herein are with regards to the DEIR/S and are intended to be illustrative and not exhaustive (e.g., issues being raised may be systemic and not isolated to the single reference being cited). Excerpts extracted from the DEIR/S are presented only as examples of the relevancy of the specific issue or issues being raised by the City and should not be interpreted as constituting the only citation within the environmental review record where that issue or those issues have potential applicability. Document citations presented herein are for the sole convenience of the Department. The City's unintended misidentification of a page reference or citation, the City's

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failure to accredit a source document to all of its co-authors, or the likely presence of typographical and/or other unintended errors herein should not serve as an excuse by the Lead Agency not to fully respond to the issues and concerns being expressed.

In the preparation of these comments, the City has sought to use typical writing conventions (e.g., utilization and application of parenthesis/bracketing and underlining to reflect emphasis or call attention to an item). Use or application of those writing conventions, as well as the use of headings, capitalization, and punctuation herein, are presented to facilitate communication and are provided for convenience purposes only and should not be construed as limiting the nature or broader relevancy of the City's comments. Similarly, the organization of these comments should neither serve as an artificial constraint to the Lead Agency's obligations under CEQA and NEPA nor should they serve to limit the nature of the Lead Agency's responses thereto.

The DEIR/S is a voluminous undertaking and a lot of effort was expended in its preparation. Hours expended and volume and weight should not, however, be confused with substance. Unsupported statements and unsubstantiated conclusions should not be confused with substantial evidence (14 CCR 15384[d]) or with objective and good-faith efforts at full disclosure (Residents Ad Hoc Stadium Commission v. Board of Trustees). Independent of the merits or lack of merits of the proposed action, because the DEIR/S does not presently satisfy the requirements of CEQA/State CEQA Guidelines and NEPA/CEQ Regulations, the Lead Agency's existing environmental documentation fails to provide an adequate basis for informed governmental action and public participation. In its decision to submit comments on the DEIR/S, it has been the City's intent to support and assist the Lead Agency in its efforts to faithfully fulfill its environmental compliance obligations, including ensuring "that decisions be informed and balanced" (14 CCR 15003[j]).

1.2 Introduction to the Proposed Action

As indicated in the DEIR/S, "[t]he proposed project is a 'Major Project' as defined by the Federal Highway Administration (FHWA) because it would cost in excess of $500 million" (emphasis added) (p. 2-50). As further indicated in the "Air Quality Report - San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties" (Caltrans, May 2011) (AQR), included in the DEIR/S, the project is "a Project of Air Quality Concern" and "is considered regionally significant" (emphasis added) (pp. 1 and 61). In addition, the proposed action constitutes a "significant operational change," as defined in the OCTA's "Orange County High Occupancy Vehicle (HOV) Operations Policy Study" (August 1, 2002) (emphasis added) (p. 66).

As evidence, in part, by the Department's and OCTA's own categorization of the proposed action as a MAJOR PROJECT, a PROJECT OF AIR QUALITY CONCERN, REGIONALLY SIGNIFICANT, and a SIGNIFICANT OPERATIONAL CHANGE, it is readily apparent that the proposed action has serious and significant implications not only with regards to the affected right-of-way (ROW) but in the larger context of the larger southern California region. Actions that are taken by Caltrans and the OCTA concerning the I-405 Freeway will have lasting and long-term consequences and will, directly and/or indirectly, affect both the face of travel and travel choices on a regional scale well into the future. As a result, it is necessary to shine a bright light on the proposed action (including the planning and environmental review process and the range of options under consideration) to ensure that the choices made today benefit the region long and not merely perpetuate the continuation of old and outdated habits.

GL14 Continued

As an introduction to the proposed action, the project "abstract" states that "[t]he Interstate 405 (I-405) Improvement Project proposes to widen the corridor by adding: [1] one general purpose (GP) lane in each direction between Euclid Street and Interstate 605 (I-605) [Alternative 1]; or [2] two GP lanes in each direction between Brookhurst/Euclid Street and I-605 [Alternative 2]; or [3] one GP lane between Euclid Street and I-605 and one tolled Express Lane in each direction between State Route 73 (SR-73) and State Route 22 (SR-22) east of I-405 to be managed jointly as a tolled Express Facility with two lanes in each direction between SR-73 and I-605. The tolled Express Facility would operate so that HOV2s would be tolled and HOV3+ would either be free or receive a discount [Alternative 3]. The proposed action would improve the freeway mainline and interchanges on I-405 in Orange and Los Angeles counties for approximately 16 miles between 0.2-mile south of Bristol Street and 1.4 miles north of I-605, as well as portions of SR-22, SR-73, and I-605 to reduce congestion and improve lane continuity through the corridor" (emphasis added) (DEIR/S, Title Page). The "corridor" is alternatively referred to as comprising a length of "14-miles" (p. 2-20) and/or "15-miles" (AQR, p. 51).

Although serving to describe, at least in part, the physical components of the proposed action, by depicting the project merely in terms of "brick and mortar," the totality of the action's substance (and consequently its environmental effects) are ignored or "swept under the rug." Since CEQA is intended to address "the whole of the action" (14 CCR 15378), the proposed action is inclusive of not only the increase in total lane-miles to be constructed but also the actions that the project produces and the precedence that the project establishes.

It is immediately evident that the magnitude of the proposed action makes it unique and demanding serious consideration. As indicated in the State CEQA Guidelines: "The EIR shall focus on the significant effects on the environment. The significant effects should be discussed with emphasis in proportion to their severity and probability of occurrence" (14 CCR 15143). Unlike a store with a limited clientele, Caltrans' customers are everyone who drives a motor-operated vehicle in California (e.g., private motorists, freight haulers, commercial vehicle drivers, public transit operators, school and tour buses, emergency responders, motorcyclists, maintenance vehicles, national and civil defense vehicles), including those people and businesses who are dependent upon them.

As indicated in Caltrans' "California Interregional State Highways – Major Planning Considerations, Trends, and Implications" (January 2010): "The designated Interstate system is the backbone of the state's transportation network for interregional, interstate, and international goods movements, access to airports, air cargo terminals, and other major gateways in the urbanized area. The Interstate system is the only 'completed freeway system' in California in terms of continuous high facility standards. The Interstate system is less than 18 percent of all state highway miles, however, it carries over half of all VMT [vehicle miles traveled] annually (over 80 billion VMT) and half of all VMT in the urbanized and metropolitan areas. The State's large metropolitan centers in Southern California and the Bay Area in Northern California rely heavily on the Interstate system for interregional and regional mobility" (pp. 1-2). Within southern California, the I-405 Freeway is a critical component of the State's transportation infrastructure, part of the region's backbone system, and a "bypass route" to other north-south conduits linking Los Angeles, San Diego, and Orange Counties.

Not many projects have the potential to produce a fundamental shift in (driver's) behavior. However, in the case of the proposed action, the Lead Agency is actively seeking to alter a well-established, widely-accepted, and environmentally-based principal that has served as the foundation for State and federal transportation planning dating back to the 1980's.

GL14 Continued

For over 30 years, high-occupancy vehicle (HOV) facilities have been a part of urban transportation planning. By restricting certain highway lanes to exclusive use by multi-occupant vehicles (MOVs), HOV projects have served to improve the people-moving capacity of travel corridors and encouraged drivers to (at least on occasion) abandon their single-occupant vehicles (SOVs) and join carpools, vanpools, or use transit buses, resulting in substantial reductions in total VMT, consumption of petroleum products, and mobile source air emissions. The construction of HOV lanes was based both on sound traffic engineering (e.g., increasing the average number of persons per vehicle, preserving the people-moving capacity of travel corridors, and enhancing mobility options) and government-sponsored social engineering (e.g., HOV lanes do not force drivers to make changes but rather encourages them to do so).

In "HOV Facility Development: A Review of National Trends, Paper No. 02-3922" (Fuhs, C. and J. Obenberger, undated), the authors note: "Based on thirty years of experience from across the country, HOV lanes are a proven, viable, and effective alternative to mitigate the impacts of traffic congestion in urban and suburban areas. As a part of an overall approach to address travel demand and mitigate the impacts of congestion in a region, HOV lanes have the potential to move more people in fewer vehicles, improve the person moving capability and reliability, and efficiently utilize the available roadway infrastructure and transit fleet" (p. 1).

HOV lanes are a proven, viable, and effective alternative to mitigate the impacts of traffic congestion in urban and suburban areas. As a part of an overall approach to address travel demand and mitigate the impacts of congestion in a region, HOV lanes have the potential to move more people in fewer vehicles, improve the person moving capability and reliability, and efficiently utilize the available roadway infrastructure and transit fleet. As reported in the Los Angeles County Metropolitan Transportation Authority's (LACMTA or Metro) "HOV Performance Program Evaluation Report" (November 22, 2002):

> The mere presence of the carpool lanes was a critical factor in many commuters decision to participate in a carpool or vanpool in order to realize the time savings. Almost 8 out of 10 peak-period carpool lane users (79%) say the presence of the lanes play an important role in their decision to carpool. For carpool lane transit service users, the response is even more overwhelming. Almost all the riders (95%) say the fact that the bus is using the carpool lanes is important in their decision to ride the bus. Over one half of those identified as carpool lane users previously drove alone in the general purpose lanes on the same freeway prior to using the carpool lane. On freeways without carpool lanes, 29% of peak-period drive-alone commuters say they would start to carpool if the lanes were added to their freeway, effectively removing vehicles from the freeway. The introduction of carpool lanes to a freeway has been effective at getting people to start to carpool. Los Angeles County commuters are willing to change their ways to use the carpool lanes, when the lanes are provided (p. 47).
>
> For SOV commuters on freeways without carpool lanes, almost 30% indicate that they would use carpool lanes if lanes were made available on their freeway. For general-purpose lane users on freeways with HOV lanes, two-thirds indicated that they could be influenced to carpool with some kind of inducement. One-quarter of these respondents indicated that some sort of employer incentive would be enticement to carpool, vanpool, or ride transit, while an additional 22% advised that an easy way to start or join a carpool or vanpool, like the availability of a rideshare program, would be sufficient inducement (p. 82).

GL14 Continued

The HOV lane of the I-405 Freeway does not suffer from the "empty lane syndrome" (e.g., motorists travelling along adjacent congested general-purpose lanes perceive the HOV lane to be underutilized) or lack of utilization. It appears that the opposite is the case. There are times when the level of service (LOS) on the HOV lane (e.g., LOS "F") matches that on the GP lanes, suggesting the need for an additional HOV lane.

The Department mischaracterizes the project by stating that "the project is not a precedent-setting action and would not affect resources of concern" (p. 3.1.2-9). At least with regards to Alternative 3, the proposed action is the linchpin of a much broader regional strategy designed to: (1) convert the southern California existing highway system (not just newly constructed toll roads) from "'free' ways" into "'toll' ways," thus creating a new social order of "those with transponders" and "those without"; (2) privatize components of the existing public transportation system, emphasizing the optimization of return-on-investment over the maximization of public benefit; and (3) change traditional design-then-build construction practices involving separate entities without possible economic entanglements into "design-build" contracts potentially favoring the profitability of a single entitle (or group of investors) over public safety and convenience. Once the step is taken, there is no turning back. 1

The Lead Agency seeks to induce a major change (paradigm shift) in driving habitats that would: (1) have ramifications and reverberations extending substantially beyond the edge of the I-405 Freeway right-of-way and which would negate the benefits that have predicated HOV development (e.g., reduction in VMT); and (2) prove irreparable because conversion back to pre-project conditions would meet with substantial resistance by well-heeled HOT-lane users. As proposed, the concept of dedicating HOV lanes to use first MOVs and public transit vehicles and subsequently to low-emission vehicles (LEMs) would be replaced by a "pay to play" concept that allocates an unlimited percentage of lane capacity to SOVs willing to pay a specified toll rate (e.g., "The volume of traffic in the Express Lanes would be actively managed to maintain high-speed operations with maximum hourly volumes of 3,400 [vehicles/hour]" Traffic Study, p. 3.1.6-95). Being pushed out of the HOV lanes are the MOVs and LEMs and being forfeited are the environmental and societal benefits attributable to use of HOV lanes by carpools, vanpools, and public transit vehicles.

As indicated in the "Orange County High Occupancy Vehicle (HOV) Operations Policy Study":

> According to the transportation planning requirements noted in 23 C.F.R. 450.320(c), in Transportation Management Areas (TMAs), the planning process must include the development of a CMS [Congestion Management System] that provides for the effective management of new and existing transportation facilities through the use of travel demand reduction, travel management, traffic operational strategies, and meets the requirements of 23 C.F.R. part 500. 23 C.F.R. 500.109 defines an effective CMS as a systematic process for managing congestion that provides information on transportation system performance, and on alternative strategies for alleviating congestion, to enhance the mobility of persons and goods to levels that meet State and local needs. The CMS encourages the consideration and implementation of strategies that provide the most efficient and effective use of existing and future transportation facilities. Consideration needs to be given to strategies that reduce SOV travel and improve existing transportation system efficiency (emphasis added) (p. 72).

GL14 Continued

Although it is OCTA's policy to "reduce SOV travel," to the detriment of carpool formulation and retention and public transit ridership, the proposed action serves to promotes travel by SOVs and, therefore, would appear to violate existing OCTA policies. In addition, as indicated in the OCTA's "Orange County High Occupancy Vehicle (HOV) Operations Policy Study," the proposed action "has the potential to adversely affect the area's flow of traffic, roadway and traveler safety, and the environment" (p. 72). As further indicated therein, "FHWA must be consulted if a proposed significant operational change can be reasonably expected to affect a specific HOV lane or portions of the regional HOV system, which were funded or approved by FHWA. This includes portions of the local, region, or Federal-aid Highway system, where operational changes to these facilities may also adversely affect the operation of one HOV lane, or portions of the regional HOV system" (p. 66). Notwithstanding any attempt to do so in the DEIR/S, the proposed action cannot be examined in the context of a single freeway segment but must be assessed in a broader regional context than now explored by the Lead Agency.

Notwithstanding the project's connection with Measures M/M2, the Lead Agency's singular focus on constructing new lane-miles has limited public discussion and corresponding environmental analysis of a substantially broader range of options that could be implemented to accomplish the proposed action's declared P&N (assuming that the P&N is appropriately identified and not alternative restricting). In the Department's blind pursuit of only one travel mode and one course of action (although minor variations relating to the quantity and placement of new pavement have been identified), despite the OCTA's willingness to spend an estimated $5.8 billion dollars in public funds in advancing a specific development proposal, a broader view of traffic and transportation are never introduced.

As outlined in the OCTA's "Destination 2035 – Moving Toward a Green Tomorrow" (2010) (2010 LRTP), by 2035, "about 50 percent of Orange County's freeways and about 20 percent of Orange County's roadways will operate under congested conditions during peak hours. Average peak period freeway speeds are expected to be close to 30 miles per hour (mph) in the mixed-flow lanes and about 35 mph in the HOV lanes. Average roadway speeds are expected to be about 13 mph during peak hours" (p. 36). As such, the problems that the proposed action purports to address are substantially greater than a short segment of a specific freeway. Where in the DEIR/S is that discussion? 2

How do you "reduce" something that is never first defined (e.g., "reduce congestion")? Absent from the DEIR/S is any effort by the Lead Agency to define "congestion." Congestion is far from a simple concept and its historic context, contributory components, universally accepted benchmark, and relevancy to transportation not universally understood. Absent that definition, how do you know if you have succeeded?

Because "whatever gets measured gets managed," the Department's fundamental folly is the selection of the wrong yardsticks (i.e., vehicle throughput and relative speed) both with regards to its definition and measurement of "congestion" and in its formulation and evaluation of project alternatives. Since neither vehicle throughput nor relative speed were identified as key variables in Measures M/M2, premising the entire project on those single variables creates no direct or indirect linkage between the proposed action and Measures M/M2. Sound transportation planning should be about moving people and goods, not about counting automobiles and trucks passing arbitrarily established fixed points that bear little relevancy to the lives of motorists (e.g., few individuals start and end their daily travels at the two assigned end points or limit their driving to the Lead Agency's designated "corridor"). The Lead Agency's selection of performance indices lacks reasonable connectivity with the project's declared P&N.

GL14 Continued

As described in the "Traffic Study – San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties" (Caltrans and Albert Grover & Associates, May 2011) (Traffic Study), as included in the DEIR/S, "[t]hroughput is the general purpose flow rate multiplied by the number of lanes, plus the specialty lanes (HOV or express lanes) flow. The peak hour throughput is the number of vehicles able to pass a fixed point along the corridor during the hour of greatest demand" and is measured as "the number of vehicles able to pass a fixed point along the project route" (pp. ES-3 and 4-2). That definition, however, neither serves as an accurate measure of the number of individuals or the amount of freight that can be moved from Point A to Point B within a designated time period nor constitutes the sole indices for the assessment of "best use." By maintaining a myopic focus on vehicle throughput, the Lead Agency ignores the function of the automobiles and truck traffic traveling along the freeway, namely the efficient and effective movement of people and goods.

1.3 Understanding California Department of Transportation's and the Orange County Transportation Authority's Respective Roles

1.3.1 Orange County Transportation Authority

The DEIR/S notes that "[t]he proposed project is a joint project" undertaken by Caltrans and the FHWA (p. 4-1), a division of the United States Department of Transportation (DOT or USDOT). As represented, it is not a joint undertaking of Caltrans and the OCTA. The OCTA is identified in the DEIR/S as the "project sponsor" (p. 1-1) or "sponsor agency" (p. 5-5) for the action described therein. Under NEPA, the term "project sponsor" means the agency or other entity seeking "approval of the Secretary [of Transportation] for a project" (23 U.S.C. 139[a][3][B][7]) and the agency or entity, including any private or public-private entity, seeking "an Administration action" (23 C.F.R. 771.107[i]). Conversely, the term "sponsor" has no meaning in CEQA parlance.

Under NEPA, the term "applicant" means "[a]ny State, local, or federally-recognized Indian tribal governmental unit that requests funding approval or other action by the Administration and that the Administration works with to conduct environmental studies and prepare environmental review documents. When another Federal agency, or the Administration itself, is implementing the action, then the lead agencies (as defined in this regulation) may assume the responsibilities of the applicant in this part. If there is no applicant, then the Federal lead agency will assume the responsibilities of the applicant in this part" (23 C.F.R. 771.107[f]). Based on those definitions, the OCTA may be categorized as both "project sponsor" and "applicant."

With regard to OCTA's "responsibilities," the DEIR/S states that OCTA will "[p]rovide funds, resources, and leadership attention needed to complete EIR/EIS; provide comments on purpose and need, range of alternatives, and Draft/Final EIR/EIS" (Table 5-2, p. 5-5). However, nowhere in any documentation has the City found any declaration that the OCTA is serving either as "lead agency" or as "joint lead agency" for the purpose of environmental compliance (see 23 U.S.C. 139[a][3][B][4], 23 U.S.C. 139[c][2]-[3], and 14 CCR 15367).

Although no subsequent reference could be found in the DEIR/S, the "Notice of Preparation" (NOP), dated August 26, 2009, states that the OCTA is a "responsible agency and participating agency under CEQA and is also the funding agency" (p. 1). Because no similar reference can be found in the DEIR/S, the Lead Agency should clarify whether OCTA remains a "responsible agency" under CEQA and, if so, what its obligations are thereunder. 3

GL14 Continued

The DEIR/S includes the OCTA among the list of agencies with "probable permit requirements and approvals," specifically identifying the need for "Maintenance, Operations, and Law Enforcement Agreements (Alternative 3 Only)" (Table 2-2, p. 2-52). The DEIR/S does not, however, indicate whether those "agreements" constitute discretionary or ministerial actions under CEQA or whether any other discretionary actions will be required from the OCTA. As defined in the State CEQA Guidelines, "'[m]inisterial' describes a government decision involving little or no personal judgment by the public official as to the wisdom or manner of carrying out the project. The public official merely applies the law to the facts as presented but uses no special discretion or judgment in reaching a decision. A ministerial decision involves only the use of fixed standards or objective measurements, and the public official cannot use personal, subjective judgment in deciding whether or how the project should be carried out? (14 CCR 15369). "Ministerial projects" are statutorily exempt from CEQA (14 CCR 15268).

Absent discretionary authority over the proposed action, the role and responsibility of the OCTA with regards to both the project's CEQA and NEPA documentation and ability to dictate the nature of physical improvements to the federal highway system is unclear and requires further clarification. As purported in Table 2-2 (Probable Permit Requirements and Approval) in the DEIR/S, the only action required from the OCTA relates to "Alternative 3 only" (p. 2-52). If there are no discretionary "requirements or approvals" (p. 2-52) from the OCTA for Alternatives 1 and 2, then OCTA: (1) cannot be a "responsible agency" under CEQA; and/or (2) knew before the issuance of the NOP that the "preferred project" was going to be "Alternative 3 only." Any subterfuge to the contrary, either in the DEIR/S or elsewhere, is intended solely to confuse an unsuspected public and falsely suggest that the process has more transparency than truly deserved. It, therefore, appears disingenuous for the OCTA to assert that "we are proud of our long-time reputation of accountability, openness and transparency" (A Message from CEO Will Kempton, http://www.octa.net/righttoknow.aspx).

As indicated in the DEIR/S: "The entire length of I-405 is part of the National Highway System, the Department of Defense Priority Network, the Interstate Highway System, and the Strategic Highway Corridor Network. The 1990 Federal Surface Transportation Assistance Act (STAA) identifies I-405 as a "National Network" route for STAA trucks. Strategically, I-405 is a transportation link for national defense and transportation security, providing direct and indirect access to major military installations in the west, including Los Angeles Air Force Base to the north, and NAVWPNSTA [Naval Weapons Station] Seal Beach, Air Force Reserve Center Los Alamitos, and Camp Pendleton to the south" (p. 1-20). In addition, the I-405 Freeway is component of the "California Freeway and Expressway System" (F&E System) and part of the "State Highway System" (SHS). Caltrans has the statutory responsibility for operations, maintenance, design, construction, and long-range planning of the SHS and the State agency responsible for establishing standards and policies to maintain the system and administer the State Highway Operations and Protection Program (SHOPP) for the rehabilitation and operational improvements of the system (Source: Caltrans, California Interregional State Highways – Major Planning Considerations, Trends, and Implications, January 2010, p. 1).

As indicated in the OCTA's "2011 Orange County Congestion Management Program" (undated): "Caltrans is responsible for monitoring freeway performance and addressing any deficiencies on State operated facilities. Caltrans' responsibilities include, but are not limited to: (A) Evaluating current conditions and identifying deficiencies. (B) Developing plans and strategies to address deficiencies. (C) Evaluating development projects of local and regional significance to determine whether they will impact the State transportation system and, if so, working with lead agencies to develop potential mitigation measures" (emphasis added) (p. 5).

GL14 Continued

With regards to describing its own role under CEQA and NEPA, the Department states that its role is to only "provide comments on purpose and need, range of alternatives, and Draft/Final EIR/EIS" (emphasis added) (Table 5-2, p. 5-5). Under both CEQA and NEPA, the role of the "lead agency" extends substantially beyond "providing comments" to a "project sponsor" and "applicant" possessing, for the purpose of the proposed action, no discretionary authority. 4

Referencing the DEIR/S: "The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project has been or is being carried out by the Department under its assumption of responsibility pursuant to 23 United States Code (U.S.C.) 327" (p. 1-1). Pursuant to Section 327(a)(2) therein, "[s]ubject to the other provisions of this section, with the written agreement of the Secretary and a State, which may be in the form of a memorandum of understanding, the Secretary may assign, and the State may assume, the responsibilities of the Secretary with respect to one or more highway projects within the State under the National Environmental Policy Act of 1969." As specified under Section 327(e), A State that assumes responsibility under subsection (a)(2) shall be solely responsible and solely liable for carrying out, in lieu of the Secretary, the responsibilities assumed under subsection (a)(2), until the program is terminated" (emphasis added) In accordance therewith, the Department cannot delegate to the OCTA its obligations under NEPA. Although the OCTA may be providing all or a portion of the funding for the proposed action, it is unclear how or why Caltrans is delegating its planning and environmental compliance responsibilities over the I-405 Freeway to a non-State agency (particularly an agency with a potential vested interest in a pre-determined outcome).

At a community meeting conducted by the City on June 26, 2012 at the Seal Beach Community Center (3333 St. Cloud, Seal Beach), which was graciously attended by Niall Barrett, OCTA's Project Manager and William Kempton, OCTA's Chief Executive Officer (CEO), Mr. Barrett informed the audience (which included representatives of the Seal Beach City Council and City staff) that: (1) the close of the comment period on the DEIR/S has been extended until July 17, 2012; and (2) the OCTA Board of Directors would be selecting a "preferred" alternative on August 13, 2012. Mr. Kempton stated that the "OCTA is the decision-making body" for the proposed project.

As the project's "decision-making body," the City is concerned that the Department's failure to identify the OCTA as either the "lead agency" or as "co-lead agency" is merely a veiled attempt to circumvent or otherwise bypass the OCTA's obligations under CEQA including, but not limited to, the OCTA's consideration of written comments received on the DEIR/S (14 CCR 15092) and the OCTA's adoption of requisite findings (14 CCR 15091 and 15092) and statement of overriding considerations (14 CCR 15093). As stipulated under the State CEQA Guidelines: "(b) If the project is to be carried out by a nongovernmental person or entity, the lead agency shall be the public agency with the greatest responsibility for supervising or approving the project as a whole" and "(c) Where more than one public agency equally meet the criteria in subsection (b), the agency which will act first on the project in question shall be the lead agency" (14 CCR 15051[b]-[c]). Because the OCTA has indicated a desire to pursue both a "design-build" contract and to convey control of the operation of a substantial portion of the proposed project to a private concessionaire, it is likely that the design, construction, and operation of the project, or a substantial portion thereof, will be performed by a non-governmental entity under the supervision of the OCTA (not Caltrans).

Although a non-governmental "project sponsor" and/or "applicant," lacking any discretionary authority over a proposed action, may not have obligations under CEQA, if that same sponsor

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and/or applicant is also a "responsible agency" (14 CCR 15381), it "complies with CEQA by considering the EIR or negative declaration prepared by the lead agency" (14 CCR 15096[a]). Based on the anticipated nature and extent of comments likely to be received by the Lead Agency on the DEIR/S, it is improbable that all comments received by the Lead Agency within the comment period and addressing the adequacy of the DEIR/S can be digested and formal responses formulated by the Lead Agency and those responses independently considered by OCTA's Board of Directors by August 13, 2012.

As specified under Section 21006 of CEQA, "[t]he legislature finds and declares that this division is an integral part of any public agency's decisionmaking process." Since the OCTA's Board of Directors will not have sufficient opportunity to review the totality of comments received in response to the dissemination of the DEIR/S, the Lead Agency's detailed written responses thereto, and any subsequent comments that may be submitted by commenting public agencies following their authorized review of the Lead Agency's draft reply (Section 21092.5(a), CEQA), the Board of Directors will not be fully informed and will not possess the information required under applicable statutes and regulations. As a result, any actions taken by OCTA's Board of Directors prior to the Lead Agency's certification of the EIR and the Board of Directors consideration thereof would appear to be in violation of CEQA.

1.3.2 Project Development Team

In the preparation of these comments, the terms "Lead Agency" and "Caltrans" or "Department" have been used interchangeably and with clear and intended distinction from "OCTA"; however, based on a presentation by Niall Barrett, OCTA's Project Manager at the Seal Beach Community Center on June 26, 2012, any distinction is now blurred. When asked about the identity of the project's decision-making body, Mr. Barrett repeatedly stated that future decision's regarding the project (including the choice among alternatives) will be made by a "Project Development Team" consisting of both representatives of Caltrans (purported to be the CEQA/NEPA "Lead Agency") and OCTA (identified in the DEIR/S as the "project sponsor").

Only minimal reference to the "Project Development Team" (PDT) is presented in the DEIR/S (e.g., "The potential effectiveness of each alternative to achieve the project purpose and address the project need was based on extensive deliberation by the Project Development Team [PDT]," p. 2-1; "To the extent that it is applicable or feasible for the project and through coordination with the project development team, the following measures will also be included in the project to reduce the GHG emissions and potential climate change impacts from the proposed project," p. 4-59). Specifically, no reference to the PDT (either as an entity or a non-entity) is presented in Table S-4 (Probable Permit Requirements and Approvals) (p. S-41 thru 43) or Table 2-2 (Probable Permit Requirements and Approvals) (p. 2-50 thru 53). With regards to those two tables (purporting to list all requisite discretionary actions), no agency is identified as the decision-making body for the certification of the CEQA document and adoption of the NEPA document.

The DEIR/S notes that "[a]fter the public circulation period for the Draft EIR/EIS, all comments will be considered, and the Project Development Team (PDT) will select a preferred alternative and make the final determination of the project's effect on the environment" (emphasis added) (p. 2-27). CEQA states that the "'[d]ecision-making body' means any person or group of people within a pubic agency permitted by law to approve or disapprove the project at issue" (14 CCR 15356). The PDT does not appear to be comprised of elected representatives, constitute a public entity, or be accountable to any particular constituency.

GL14 Continued

In Kleist v. City of Glendale (1976), the court stated that "Section 15050 of the State Guidelines requires each public agency subject to the CEQA to adopt its own procedures for the identification of projects which have a possible effect upon the environment, for the conduct of initial studies, for consultation with other public agencies and obtaining comments from them and from members of the public, for evaluation and response to comment, assignment of responsibility for specific functions to specific units of the public agency, and for preparation of EIR's. Section 15050 requires further that the agency's procedures contain '(p)rovisions for the review and consideration of environmental documents by the person or decision-making body who will approve or disapprove a project,' and '(p)rovisions for filing documents required or authorized by CEQA and (the state) guidelines'" [Citation].

Absent from the DEIR/S is any evidence that the PDT has been formally established by legislative action, comprised of representatives of "a" public agency, delegated any formal and official powers or authority, and/or "adopt[ed] its own procedures" (pursuant to Kleist v. City of Glendale). Similarly, there exists no reference to any established organization procedures, such as meeting noticing obligations, public disclosure requirements, opportunities for public participation, avoidance of conflicts of interest, voting procedures, and to who PDT actions would be appealable (see Section 21151[c], CEQA and Section 15090[b], State CEQA Guidelines).

As indicated in the DEIR/S" "Agency consultation and public participation for this project has been accomplished through a variety of formal and informal methods, including Project Development Team (PDT) meetings" (p. 5-1). Where each of the PDT meetings publicly noticed, in what manner did that noticing take place, and to whom were any direct mailings of that notice disseminated? Are transcripts of those meetings available? 5

The composition of the PDT is not even disclosed in the DEIR/S. When OCTA's representative was asked for the names and contact information for the individuals comprising the PDT so that the affected public might provide input in order to assist in the decision-making process, the representative was evasive and the public was directed to file a "Public Records Act" request if they sought the names of the PDT. Since the composition of the PDT, therefore, remains a mystery, the City asks for full disclosure.

In Kleist v. City of Glendale, the court found that "the Glendale City Council was required itself to review and consider the EIR and could not delegate that function to some other agency of city government." It is likely that the court's ruling would equally apply to the assignment of similar responsibilities to the PDT.

1.3.3 California Department of Transportation

As indicated by Niall Barrett, OCTA's Project Manager at the Seal Beach Community Center on June 26, 2012, the OCTA Board of Directors would be selecting a "preferred" alternative on August 13, 2012. Although not using the word "rubberstamp" and only paraphrasing Mr. Barrett's comments, the OCTA's representative stated that "since we're the project sponsor and will be paying for it, Caltrans won't make a decision other than the one selected by the project sponsor." William Kempton, OCTA's CEO (who was also in attendance at that meeting) make no attempt to clarify or refute his staff's public position. While acknowledging that one agency's representative cannot commit the actions of another governmental entity, the statement clearly suggests that Caltrans' has or will likely fail to fulfill its independent obligations under CEQA and NEPA. 6

GL14 Continued

Absent from the DEIR/S is any evidence that Caltrans is anything other than a "rubberstamp" and that the process is not being unduly manipulated by the OCTA. As evidenced by anything other than tacit involvement in the CEQA and NEPA process, available evidence suggests that the State's transportation planning agency has failed not only in its leadership but also in its lack of vision and forward planning and in its obligation to defend and uphold its CEQA/NEPA requirements.

Under CEQA, "[t]he lead agency shall evaluate comments on environmental issues received from persons who reviewed the draft EIR and shall prepare a written response" (14 CCR 15088[a]). In its handout at the June 26, 2012 community meeting, OCTA indicated that "e-mail comments" should be sent to "405.dedcomments.parsons@parsons.com." In contravention of CEQA, because Parsons is operating under contract to the OCTA and not Caltrans, the "project sponsor" (rather than the Lead Agency) appears to be tasked with the assemblage of comments on the DEIR/S and the preparation of written responses thereto. 7

As stipulated under Section 15003 of the State CEQA Guidelines: (1) "The EIR serves not only to protect the environment but also to demonstrate to the public that it is being protected"; (2) "The EIR is to demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its actions"; and (3) "The EIR process will enable the public to determine the environmental and economic values of their elected and appointed officials thus allowing for appropriate action come election day should a majority of the voters disagree" (emphasis added).

1.4 Stipulating the City of Seal Beach's Role

1.4.1 California Environmental Quality Act

The DEIR/S states that a "freeway agreement" will be required from the City (Table 2-2, p. 2-53). In addition, implementation of the proposed action appears to necessitate the need for additional real property within the City (differentiating between "Existing R/W" and "Proposed R/W," Appendix K, Sheets U-24 and 2-25), the relocation of the existing soundwall along Almond Avenue (e.g., "Numerous soundwalls within the corridor would be replaced to accommodate the widened paving," p. 3.1.7-31), and the relocation of the existing overhead utility lines in proximity to that soundwall. In addition, as a result of the loss of existing pavement width, because Almond Avenue would no longer conform to the "City of Seal Beach Municipal Code" (Seal Beach Municipal Code) street width and design standards, the City may be required to amend the "City of Seal Beach General Plan" (Seal Beach General Plan) in response thereto. 8

The Lead Agency recognizes the need for local governments to amend their existing policy documents in response to the proposed action. In response, the following "measure" is identified in the DEIR/S: "If a build alternative is selected for implementation, OCTA shall request the County of Orange and the cities along the project corridor to amend their respective General Plans to reflect the selected build alternative and the modification of land use designations for properties that would be acquired for the project that are not currently designated for transportation uses" (Measure LU-1, p. 3.1.1-33).

In addition to its role as an affected stakeholder, while not formally acknowledged as such in the DEIR/S, based on the City's location, jurisdictional authority, obligations as a municipality, the Lead Agency's identification of the need or potential need for one or more discretionary actions

GL14 Continued

from the City for the project's effectuation, and the City's independent determination that one or more discretionary actions would either be required or desirous, Seal Beach possesses "responsible agency" (14 CCR 15381) status under CEQA.

1.4.2 National Environmental Policy Act

In holding that a municipalities interests fall within the scope of NEPA's protections, a federal court noted that "[t]he policies underlying NEPA are extremely broad [Citation] and the environmental interests it seeks to protect are shared by all citizens. In a sense, therefore, the intended beneficiaries of NEPA are individual citizens; but the statute expressly contemplates that state and local governments are to play an important role in the effectuation of national environmental policy [Citation]. Thus, while a municipality's interest in agency compliance with NEPA in one sense derives from the interests of its citizens in avoiding the consequences of environmental damage, under California law it is the municipality which is entrusted with protection of certain of these environmental interests, by virtue of statutory duties to develop and enforce a general plan, to maintain or contract for a municipal water supply, and so on" (City of Davis v. William T. Coleman, Jr., Secretary of Transportation [1975]).

As stipulated under 23 U.S.C. 139(d): "(1) The lead agency shall be responsible for inviting and designating participating agencies in accordance with this subsection. (2) Invitation. - The lead agency shall identify, as early as practicable in the environmental review process for a project, any other Federal and non-Federal agencies that may have an interest in the project, and shall invite such agencies to become participating agencies in the environmental review process for the project. The invitation shall set a deadline for responses to be submitted. The deadline may be extended by the lead agency for good cause." As defined under NEPA, the term "participating agency" means "[a] Federal, State, local, or federally-recognized Indian tribal governmental unit that may have an interest in the proposed project and has accepted an invitation to be a participating agency, or, in the case of a Federal agency, has not declined the invitation in accordance with 23 U.S.C. 139(d)(3)" (23 C.F.R. 771.107[j]).

The City may be required to amend theSeal Beach General Plan is response to the project's potential impacts and, because the I-405 and I-605 Freeways traverse the City's corporate boundaries, possesses special expertise and information relevant to the project and its potential environmental effects. Since numerous publicly- and privately-owned properties located within City will be directly or indirectly affected by the proposed action, the City serves as an outspoken advocate for the interests and concerns of those parties.

Pursuant to Section 6002(d) of SAFETEA-LU (23 U.S.C. 139), the City requests designation as a non-Federal "participating agency." As specified in the FHWA's and Federal Transit Administration's (FTA) "SAFETEA-LU Environmental Review Process Final Guidance" (November 15, 2006) (SAFETEA-LU Guidelines): "The roles and responsibilities of participating agencies include, but are not limited to: [1] Participating in the NEPA process starting at the earliest possible time, especially with regard to the development of the purpose and need statement, range of alternatives, methodologies, and the level of detail for the analysis of alternatives. [2] Identifying, as early as practicable, any issues of concern regarding the project's potential environmental or socioeconomic impacts. Participating agencies also may participate in the issue resolution process described later in this guidance. [3] Providing meaningful and timely input on unresolved issues. [4] Participating in the scoping process. The scoping process should be designed so that agencies whose interest in the project comes to light as a result of initial scoping activities are invited to participate and still have an opportunity for involvement" **9**

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(Question 22) (see also 23 U.S.C. 139[h]). As further specified under the SAFETEA-LU Guidelines: "If initially an agency was unintentionally left out and now wants to participate, the agency should be extended an invitation to become a participating agency as soon as the oversight is realized. The lead agencies should request input and consider whether and how the new agency's participation in the process affects previous decisions. It may be necessary to reconsider previous decisions if it is probable that the input of the new participating agency would substantially change the decision" (Question 26).

The DEIR/S states that Seal Beach is a "participating agency" (Table 5-2, p. 5-6). If not already assigned, the City formally requests "participating agency" status under NEPA. The comments presented herein are, therefore, those of "participating agency" (potentially invited late to the scoping process). As evidenced by the nature of these comments, the City believes that the Lead Agency should reconsider a number of its previous decisions, including those associated with the range of alternatives examined in the DEIR/S and the presence of additional feasible mitigation measures formulated in response to project-related and cumulative impacts within Seal Beach, its residents, and business community. **10**

2.0 ENVIRONMENTAL CONCERNS

As noted in the "California Transportation Plan 2025" (Caltrans, April 2006) it is the State's goal to "[r]eflect community values" and the State's strategy to "[i]ncorporate community values and support context sensitive solutions for all transportation facilities and infrastructure" (pp. 54 and 57). Seal Beach interprets those policy declarations as a willingness, on the part of Caltrans, to design and development transportation facilities that protect local communities and neighborhoods from the intrusive effects of improvement to and expansion of the State's transportation system.

Within the study area, the I-405 and I-605 Freeways traverse Seal Beach. Since lands, facilities, and a broad range of public and private uses abut those freeways, the City, its residents, and business community have the potential to be substantially impacted by any plans promulgated by Caltrans and the OCTA affecting the ROW, the use, the operation, the design, and the capacity of those freeways. Similarly, the arterial roadway system within Seal Beach, in combination with the City's local street system, can be substantially affected by changes to those State highways. As such, any proposed actions affecting roadways under Caltrans' jurisdiction cannot be viewed in isolation of their interrelated impacts upon those arterial and local streets under the jurisdiction of other agencies. **11**

In Concerned Citizens of Costa Mesa v. 32nd District Agricultural Association (1986), the court emphasized the critical role of linking government decision making with public participation in the CEQA process. "CEQA compels an interactive process of assessment of environmental impacts and responsive project modifications which must be genuine. It must be open to the public, premised upon a full and meaningful disclosure of the scope, purposes and effect of a consistently described project, with flexibility to respond to unforeseen insights that emerge from the process [Citation]. In short, a project must be open for public discussion and subject to agency modification during the CEQA process [Citation]. This process helps demonstrate to the public that the agency has in fact analyzed and considered the environmental implications of its action." **12**

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2.1 Specific Environmental Concerns

As illustrated in Figure 2-1 (Sensitive Receptor Locations) in the AQR (p. 39) and Figure 3.2.6-3 in the DEIR/S (p. 3.2.6-13), numerous "sensitive receptors" are located in Seal Beach directly adjacent to or in close proximity to the I-405 Freeway, including the Seal Beach Tennis Center, Blue Bell Park, Almond Park, and the College Park East (Almond Avenue), Leisure World (Beverly Manor Road), and College Park West (Harvard Lane, Park Drive, and College Park) and residential neighborhoods. In addition to any comments that other individuals and entities elect to submit, the City seeks to represent the interests of those areas (as well as its own facilities, infrastructure, and jurisdictional interests) as they may relate to the proposed action.

These comments are predicated, in part, on the policies of the City, as reflected in the Seal Beach General Plan. As indicated in the City's recently adopted Housing Element (April 9, 2012), it is Seal Beach's goal to "[m]aintain and enhance the quality of existing residential neighborhoods" (p. V-1). It is the policy of the City to "[p]rovide compatibility of residential uses with surrounding uses through the separation of incompatible uses, construction of adequate buffers, and other land use controls" (Policy 1e, p. V-2). Implementing Program 1b (Land Use Compatibility) states: "A goal of the City is to create and maintain desirable living areas for residents by physically separating or otherwise protecting residential neighborhoods from incompatible uses. This program will be implemented through the review of proposed amendments to the General Plan and zoning regulations, and through the review of discretionary permit applications" (p. V-3).

Based on its review of the DEIR/S, the City has identified a number of environmental issues (e.g., incompatible use issues) which, in the City's judgment, have neither been adequately addressed nor effectively mitigated by the Lead Agency. Those issues are briefly outlined below and more thoroughly described throughout these comments. In addition, there exists a substantially broader array of environmental concerns (e.g., air quality) which are separately addressed in later sections of these comments.

2.1.1 Almond Avenue

Within Seal Beach, Almond Avenue is listed as a "major collector" (FC Code 5) on Caltrans' California Road System (CRS) maps (Functional Classification System Maps, Map 13V55, August 5, 2011) for Orange-Los Angeles, California.

Implementation of the proposed action will result in both the need for additional real property within the City (as can be ascertained by differentiating between "Existing R/W" and "Proposed R/W," Appendix K, Utility U-24 and 2-25), necessitate the relocation of the existing soundwall along Almond Avenue from inset from the edge to either the edge or beyond the edge of the existing ROW, and predicate the need to relocate the existing overhead utility lines located in proximity to that soundwall. It is anticipated that those actions will result in the reduction in the pavement width of Almond Avenue, producing a substandard pavement width inconsistent with the City's adopted design and development policies.

On June 26, 2012, representatives of the OCTA and the City met along Almond Avenue for the purpose of clarifying and delineating the proposed soundwall relocation. At indicated "in the field" and illustrated on a series of exhibits disseminated by the OCTA at the June 26, 2012 meeting at the Seal Beach Community Center, based on the wall section and alternative under consideration, the existing soundwall will be moved northward either seven, eight, or ten feet.

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That action would result in a diminishment of the existing pavement width (reducing pavement width to approximately 30.5 feet east of and 32.0 feet west of Almond Park assuming a 4-foot separation between the base of the new soundwall and the southern edge of curb) and necessitating the elimination of on-street parking on at least one side of Almond Avenue

The potential impacts of those actions upon the City and its residents (including College Park West) have not be examined in the DEIR/S or in any of the technical studies associated therewith, including, but not limited to: (1) "Traffic Study – San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties" (Caltrans, May 2011) (Traffic Study); (2) "Community Impact Assessment – San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties" (Caltrans, August 2011) (CIA); (3) "Ramp Closure Study" (Caltrans, June 2011) (RCS); (4) "Draft Relocation Impact Memorandum – San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties" (Caltrans, February 2011) (RIM); (5) "Draft Transportation Management Plan for Interstate 405 Improvement Project" (Caltrans, August 2011) (TMP); or (6) "Visual Impact Assessment – San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties" (Caltrans and Parsons, May 2011) (VIA). **13**

As indicated in the "Final Environmental Impact Statement and Environmental Impact Report – State Route 22/West Orange County Connector, SCH No. 98064001" (OCTA/Caltrans/USDOT, March 2003) (WCC FEIR/S), prepared for the West County Connector Project (WCC), various actions were taken by Caltrans for the purpose of avoiding or minimizing environmental impacts. Those actions included, but were not limited to: (A) "The right-of-way impact at the City of Seal Beach's reservoir was avoided by tightening the curvature of the Seal Beach Boulevard off-ramp while shifting the exit nose further to the south"; and (B) "The full acquisition of six homes along Almond Avenue in the City of Seal Beach as well as the relocation of overhead power lines and reconstruction of existing soundwalls were avoided by: (1) shifting the I-405 freeway centerline toward the south; (2) tightening the curvature; and (3) shifting the southbound I-405 to eastbound SR-22 connector gore area (divergence point) further to the east. This was achieved without changing the impacts to the United States Naval Weapons Station (USNWS) utility easement or facility on the south side of I-405" (p. 2-28).

With regards to the WCC, in Seal Beach, Caltrans acknowledged and took great efforts to avoid project-related impacts along Almond Avenue, including avoidance of take of real property and retention of both the existing soundwall and existing overhead utilities. The City is appreciative of those impact avoidance efforts and would hope that similar efforts could be taken with regards to the proposed action.

The Lead Agency, nonetheless, misrepresents the existing soundwall located in proximity to Almond Avenue, suggesting that it was recently rebuilt and now includes decorative features (e.g., "The portion of SR-22 East within this unit was recently rebuilt as part of another project, and additional aesthetic elements were added to the soundwalls, along with the inclusion of vine plantings along the walls, p. 3.1.7-16). A segment of the existing soundwall, adjacent to Almond Avenue, is illustrated in "Typical View 57" in Figure 3.1.7-8 (Open Space-Residential Landscape Unit, Typical Views) in the DEIR/S (p. 3.1.7-21). It is noted that no discussion or analysis of the proposed changes to "Typical View 57" is, however, presented in the DEIR/S. **14**

Now, in what appears to be either a case of short-term memory or application of a conflicting (double) environmental standard, as a result of the proposed action, Caltrans now fails to acknowledge the criticality of those same impacts and proposes to: (1) take public lands within **15**

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the City along Almond Avenue; (2) encroach onto the existing Almond Avenue ROW; (3) remove and relocate the existing soundwall to the north; and (4) relocate the existing overhead utilities to an unspecified location (potentially to the north side of Almond Street and adjacent to existing single-family homes in the College Park East neighborhood), potentially creating unspecified but significant fiscal and environmental cost to the City and to the affected property owners. **15**

Almond Avenue is identified as a "Principal" street in the Seal Beach General Plan (Figure 15-City of Seal Beach General Plan Circulation Element) and functions as a "residential collector street" serving the College Park East neighborhood. Within the College Park East area, Almond Avenue is also designated as a Class III bicycle route, such that motorists and bicyclists share the existing roadway. With the proposed relocation of the soundwall, bicyclists and motorists will need to share a narrower roadway, placing both parties at greater risk.

Pursuant to the provisions of Section 10.40.10 (Streetscape Standards and Design) in Chapter 10.40 (Streetscape) in Title 10 (Subdivisions) of the Seal Beach Municipal Code: "Each street's design shall be based on its anticipated role within the city and within each neighborhood" (Section 10.40.10[A][1]). As specified in Table 10.40.010.A (Street Design Standards), "residential collector streets" shall have a total ROW width of 60 feet, a curb-to-curb width of between 36 and 40 feet, include two travel lanes each with a width of 10 feet, a parking lane with a width of 8 feet, and include a 12-foot wide pedestrian ROW.

Based on an independent traffic engineering analysis performed by W.G. Zimmerman Engineering, Inc. (WGZE), operating under contract to the City, a City-generated alternative lane configuration in the vicinity of Almond Avenue was presented to OCTA by representatives of the City on May 15 and June 12, 2012. At neither meeting did Seal Beach receive a commitment of OCTA's support of the alternative design options presented therein.

NEPA requires that the federal agencies "[r]igorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated" (40 C.F.R. 1502.14[a]). Although the range of alternatives that the agency must consider is not infinite, it does have an obligation to include all reasonable alternatives to the proposed action. As an alternative to the above-illustrated design alternative, the City would request that the Lead Agency also consider a narrower lane-width configuration in the vicinity of Almond Avenue so as not to require either the relocation of the existing soundwall or further encroachment into the College Park East neighborhood. **16**

In order to maintain sufficient travel lane width along Almond Avenue, the loss of existing ROW would predicate the need to eliminate on-street parking and, with the wall face overtopping or extending beyond the existing curb edge, would create an undesirable streetscape and a hazardous road condition, resulting in a violation of Section 10.40.010(D) of the City's Subdivision Ordinance (i.e., street edge design shall not compromise public safety or emergency vehicle access). The elimination of on-street parking is contrary to and in violation of Section 10.40.010(A)(3) of the City's Subdivision Ordinance. In addition, the resulting roadway would not conform to the typical street section presented in Section 10.40.010(A)(5) and Figure 10.40.010.A (Typical Street Design) therein. Any reduction in street width and/or the presence of an intrusive soundwall would increase safety hazards to both bicyclists and pedestrians traveling along Almond Avenue. **17**

GL14 Continued

Because Almond Avenue functions as an important "residential collector street" and provides the sole vehicular access road to a large number of existing single-family homes, the creation of substandard travel lanes is not a viable public safety and emergency access option for the City. Because Almond Avenue serves many short residential cul-de-sacs, the availability of on-street parking is critical to area residents, such that, in the City's estimation, the neighborhood cannot properly function without on-street parking being available for the area's residents and for use by service and emergency vehicles. **18**

Because Almond Avenue is not addressed in the DEIR/S, the statement that "[u]p to 450 parking spaces out of the current inventory of 2,243 spaces associated with 17 potentially affected properties would be lost to accommodate freeway widening and associated roadway improvements" (p. 2-31) ignores the project's anticipated consequences along Almond Avenue and fails to accurately characterize the proposed action's potential impacts. **19**

The Department's analysis of potential parking impacts is inconsistent throughout the DEIR/S. As indicated in the CIA, with regards to all three build alternatives, the Lead Agency states that "[u]p to 720 parking spaces out of the current inventory of 2243 spaces from 17 potentially affected properties would be lost to accommodate freeway widening and associated roadway improvements. In addition, approximately 13 on-street parking spaces would be lost" (emphasis added) (CIA, Table S-1, p. S-5).

Although the Lead Agency states that sidewalks will be provided "on both sides of arterials within the proposed project limits (except on west side of Harbor Boulevard, west side of Euclid Street, south side of Edinger Avenue, west side of Bolsa Chica Road, and the eastside of Seal Beach Boulevard)" (DEIR/S, Table 2-1, p. 2-35), it does not appear the Department's intent is to provide a functional pedestrian sidewalk along the south side of Almond Avenue. **20**

As specified in Section 10.40.010(F)(1) of the City's Subdivision Ordinance: "Pedestrian convenience and safety shall be considered in the design of sidewalks in the public right-of-way. Avoid encroaching light standards, above ground utility boxes, and other impediments where pedestrians are expected to pass." The relocation of overhead utilities to the north side of the roadway would impede pedestrian travel along the only remaining sidewalk along Almond Avenue, present a potential hazard to children and other non-motorists, introduce other potential safety hazards resulting from the proximity of those lines to existing homes, create an undesirable aesthetic impact to affected residents, and could negatively impact property valuation. None of these impacts have, however, been addressed or mitigated in the DEIR/S.

Based on the conflicts and inconsistencies identified herein, the City believes that substantial evidence refutes the Lead Agency's assumption that "[t]he build alternatives' proposed improvements, overall, do not conflict with applicable land use plans, policies, or regulations, and project effects would be less than significant" (p. 4-11) and "[t]he proposed project would not substantially increase hazards due to design features" (p. 4-18). Similarly, the City does not concur that the three build "alternatives would have a beneficial effect on the surrounding communities and their adopted plans" (p. 3.1.1-32).

The Lead Agency recognizes that "[r]esidents can be expected to have a high concern and a high degree of sensitivity to changes in the visual environment with regard to the project and its effect on views from their homes and neighborhoods" (p. 3.1.7-23); however, no analysis of the proposed relocation of the existing soundwall on the College Park East neighborhood and traffic operations along Almond Avenue has been provided. **21**

GL14 Continued

2.1.2 College Park East

As indicated in the Seal Beach General Plan: "A 16-inch Long Beach Gas line follows the southerly right-of-way of the I-405 Freeway through its entire length in the City. Southern California Gas Company maintains a 34-inch gas line generally along Lampson Avenue, Seal Beach Boulevard, and the I-405 Freeway right-of-way" (Safety Element, pp. S-22 and S-23).

As indicated in the DEIR/S and as illustrated in Figure 3.1.5-1 (Proposed Relocation for Gas Lines Near NAVWPNSTA Seal Beach), the Department appears to be proposing (i.e., Options 2 and 3) the relocation of "two major gas lines, [including] a 14-inch high-pressure (HP) transmission and 16-inch HP distribution gas line, and a Verizon telecommunications facility located on the south side of I-405 within the Caltrans ROW" (p. 3.1.5-15) through the College Park East neighborhood. The DEIR/S notes that "[i]n 2010, the U.S. Navy granted a 20-ft utility corridor to Caltrans as a permanent highway easement to accommodate the SR-22 WCC Project Phase II with a condition that these facilities be relocated outside Caltrans ROW/easement by this I-405 project" (Ibid.). As a result, the Department has identified "three relocation options," including two that traverse the College Park East neighborhood in Seal Beach. As described in the DEIR/S:

- "Option 2: Relocate the gas lines from approximately 1,500 ft east of Seal Beach Boulevard to Bolsa Chica Road across I-405 to the north side, along Almond Avenue and Lampson Avenue. These gas lines would cross I-405 at two locations, on the Bolsa Chica Road overcrossing structure and through jacking and boring underneath I-405 east of Seal Beach Boulevard."
- "Option 3: Relocate the gas lines from Seal Beach Boulevard to Bolsa Chica Road across I-405 to the north side, along Almond Avenue and Lampson Avenue. These gas lines would cross I-405 at two locations by being carried inside the Seal Beach Boulevard and Bolsa Chica Road overcrossing structures" (emphasis added) (p. 3.1.5-15).

In what appears a contradiction, the DEIR/S also states that "[a] utility easement on the northern edge of the base for two underground gas pipelines has been discussed with the Navy. The gas pipelines are currently in Caltrans ROW and are proposed for relocation onto Navy property under each of the build alternatives. The Navy has indicated a preliminary willingness to grant the easement for this utility relocation" (p. 2-4). From the information provided by the Lead Agency, it is not possible to ascertain: (1) whether these "two underground gas pipelines" (p. 2-4) are the same as the "two major gas lines" (p. 3.1.5-15); (2) whether the Department, the operators of those pipelines, or any other party is contemplating the relocation of those lines to the north side of the I-405 Freeway (e.g., through College Park East); (3) whether the DEIR/S, once certified, is intended to serve as the environmental basis under CEQA and NEPA for that relocation. It is, however, immediately evident that insufficient analysis of those relocation plans is presently provided and that any plans to relocate potentially explosive and/or highly flammable transmission/distribution gas and/or petroleum pipeline directly adjacent to existing single-family homes would be folly. **22**

The City cannot perceive any conditions where such actions would be acceptable nor does the City believe that a mitigation strategy could be formulated to reduce the potential environmental (e.g., health and safety) and socioeconomic impacts of relocating those lines through College Park East to a less-than-significant level. Is the Lead Agency asserting that the exemption specified under Section 21080.23 of CEQA is applicable to this pipeline relocation? **23**

GL14 Continued

2.1.3 College Park West

Based on a review of the DEIR/S, it is the City's understanding that no further physical intrusion into the College Park West neighborhood is now proposed. However, particularly in light of the presence of children near Edison Park, the Lead Agency should clearly indicate: (1) to what extent construction traffic associated with the proposed action may need or choose to access the Caltrans ROW via College Park Drive; (2) whether any construction staging activities are planned or proposed within that portion of the City situated to the east of the San Gabriel River, north of the SR-22 Freeway, and west of the I-405/I-605 interchange; (3) whether and how resident and non-resident safety may be impacted both during construction and once operational and, if impacted, what actions will be taken to reduce or eliminate those hazards. Does Caltrans utilize any public or private access routes into or proximal to the College Park West neighborhood other than College Park Drive? **24**

2.1.4 Leisure World

Based on a review of the DEIR/S, it is the City's understanding that no further physical intrusion into the Leisure World neighborhood is now proposed. However, particularly in light of the presence of elderly residents, the Lead Agency should clearly indicate: (1) to what extent construction traffic associated with the proposed action may need or choose to access the Caltrans ROW via Beverly Manor Road; (2) whether any construction staging activities are planned or proposed within that portion of the City situated to the east of the San Gabriel River, south of the SR-22 Freeway, and west of Seal Beach Boulevard; (3) whether and how resident and non-resident safety may be impacted both during construction and once operational and, if impacted, what actions will be taken to reduce or eliminate those hazards. Does Caltrans utilize any public or private access routes into or proximal to the Leisure World neighborhood other than Beverly Manor Road? **25**

2.1.5 Seal Beach General Plan

Pursuant to Section 15125(d) of the State CEQA Guidelines, "[t]he EIR shall discuss any inconsistencies between the proposed project and applicable general plans and regional plans." Absent from the DEIR/S is an objective analysis of the proposed action's consistency with the Seal Beach General Plan. What the Lead Agency has sought to do is "cherry pick" among the policies presented therein in order to avoid a reasoned analysis of the project's consistency and/or inconsistency with the City's adopted public policy documents. **26**

One of the four policies that the Department has highlighted states: "Provide a circulation/transportation system that enhances and minimizes response time needed for emergency vehicles" (DEIR/S, p. 3.1.1-16). As more thoroughly described herein, the "long-term closure of arterial overcrossings lasting up to 12 months" (DEIR/S, Table 2-1, p. 2-35), the absence of any evidence of direct consultation with emergency service providers, and the absence of any response-time analysis raised unanswered questions regarding project-related impacts on emergency response. Clearly absent from the DEIR/S is any evidence that the proposed action "enhances and minimizes response time," particularly during the extended construction period.

As indicated in the Seal Beach General Plan, it is the policy of the City that "Seal Beach should carefully consider the development of freeways, and/or rapid transit systems and endorse such proposals only when it is considered to be in the community's best interest. Efforts should be

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made to improve traffic circulation in the coastal section of the City and along major arterial streets, but not exclusively private auto vehicular traffic" (Land Use Element, p. LU-39). With regards to the "College Park East" neighborhood (served by Almond Avenue), it is the City's policy to "[p]rotect the existing population and character of older areas subject to rehabilitation and redevelopment" (p. LU-43). The proposed action serves to further neither land-use policy.

As further indicated in the Circulation Element, it is the objective of the City to "[e]nsure that the circulation system is in balance with the City's Land Use Element" and "[p]rovide adequate capacity for the City's circulation needs while minimizing negative impacts, including environmental impacts needing mitigation" (Circulation Element, pp. C-48 and 49). In furtherance of those objectives, City's policies include, but are not limited to: (1) "Review implementation programs that coordinate the transportation needs and requirements of the City with those of other public agencies in order to ensure that the overall circulation plan of the City is effective, efficient, and safe"; (2) "Maintain circulation system standards for roadways and intersection classifications, right-of-way width, pavement width, design speed, capacity, maximum grades, and associated features such as medians and bicycle lanes"; and (3) "Enhance street design standards to promote attractive circulation corridors" (pp. C-48 thru 50). In addition, it is Seal Beach's objective to "[p]ursue transportation management strategies that can maximize vehicle occupancy, minimize average trip length, and reduce the number of vehicle trips" (p. C-52). Supporting policies include, but are not limited to: (1) "Encourage the use of multiple-occupancy vehicle programs for shopping and other uses to reduce traffic"; (2) "Support national, state, and regional legislation directed at encouraging the use of carpools and vanpools"; and (3) "Require that proposals for major new non-residential developments that include submission of a TDM plan to the City" (p. C-53). The proposed action fails to fulfill and substantively hinders the City's attainment of those policies. **27**

While also acknowledging that it is the City's policy to "[s]upport the addition of capacity and noise mitigation improvements such as high-occupancy vehicles (HOV) lanes, general purpose lanes, auxiliary lanes, and noise barriers to the I-405 Freeway" (p. C-52) and to "[e]ncourage the development, implementation, and use of new advanced technologies to optimize safe traffic flow and manage traffic congestion" (p. C-53), on balance and with regards to direct and indirect impacts upon Seal Beach, the short-term and long-term consequences of the proposed action appear to outweigh the project's possible short-range benefits.

In its own efforts to support the rejection of the No Build Alternative in favor of one of the build alternatives, the Lead Agency states that, "[w]ith the congestion along the I-405 Corridor and roadway network continues, residents and businesses that are dependent on the freeway and roadway network may find alternate options to reside and do business; thus affecting the local economy on a cumulative basis" (emphasis added) (CIA, Table S-1, p. S-6). It would appear that, unless one of the build alternatives is approved, residents of Orange County will move and businesses will relocate to other unspecified areas as a direct consequence of existing and future "congestion along the I-405 Corridor and roadway network." Absent any substantial evidence, the Lead Agency's broad generalization overly simplifies personal and business decisions relative to location selection and erroneously equates the construction of new lane-miles with habitation and business retention. Are there not other strategies available to public agencies that can be implemented to reduce congestion, improve accessibility and mobility, and promote residential and business retention or is Caltrans' asserting that it alone holds the key? **28**

Alleging that the proverbial "sky is falling" (e.g., "residents and businesses that are dependent on the freeway and roadway network may find alternate options to reside and do business,"

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CIA, p. S-6: "Emergency response times may increase under the No Build Alternative due to a projected increase in future traffic volumes and a corresponding increase in traffic congestion," p. 3.1.5-11) is both disingenuous and contrary to the informed and balanced requirements of CEQA. **29**

Because the Lead Agency itself acknowledges that the proposed action is not a panacea for eliminating congestion (e.g., "it is not economically feasible to provide an improvement that would complete [sic] address traffic demand and provide an overall peak hour mainline LOS better than E/F. Traffic Study, p. 2.8-1; "none of the build alternatives completely satisfy predicted future mainline freeway demand," p. 2.8-3), peak-hour and incident-related congestion will continue to exist along both the referenced freeway segment and proximal arterials under both build and no-build scenarios.

As noted in University of California, Berkeley's "Determining the Effectiveness of HOV Lanes" (May, Adolf D., Leiman, Lannon, and Billheimer, John, California Path Research Report UCB-ITS-PRR-2007-17, November 2007), with regards to the HOT lane on the SR-91 Freeway, the authors note that "in his study on the SR-91 HOT lanes in Orange County, Ed Sullivan [Sullivan, Edward, Continuation Study to Evaluate the Impacts of the SR 91 Value-Priced Express Lanes, December 2000] noted a statistically significant increase in peak period accidents on the two mile stretch of Riverside SR-91 just east of the HOT lanes immediately after the opening of the HOT lanes in December 1995. He attributed the increase to 'the increased congestion on the highway section after the (SR-91 HOT lanes) opened.' The steady increase in accident rates on both segments of Riverside SR-91 undoubtedly reflects increasing congestion levels near the Orange County line. In its Annual HOV Report for 2000, Caltrans District Eight personnel noted that: 'The completion of the toll road facility (within the SR-91 Right of Way) in Orange County has not eliminated congestion within District 8. Continued monitoring has reflected no decrease in the westbound morning nor the eastbound afternoon congestion between the I-15/SR-91 Separation and the Orange/Riverside County line. There still exists a bottleneck in traffic for the westbound traffic at the County line'" (pp. 3-24 and 47). Because the SR-71 Freeway's HOT lane is routinely cited throughout the DEIR/S, any adverse impacts associated with that facility could be duplicated in Orange and Los Angeles Counties should Alternative 3 be selected.

Since adding new lane-miles is, at best, only a short-term solution, "find[ing] alternative options" for personal mobility should be perceived as a benefit. Similar, because the Lead Agency's unintended reference to the "the local economy on a cumulative basis" related to both individual household decisions concerning where to live and where to work and the regional southern California economy as a whole, both short-term and long-term environmental benefits are to be gained by governmental efforts to promote reductions in both total VMT and dependency on SOV trips. As indicated in the DEIR/S, each of the three build alternatives substantively increases VMT over the no-build scenario and, at least with regards to Alternative 3, the proposed action incentivize SOV travel and discourages the use of public transportation. **30**

Quoting the "Statements of the Honorable Ray LaHood, Secretary of Transportation before the Committed on Environment and Public Works, U.S. Senate -- Hearing on Clean Energy Jobs and American Power Act of 2009" (October 27, 2009), Secretary LaHood stated, in part:

> Currently, American adults travel a total of 25 million miles a day in trips of a half-mile or less and nearly 60 percent of these are motor vehicle trips. DOT, HUD [United States Department of Housing and Urban Development], and EPA [United States Environmental Protection Agency] are working together to support the building of

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more livable neighborhoods with 'complete' streets that increase safety and mobility for all users by giving Americans – whether they live in urban, suburban or rural communities - the choice of walking, biking, or riding transit instead of driving motor vehicles. If the presence of these alternatives promotes less driving, then that will reduce road congestion, reduce pollutants and greenhouse gases, and use land more efficiently. . .DOT has worked to ensure that livability and sustainability objectives are given significant weight in the new discretionary spending of the Department."

To the extend that the Department's goal is to "reduce congestion" and not merely build more freeway lane-miles, then the true goal of this and other transportation investment must be on promoting liveable and sustainable development and encouraging less driving (particularly as it relates to SOVs). As outlined below, the proposed action will have the opposite affect (e.g., add to congestion and hinder the development of liveable and sustainable development).

Under NEPA, a federal court (Maryland-National Capital Park and Planning Commission v. U.S. Postal Service [1973]) reaffirmed the requirement that agencies take a "hard look" at the environmental impacts of a project and not merely rest on "bald conclusions." Similarly, under CEQA, in Santiago County Water District v. County of Orange (1981), the court stated that "[t]he EIR must contain facts and analysis, not just the bare conclusions of a public agency. An agency's opinion concerning matters within its expertise is of obvious value, but the public and decision-makers, for whom the EIR is prepared, should also have before them the basis for that opinion so as to enable them to make an independent, reasoned judgment." As noted in Endangered Habitats League, Inc. v. County of Orange (2005), the court ruled to "defer to an agency's factual findings of consistency unless no reasonable person could have reached the same conclusion on the evidence before it." With regards to interpreting the Seal Beach General Plan, the City's opinion (and not the Department's opinion) should be given substantial credence. **31**

The Lead Agency states that "[u]sage of the term 'significance' in this document is made pursuant to CEQA only, and the evaluation of environmental factors pursuant to CEQA significance thresholds is confined to Chapter 4 CEQA Evaluation, and Appendix A CEQA Checklist" (DEIR/S, p. 3.1.1-1). As indicated in Appendix A of the DEIR/S a project may produce a significant environmental effect is it were to "[c]onflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect" (DEIR/S, Appendix A, Question X[b], p. 7). With regards to the proposed action, the Lead Agency erroneously marks "less than significant impact" (Ibid.).

At least with regards to the Seal Beach General Plan, the DEIR/S errors in stating that "Alternative 1 is consistent with the goals, objectives, and policies of all surrounding communities' General Plans" and that "it is expected to have a beneficial effect on all surrounding communities and their respective General Plans because it improves mobility and reduces congestion (p. 3.1.1-21). Tthe City concludes that the proposed action (inclusive of all build alternatives) is substantially inconsistent with the Seal Beach General Plan. Should a build alternative be selected, the City will need to prepare and process an amendment to the Seal Beach General Plan in order to bring that local policy document into substantial conformity. **32**

Table 3.1.1-1 (Consistency Analysis with Adopted Local and Regional Plans for Build Alternatives) in the DEIR/S is quite telling with regards to the manner in which both "OCTA and

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Caltrans" pursue improvement plans. In response to the City's policy to "[m]onitor and participate in applicable county, regional, state, and federal transportation plans and proposals," the Lead Agency's response is that "OCTA and Caltrans have developed an extensive outreach effort to ensure that all potentially affected jurisdictions and their residents are informed of the planning and implementation process and overall project schedule" (emphasis added) (p. 3.1.1-27). At least with regards to Seal Beach's concerns, absent is any evidence of the receptivity of those agencies to public comments and willingness to effectively response (through the formulation of new alternatives, design revisions, and mitigation measures) to those concerns.

2.2 Additional Information Requested

From the information presented in the DEIR/S, it is not possible for Seal Beach to fully understand the precise nature of the potential physical changes that may occur within the City's corporate boundaries as a result of the implementation of the three build alternatives. In order to assist the City in ascertaining the Department's current development plans, clarification is requested with regards to the following project-related components.

2.2.1 Existing and Replacement Soundwalls

Based on the City's examination of Sheets "Utility-24" (U-24) and "Utility-25" (U-25) in Appendix K of the DEIR/S, it appears that it is the Department's intent to remove and relocate the existing soundwall located in the vicinity of Almond Avenue in Seal Beach. Based on those drawings and the additional information presented therein, it further appears the Lead Agency's intent to remove and relocate one or more existing facilities located within or directly adjacent to Caltrans' ROW. To the extent that the City's interpretation of that material is correct, the following additional information is requested so that the full extend of the possible impacts of those actions can be independently determined.

How would the existing soundwall located in proximity to Almond Avenue be impacted under each of the three build alternatives? Would that soundwall be removed and relocated and, if so, relative to the existing wall's physical location, in what direction and how far would a new soundwall be constructed? If a new soundwall is contemplated, (a) what is the height of the existing wall, (b) what is the planned height of the new wall, (c) from where is wall height measured, and (d) will the new wall contain any decorative design features or landscape enhancements? Recognizing that the curb edge is not coterminous with the edge of Caltrans' ROW, under each of the build alternatives, relative to the existing curb edge along Almond Avenue, to what extent would the replacement soundwall encroach onto that existing roadway and would the pavement width along Almond Avenue be reduced? How far would the new soundwall be setback from the existing edge of curb? How would existing drainage facilities be impacted? How would existing utilities be impacted? **33**

The DEIR/S states that "[w]here feasible, pedestrian facilities have been included in the project" (p. 3.1.6-103). Along Almond Avenue, are any "pedestrian facilities" proposed between the replacement soundwall and the existing and/or new edge of pavement (along the south side of Almond Avenue) and, if so, (a) what would be the width of that pedestrian area and (b) would it be paved or unpaved (pervious or impervious)? Is any wall-adjacent or wall-proximal landscaping and irrigation proposed? If irrigated, would potable or reclaimed water be utilized? Would the City or Caltrans be responsible for landscape planting, irrigation, and maintenance on the north side of the soundwall? **34**

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As illustrated in Sheets U-24 and U-25, which illustrates the area along Almond Avenue, the Department includes the following notation: "Relocate CN-4015" (Conflict Number 4015). "Utility-45" identifies CN-4015 as an existing Southern California Edison (SCE) 12-kilovolt (kV) overhead electrical line (i.e., "12 kV OH") consisting of 2,800 linear feet. As specified therein, at an estimated cost of "$1,200,000," it is the Department's proposal to "relocate outside of conflicting area." In accordance therewith, the "physical relocation responsibility" is "construction by utility owner"; the "party responsible for relocation costs" is "100% OCTA."

What does "relocate outside of conflicting area" precisely mean? Would only SCE's existing 12-kV overhead distribution line be impacted or would other above-ground and/or below-ground utilities also (1) be potentially impacted and (2) require relocation or other modification? It is the City's policy that new and relocated utility lines be placed underground. If utility relocation is required, (1) to where would those utilities be relocated, (2) would overhead utilities be placed underground, and (3) is the City correct in assuming that OCTA would bear "100%" of the costs for that relocation and undergrounding? **35**

In order to inform residents and street users, for each build alternative, the City requests that the Department provide: (1) existing and proposed soundwall details; and (2) pre-project and post-project section drawings showing Caltrans' ROW (including freeway pavement, shoulder area, and landscaping), the existing and proposed configuration of Almond Avenue (including sidewalks, curb edges, pavement width and on-street parking), grade separation (including berm height) between existing and proposed freeway lanes and Almond Avenue, and soundwall height (designating the location from where height is measured).

2.2.2 Gas/Petroleum Pipeline Relocation

The DEIR/S notes that "[a] 14-inch high-pressure gas transmission line owned by the City of Long Beach and a 16-inch medium-pressure pipeline owned by SCG are located between the NAVWPNSTA [Naval Weapons Station] Seal Beach perimeter security access road and Caltrans I-405 ROW in Seal Beach" (p. 3.1.5-2). "Several of the utilities in the utility conflict matrix in Appendix K, Section K2, have been identified as 'high risk' under the Policy on High and Low Risk Underground Facilities within the Highway Rights-of-Way (Caltrans Right-of-Way Manual, January 1997). . .The Policy states that facilities transporting the following, whether encased or not, are considered high-risk facilities: [1] Petroleum products; [2] Oxygen; [3] Chlorine; [4] Toxic or flammable gases. Caltrans also considers the following additional types of utility facilities as high risk: [A] Natural gas in pipelines with a greater than 6-inch pipe diameter or in pipelines with normal operating pressures greater than 60 pounds per square inch gauge (psig)" (emphasis added) (pp. 3.1.5-12 and 13).

Although two of the three "options" with regards to the relocation the existing 14-inch and 16-inch HP gas/petroleum lines would place those lines in the backyard of a number of existing single-family homes within the College Park East neigbhorhood, absent from the DEIR/S is any description of: (1) the nature of those lines (other than their diameter); (2) the type, duration, frequency, and pressurization of materials transported (including source and destination); (3) characteristics of those materials (e.g., flammable, corrosive, and/or explosive); (4) right-of-way requirements; (5) associated land-use restrictions, including prohibitions concerning overtopping; (6) type of construction materials proposed; (7) depth of excavation and construction-term impacts (e.g., access, material delivery and handling, excavation); (8) federal, State, and local regulatory requirements relating to those lines and their placement; (9) consistency with local plans and policies; (10) risk of upset; (11) proximal land uses; and (12)

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potential health and safety implications to residents and others adjacent or proximal to those new alignments. Additionally, with regards to those facilities and/or utilities in general, no threshold of significance criteria have been identified, no determination of significance has been presented, and no avoidance, minimization, or mitigation measures have been formulated by the Lead Agency (see pp. 3.1.5-18 and 3.2.5-16 thru 18).

The Lead Agency states that the proposed relocation of these gas/petroleum lines results directly from the Department's approval of the "SR-22 WCC Project Phase II." Where in the WCC FEIR/S are the potential environmental impacts of the proposed relocation of these 14-inch and 16-inch diameter lines addressed? What is the precise language of the agreement between the Department and the United States Navy (Navy) with regards to the above referenced easement and those lines? Did the agreement between the Department and the Navy serve to further a specified mitigation measure or impact avoidance strategy presented in the WCC FEIR/S? If part of the WCC, why is the Lead Agency not pursing the preparation of a supplement to the WCC FEIR/S as the appropriate environmental documentation for the gas/petroleum pipeline relocation project? What planning study or other analyses was performed by Caltrans or by others involving the identification of those "three relocation options"? Is the Lead Agency seeking to utilize this DEIR/S, once certified, as the environmental basis for the gas/petroleum pipeline relocation?

If a ROW "easement" could be negotiated between the Department and the United States Navy as part of the WCC, why could a similar agreement not again be negotiated with regards to the proposed action, this shifting the alignment southward and away from the College Park East neighborhood and Almond Avenue?

The DEIR/S states that "ROW acquisition from Naval Weapons Station (NAVWPNSTA) Seal Beach was proposed early in the project development process. The Navy indicated that substantial impacts to the mission of the base would result from encroachment into the base" (p. 2-4). How would a more southerly alignment "substantially impact" the NAVWPNSTA? In what documentation did the United State Navy "indicate" its concerns and can copies of that material be provided for public review? Are there physical constraints that would prevent the expansion of Caltrans' ROW onto the NAVWPNSTA? **36**

The DEIR/S further states that "NAVWPNSTA Seal Beach is a weapons and ammunition storage, disbursing, and reconditioning base for the United States Navy" (p. 3.2.5-11). Has any mapping been performed by the United States Navy or by others illustrating explosive, blast overpressure, or other public safety hazard radii with regards to stored munitions or other materials located on or associated with the NAVWPNSTA and where are those maps referenced and included in the DEIR/S? Are there are potential risks to NAVWPNSTA activities or operations attributable, either directly or indirectly, from the operation of the I-405 Freeway?

At the June 26, 2012 community meeting in Seal Beach, the OCTA represented referenced a "blast arch" associated with the NAVWPNSTA. What is a "blast arch" and what predicates its existence? How often is that mapping updated and does it accurately reflect existing safety hazards? Are safety risks reduced to a "non-existent" level beyond the specified distance or does the mapping reflect a different safety rating?

The Pipeline Safety Improvement Act of 2002 (H.R. 3609) imposes specific requirements on the natural gas industry designed to ensure the safety and integrity of its pipelines. The law places requirements on each pipeline operator to prepare and implement an "integrity management

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program" (IMP) that, among other things, requires operators to identify "high consequence areas" (HCA) on their systems. HCAs are areas within a specified distance from a pipeline meeting USDOT-defined human occupancy criteria.

As defined in 49 CFR 192.903: "High consequence area means an area established by one of the following methods described in paragraphs (1) or (2) as follows: (1) An areas defined as (i) A Class 3 location under §192.5; or (ii) A Class 4 location under §192.5; or (iii) Any area in a Class 1 or Class 2 location where the potential impact radius is greater than 660 feet (200 meters), and the area within a potential impact circle contains 20 or more buildings intended for human occupancy; or (iv) Any area in a Class 1 or Class 2 location where the potential impact circle containing (i) 20 or more buildings intended for human occupancy, unless the exception in paragraph (4) applies; or (ii) An identified site. Identified site means each of the following areas: (a) An outside area or open structure that is occupied by twenty (20) or more persons on at least 50 days in any twelve (12)-month period. (The days need not be consecutive.) Examples include but are not limited to, beaches, playgrounds, recreational facilities, camping grounds, outdoor theaters, stadiums, recreational areas near a body of water, or areas outside a rural building such as a religious facility; or (b) A building that is occupied by twenty (20) or more persons on at least five (5) days a week for ten (10) weeks in any twelve (12)-month period. (The days and weeks need not be consecutive.) Examples include, but are not limited to, religious facilities, office buildings, community centers, general stores, 4-H facilities, or roller skating rinks; or (c) A facility occupied by persons who are confined, are of impaired mobility, or would be difficult to evacuate. Examples include but are not limited to hospitals, prisons, schools, day-care facilities, retirement facilities or assisted-living facilities. Potential impact circle is a circle of radius equal to the potential impact radius (PIR). Potential impact radius (PIR) means the radius of a circle within which the potential failure of a pipeline could have significant impact on people or property. PIR is determined by the formula r = 0.69* (square root of p*d2)), where 'r' is the radius of a circular area in feet surrounding the point of failure, 'p' is the maximum allowable operating pressure (MAOP) in the pipeline segment in pounds per square inch and 'd' is the nominal diameter of the pipeline in inches. Note: 0.69 is the factor for natural gas. This number will vary for other gases depending upon their heat of combustion. An operator transporting gas other than natural gas must use section 3.2 of ASME/ANSI B31.8S-2001 (Supplement to ASME B31.8; ibr, see §192.7) to calculate the impact radius formula."

As reported in the Transportation Research Board's (TRB) "Transmission Pipelines and Land Use: A Risk-Informed Approach, , Committee for Pipeline and Public Safety: Scoping Study on the Feasibility of Developing Risk-Informed Land Use Guidance near Existing and Future Transmission Pipelines, Special Report 281 (2004): "There are many causes and contributors to pipeline failures, including construction errors, material defects, internal and external corrosion, operational errors, malfunctions of control systems or relief equipment, and outside force damage (e.g., by third parties during excavation). Of these, excavation and construction-related damage to pipelines are the leading causes of pipeline failure. Including operator excavation, third-party excavation, vandalism, and other outside forces, such failures in 2003 were estimated by USDOT to contribute 22 and 24 percent of hazardous liquids and natural gas transmission pipeline incidents, respectively. With increasing urbanization, land development activity near transmission pipelines, and the addition of new facilities to serve growing populations, the likelihood of construction-related pipeline damage may increase, and more people and property may be exposed to pipeline failures" (p. 19).

United States Geological Survey (USGS) reports that buried pipelines are vulnerable to permanent ground deformation and wave propagation (shaking). Ground deformation can

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include fault rupture, landslide, and liquefaction and associated lateral spreading and settlement. Pipe damage mechanisms include compression/ wrinkling, joint weld cracking/separation, bending/shear resulting from localized wrinkling, and tension. If a pipeline does fail, the consequences are dependent on its contents, diameter, and pressure of its contents. The two general categories of contents are "product" (including liquid fuels that could be gasoline, jet fuel, diesel fuel, or other liquid fuels) and natural gas. The operating pressure in natural gas pipelines can approach 1,000 pounds per square inch (psi). Gas released through failures in small diameter low-pressure gas mains (distribution mains) will generally dissipate quickly. Failure of large diameter high-pressure natural gas pipelines can result in an explosion that can blast a crater in the surrounding soil and damage nearby and overhead structures and facilities (such as power transmission lines). In any case, an ignition source is required to initiate the explosion (e.g., vehicle ignition system, cigarette lighter, or spark from a metal or stone impact). There is speculation that pipelines running parallel to overhead transmission lines carry an induced current that could cause a spark if the pipeline was ruptured. As such, there is a high probability that there will be an ignition source in the event of a rupture of a high-pressure pipeline. For some liquid fuels, such as diesel, the potential for fire is low but a rupture would result in environmental contamination (Source: USGS, The Shakeout Scenario, Supplemental Study – Oil and Gas Pipelines, Open File Report 2008-1150, May 2008, pp. 3-4).

With regards to liquid petroleum pipelines, a fire scenario could result from a pipeline spill and a nearby ignition source (e.g., vehicle fire). The risk of petroleum product fire is substantial because components of refined products, such as gasoline, evaporate quickly and can form flammable vapor clouds. In the event that a pipeline accident was to result in a rupture or large leak, there is a likelihood that the product could ignite should there be a high concentration of flammable hydrocarbons released and should an ignition source be present.

The failure of a high-pressure natural gas pipeline can lead to various outcomes, some of which can pose a significant threat to people and property in the immediate vicinity of the failure location. For a given pipeline, the type of hazard that develops and the damage or injury potential associated with the hazard will depend on the mode of failure (i.e., leak vs. rupture) the nature of the gas discharged (i.e., vertical vs. inclined jet, obstructed vs. unobstructed jet), and the time to ignition (i.e., immediate vs. delayed). The dominant hazard is thermal radiation from a sustained jet or trench fire, which may be preceded by a short-lived fireball.

Although a variety of analysis methodologies may be available, one often cited model (C-FER Model) examines isometric thermal radiation distances to determine a burn radius and a one percent fatality radius from a natural gas pipeline break. The C-FER Model calculates the degree of harm to people due to thermal radiation by using a mode that relates the potential for bury injury or fatality to the thermal load received. A 30-second exposure time is assumed for people exposed to the fire in the open. In this interval, it is assumed that an exposed person will remain in a fixed position for between 1-5 seconds and then run at 5 mph in the direction of shelter. It is further assumed that an exposed person would find a shelter located within 200 feet of their initial position. It is offered that the heat flux that will cause burn injury is between 1,000 and 2,000 Btu/h/ft^2, depending on the burn injury criteria. The threshold level of heat flux for fatal injury is determined when the chance of mortality is one percent. The heat flux is calculated to be 5,000 Btu/h/ft^2. On the basis of thermal radiation levels, C-FER calculates the radius of a hazard area as a function of pipeline size (diameter) and operating pressure.

The annual frequency of pipeline failure and product release is based on historic data from the Office of Pipeline Safety (OPS) Gas Pipeline Incident Database and Hazardous Liquid Pipeline

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Accident data (available at www.phma.dot.gov). These failure rates are based on historic data for significant releases specific to pipelines in California. As indicated in Table 1 (Normalized Pipeline Average Failure and Release Frequencies for California Pipelines [1984-2001 Period]), for refined product pipelines, the failure probability of pipelines is estimated to be 1.3 x 10^{-3} (1.3E-03) or 0.0013 releases per mile per year.

Table 1
Normalized Pipeline Average Failure and Release Frequencies for California Pipelines (1984-2001 Period)

Pipeline Product	Pipeline Service Type	Release Frequency (number of releases/mile/year)
Natural Gas	Transmission Line	1.2E-04 (0.00012)
Natural Gas	Gathering Line	2.1E-04 (0.00021)
Natural Gas	Distribution Main Line	4.6E-05 (0.000046)
Hazardous Liquids – All Commodity Types	Transmission Line	1.8E-03 (0.0018)
Crude Oil	Transmission Line	2.3E-03 (0.0023)
Refined Product	Transmission Line	1.3E-03 (0.0013)

Source: California Department of Education, Guidance Protocol for School Site Pipeline Risk Analysis, Volume I – User's Manual, February 2007, Table 4-3, p. 4-21

Would the College Park East neighborhood constitute a HCA within the meaning of Pipeline Safety Improvement Act of 2002? Where in the DEIR/S is the PIR illustrated? How many residential structures and other habitable buildings exist within the PIR? Was a C-FER analysis performed for each of the options and what were the findings of those analyses?

The Department's lack of disclosure concerning the relocation of the 14-inch and 18-inch diameter HP gas/petroleum pipelines raises the accompanying issue relating to the transport of hazardous materials and wastes. What types, forms, and quantities of hazardous materials and wastes (including petroleum products) are transported along the I-405 Freeway and at what volumes and frequencies? Along California's highway system, have there ever been accidents that resulted in the release of hazardous materials and/or wastes? Have those events ever resulted in fatalities or injuries to individuals not located within the Department's ROW or damage to real property? **37**

Avoidance and minimization measure HAZ-6 notes: "Prior to construction, if still present, two 30-gallon open trash bins and two 5 gallon buckets that were dumped in the I-405 northbound shoulder just south of the I-605 interchange shall be removed and properly disposed of by the contractor" (p. 3.2.5-17). This measure suggests that hazardous materials and wastes may be periodically (albeit illegally) discarding within the Department's ROW. Has the Department ever experienced or made aware of such illegal disposal practices and what types of hazardous wastes and materials (including petroleum products) have been dumped along California' freeway system? **38**

2.2.3 HOV/HOT Lane Access

The DEIR/S appears to include contradictory language concerning future access to the HOV lane by carpoolers, vanpoolers, and transit facilities. The DEIR/S states that "[t]he tolled Express Lane and the existing HOV lanes would be managed jointly as a tolled Express Facility

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with two lanes in each direction from SR-73 to I-605" (p. 2-3). As indicated in the Traffic Study: "To facilitate access to the Express Lane Facility, the following seven access points are currently under consideration on: (1) I-405 south of the SR-73 junction, by an at-grade access; (2) SR-73 south of the I-405 junction, by a direct connector; (3) I-405 in the Magnolia Street/Warner Avenue area, by an at-grade access; (4) I-405 in the Bolsa Avenue/Goldenwest Street area, by an at-grade access; (5) SR-22 east of the I-405 junction, by a direct connector; (6) I-605 north of the I-405 junction, by a direct connector; and (7) I-405 north of the I-605 junction, by an at-grade access" (p. 1-12). From those passages, because the HOV and toll lanes are closely linked (e.g., motorists can change lanes) it can be concluded that access to the HOV lane will be similarly restricted.

The Lead Agency states that the "existing condition" includes "Project EA 0J440K, which would provide continuous ingress and egress from the HOV lanes on the entire length of I-405 in Orange County" (S-10). As a result, among other things, the proposed action appears to negate the Department's recent approval of "Project EA 0J440K" and contradicts whatever rational was presented for its adoption. Since neither that rational nor further description of "Project EA 0J440K" is presented in the DEIR/S, the affected public is denied the ability to comment thereupon, including the apparent inconsistency between the early action and current proposal. **39**

As indicated in the WCC FEIR/S: "The lack of HOV facilities on SR-22 and HOV direct connectors at crossing freeways causes a discontinuity for regional HOV traffic. Vehicles using the HOV lanes on the connecting freeways must exit the HOV facilities and use general-purpose lanes on SR-22, I-405 or I-605. There is little incentive or opportunity for individual drivers to switch from single-occupancy vehicles (SOVs) to carpooling or transit without dedicated facilities for this purpose. If SOV drivers cannot decrease their commute times because there are no dedicated lanes for HOVs or buses only, they are more likely to forego carpooling or using transit in favor of driving alone" (p. 1-9). Similarly, if MOUs are prevented from accessing the HOV lanes based on access restrictions, those vehicles will contribute to traffic volumes on the GP lanes as they await the next authorized "express lane" opening. With regards to both the WCC FEIR/S and this DEIR/S, how is the promotion of a lack of continuous access to the HOV lane on the I-405 Freeway consistent with the arguments espoused by the same Lead Agency and used to support of the direction connection at freeway crossings presented in the WCC FEIR/S? **40**

As indicated in the DEIR/S: (1) "Alternative 1 would provide continuous access between the HOV and GP lanes. On July 31, 2007, the Department approved a Project Study Report (PSR) for a separate project (EA 0J440K) to provide continuous ingress and egress from the HOV lanes on the entire length of I-405 in Orange County. This separate project has not yet been programmed or funded; however, the proposed continuous access would be implemented as part of Alternative 1 of the proposed project for the segment of I-405 between Euclid Street and I-605" (p. S-4; see also 2-8); (2) "Alternative 2 would provide continuous access between the HOV and GP lanes. On July 31, 2007, the Department approved a PSR for a separate project (EA 0J440K) to provide continuous ingress and egress from the HOV lanes on the entire length of I-405 in Orange County. This separate project has not yet been programmed or funded; however, the proposed continuous access would be implemented as part of Alternative 2 of the proposed project for the segment of I-405 between Euclid Street and I-605. Transit vehicles and HOV2+ would continue to be eligible to utilize the HOV lanes" (pp. S-5 and 6; see also 2-9); and (3) "Compared to the existing condition, as recorded in the Notice of Preparation (NOP) (issued August 31, 2009) and the Notice of Intent (NOI) (issued September 1, 2009), the future No Build Alternative includes the future completion of the following two projects: [1] The SR-22 West

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County Connectors (WCC) Project (currently in the construction phase), which has received environmental document approval and is proceeding through the design and construction phases; and [2] Project EA 0J440K, which would provide continuous ingress and egress from the HOV lanes on the entire length of I-405 in Orange County. This separate project has not yet been programmed or funded" (pp. S-9 and 10; see also p. 2-23).

Although clearly specified with regards to all other build and no build alternatives, the application of "Project EA 0J440K" is left intentionally vague with regards to Alternative 3. This is likely because, under Alternative 3, access to the "express lanes" (including both the HOV and HOT lanes) would be substantially restricted. The DEIR/S notes that, as proposed, "[a]ll vehicles in the express lanes, tolled or free, will be able to use both lanes of the Express Lane Facility" (VIA, p. 18). As such, with the exception of the "seven access points," non-toll paying HOVs would be prevented from accessing the "express lanes," requiring those vehicles to travel in the GP lanes greater distances than they would now travel and, thereby, adding to congestion (including air pollutants) in the GP lanes.

What was the Department's rational for the approval of "Project EA 0J440K"? Where in the DEIR/S is there a discussion of the proposed action's lack of consistency with "Project EA 0J440K"? How will restrictions on access to the HOT lane affect access to the HOV lane? Can qualifying and/or toll-paying motorists travel freely between the HOT and HOV lanes? Is the imposition of restriction on HOV lane access consistent with "Project EA 0J440K"?

How does lack of access to the HOV lane serve to encourage carpool formation for short-length and/or long-length travel distances? Was lack of continuous access to the "express lanes" by both MOVs and HOVs explicitly considered in accessing travel time and, if so, what assumptions were utilized regarding restricted access (e.g., how many miles did motorists need to travel before accessing the "express lanes")? Where assessments of travel time based solely on vehicles passing the northern and southern ends of the designated "corridor" or were trips originating and ending from ramps internal to that "corridor" also considered? Once fully implemented, from point of ingress onto the freeway, what is the longest distance a vehicle has to travel to access the HOV lane under "Project EA 0J440k"? Under the proposed action, from point on ingress onto the freeway, what is the longest distance a vehicle has to travel before accessing the "express lanes"? 41

2.3 City-Nominated Mitigation Measures

As specified under Section 21081.6(c) of CEQA, prior to the close of the comment period on a draft EIR, "a responsible agency, or a public agency having jurisdiction over natural resources affected by the project, shall either submit to the lead agency complete and detailed performance objectives for mitigation measures which would address the significant effects on the environment identified by the responsible agency or agency having jurisdiction over natural resources affected by the project, or refer the lead agency to appropriate, readily available guidelines or reference documents." Although the full scope of project-related and cumulative impacts (e.g., air quality and human health risks) cannot be entirely known based on the inadequacies of the DEIR/S, without excluding the subsequent introduction of other City-identified actions, the following project modifications have been identified and, if implemented, would address some of Seal Beach's concerns:

(1) **Seal Beach Mitigation Measure No. 1.** Along the northbound segment of the I-405 Freeway, between Bolsa Chica Road/Valley View Street and Seal Beach Boulevard,

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modify the proposed freeway configuration to reflect the alternative design plans prepared by W.G. Zimmerman Engineering, Inc., as illustrated in Attachment A (Alternative Design Configurations) herein, or such alternative design as may accommodate the approved freeway improvements without resulting in the further encroachment of the existing or replacement soundwalls (S1116, S1132, and S1162) into the College Park East neighborhood.

(2) **Seal Beach Mitigation Measure No. 2.** The existing soundwalls (S1116, S1132, and S1162) situated in proximity to Almond Avenue in the City of Seal Beach (between Seal Beach Boulevard on the west and Bolsa Chica Road/Valley View Street on the east) shall not be relocated northward so to further encroach into or toward the College Park East neighborhood. Proposed freeway improvements shall be confined to the area south of the existing soundwalls, thus (a) allowing for the retention of the existing landscaping located between the soundwall and Almond Avenue, (b) preserving the existing street pavement width and availability of on-street parking, (c) avoiding the take, loss, or forfeiture of any public and/or private property interests within that area, and (d) avoiding the need to relocate any existing overhead or underground utilities. 42

(3) **Seal Beach Mitigation Measure No. 3.** To the extent that further noise mitigation benefitting the College Park East neighborhood can be demonstrated, a new or replacement soundwall shall be provided in proximity but not necessarily coterminous with the edge of Caltrans' right-of-way, encroaching into the neighborhood no further than the existing soundwall's outer edge. The new or replacement soundwall shall: (a) be of a height and configuration that measurably improves (i.e., 5-dBA or greater noise reduction) noise mitigation over existing conditions, (b) fully conforms to or exceeds existing seismic safety standards, (c) contains decorative elements and/or outward (northern) facing landscaping and associated irrigation improvements for the aesthetic benefit of the adjoining residential area, (d) be designed and constructed so as to reduce potential visual impacts resulting from graffiti and other vandalism, and (e) the proposed said wall shall be constructed to a minimum of the same existing elevation of the existing soundwall.

(4) **Seal Beach Mitigation Measure No. 4.** Caltrans shall construct a new 14-foot or taller soundwall (S1162) in the vicinity of the Seal Beach Tennis Center. Soundwall S1162 shall align with the existing soundwall to the east and extend approximately 700 feet to the west, from east of Aster Street to the parking area located on the west side of the Seal Beach Tennis Center. In accordance with Caltrans' own analysis, the soundwall shall be of a height and configuration sufficient to produce a minimal 5 decibel (dBA) noise reduction at the tennis center's administrative facilities. 43

(5) **Seal Beach Mitigation Measure No. 5.** Contract or other documentation shall stipulate that construction activities do not impede traffic along Almond Avenue or result in the temporary or permanent loss of parking opportunities along that roadway. 44

(6) **Seal Beach Mitigation Measure No. 6.** The existing 14-inch high-pressure (HP) transmission, the existing 16-inch HP distribution gas line, and the existing Verizon telecommunications facility presently located on the south side of I-405 Freeway within Caltrans' current right-of-way and planned for relocation shall not be relocated to the north side of the I-405 Freeway and/or placed in proximity to the College Park East neighborhood. Any plans for the relocation of those facilities to an alternative location

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with the City of Seal Beach shall be subject to approval and conditioning by the Seal Beach City Council.

(7) **Seal Beach Mitigation Measure No. 7**. Except through written authorization from the City of Seal Beach Director of Public Works and subject to reasonable City-imposed conditions, no construction-related traffic shall be authorized along College Park Drive, Beverly Manor Road, and Almond Avenue and no construction staging activities, including, but not limited to, equipment and worker parking, maintenance operations, and material storage or stockpiling, shall be performed within the College Park West Leisure World, and College Park East neighborhoods.

The inclusion of these City-nominated mitigation measures herein should neither be construed as a declaration of Seal Beach's support of the proposed action nor concurrence that adoption of these measures would reduce significant environmental effects to a less-than-significant level; rather, with regards to certain topical issues, these measures are proposed for the sole purpose of further minimizing the potential environmental impacts that are anticipated to result from the project's implementation.

3.0 FALLACIES REGARDING THE PROPOSED ACTION

Any structure build on a shaky foundation will not support its eventual weight. With respect to the proposed action, there exist substantive erroneous foundational assumptions in the DEIR/S that serve to negate both the resulting environmental analysis and the Lead Agency's findings. The following inherent problems are not merely those expressed by a minority opinion but constitute the conclusions of the majority of the scientific community. Since these fallacies drive at the heart of the Lead Agency's analysis (and the foundations upon which the DEIR/S' assumptions and conclusions rest), there representation as fact rather than merely conjecture presents a singular focus intended solely to support the conclusion that building more freeway lane-miles is the obvious and only rationale course of action.

CEQA stipulates that "the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts" (14 CCR 15151). Absent from the DEIR/S is any consideration of divergent viewpoints (supported by substantial evidence) allowing the project to be examined from a perspective not resulting in the selection between three inherently similar lane-mile expansion plans for the I-405 freeway.

3.1 Freeway Traffic Growth Projections

There exists something inherently deceptive in the extrapolation of traffic forecasts. Just as a pipeline has a finite capacity to transport fluids, regulated by diameter and pressure, those same laws of physics are assumed not to apply to the I-405 Freeway. Unlike a pipeline, within its confines, the number of vehicles attempting to flow past two fixed points (traffic demand) is not uniform but varies based on the time of day and the day of week. In either conduit, however, there exists a finite conveyance volume that cannot be increased without a corresponding increase in design capacity. In reality, actual traffic volumes cannot exceed available capacity. As a result, projections that traffic volumes will increase by nearly 50 percent only serve as "scare tactics" presently for the sole purpose of promoting a predetermined agenda. **45**

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If the freeway is considered a "closed system," traffic volumes cannot grow without added capacity. If the network of freeway, arterials, secondary, and local streets constitutes an "open system" (e.g., traffic diverting to the path of least resistance), traffic growth otherwise assignable to the freeway might be diverted onto other arterial highways. Congestion on arterials may then push automobiles only secondary streets and ultimately onto local streets. At each link of that chain, particularly when presented with choices and options, driving habits can be altered. Employees can petition employers for more flexible hours. Wage earners may seek alternative employment opportunities closer to home. New carpools and vanpools will be formed. More commuters will seek alternative forms of transportation. Most certainly, fewer SOVs will be on the road during peak periods.

As reported in the Traffic Study and presented in Table 4 (Freeway Average Daily Traffic (ADT) Volumes – Existing and Future) herein, within the Seal Beach area, traffic volumes along the I-405 Freeway are projected to increase from 370,260 average vehicles per day (ADT) in 2009 to 453,580 ADT in 2020 to 508,780 ADT in 2040. Traffic growth between 2009 and 2020 is reported to be "based on interpolation of Year 2009 and Year 2040 traffic forecasts weighted for expected land use growth" (Traffic Study, p. 2.2-1). Traffic forecasts for Year 2040 conditions are "based on the OCTAM 2035 traffic forecasts increased by 1% to Year 2040" (Ibid).

Independent whether freeway improvements are instituted, the Lead Agency is representing that these traffic volumes will exist on the freeway under both the No Build Alternative and any of the three build scenarios. As indicated in the DEIR/S, the build alternatives "would not accommodate additional traffic beyond what is currently projected with or without the project" (p. 3.1.2-8). If the proposed improvements are not implemented, will traffic volumes in the Seal Beach area on the I-405 Freeway still approach 508,780 ADT? **46**

In what appears to be an internal contradiction, the Lead Agency's assertion that, although "expected land use growth" (Traffic Study, p. 2.1-1) translate into a substantial increase in ADT, "the project area is highly urbanized and built out, containing few vacant or underdeveloped parcels" (p. 3.1.2-6) and "the amount of vacant land or land ready for development within the study area is extremely limited [e.g., 213 acres within Costa Mesa, 472 acres within Huntington Beach], representing 2 to 5 percent" (3.1.2-9). The Department appears to be arguing that no induced-growth is expected (i.e., "the project is not growth inducing," p. 3.1.2-9) because there remains no additional areas for grow while at the same time basing its arguments for the need for new lane-miles on a nearly 50 percent increase in traffic volumes between 2009 and 2040. **47**

To the extent that the Lead Agency seeks to argue that the annual growth of "1% to Year 2040" is the result of development which is occurring outside the boundaries of the designated "corridor," then a more regional assessment of traffic and cumulative impacts (beyond that now presented) is called for.

As indicated in the DEIR/S: "Data contained in the SCAG RTP Growth Forecast, adopted March 2008, provides information on current and forecasted (through year 2035) population and employment totals and growth trends" (emphasis added) (p. 3.1.2-3). The Department notes that "[t]he 2008 RTP presents the transportation vision for the SCAG region through the year 2035 and provides a long-term investment framework for addressing the region's transportation and related challenges" (emphasis added) (p. 3.1.1-19). Absent from the DEIR/S is any reference the Southern California Association of Government's (SCAG) "2012-2035 Regional Transportation Plan/Sustainable Communities Strategy" (2012 RTP/SCS), as adopted on April **48**

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4, 2012. As such, the totality of the Lead Agency's analysis is based on out-dated "current and forecasted population and employment totals and growth trends." **48**

As noted in SCAG's "Economic Recession and Population Projects in a Regional Context" (January 7, 2010): "Economic recession of Orange County will bottom out in 2010 or 2011. The job growth in 2010 and 2020 will be much lower than what is currently projected. The economy will rebound but not to the same levels as 3 years ago. The 2020/2035 targets will be pushed out to later years. The numbers forecast for 2020 might happen in 2035" (p. 10). As further noted in SCAG's "Projecting Regional Population in the Middle of an Economic Recession: Case of Southern California" (November 7, 2010, v.3):

> Population projections play a key role in determining the future community needs including housing and transportation in a regional planning context. Regional demographers and planners efficiently and regularly develop and update the future population growth using diverse data sources including US Census Bureau, State Statistical Agency, and private vendors. Those federal and state agencies do not frequently update their demographic assumptions, and sometimes might not maintain currency and reasonableness of population projections. We recently have experienced the unexpected economic recession beginning in December 2007 across the nation, which would affect the regional population growth, in particular, migration, in the near future. The assumption of existing population projections quickly becomes questionable due to the economic uncertainty in the near future. The traditional long term perspective, which might not reflect the on-going economic trends and the frequently updated short term economic forecast, might result in the serious bias of the short term and long term population projections (p. 3)

Substantial population deviations can be identified when comparing the Lead Agency's 2008-based population projections, as presented in Table 3.1.2-1 (Population Growth Forecast within Cities/Communities Covering Project Study Area) in the DEIR/S (p. 3.1.2-3), and the SCAG's "Growth Forecast Appendix, Proposed Final" (April 2012). As indicted therein: "The region currently faces serious challenges caused by the recent economic recession that began in December 2007. The region lost approximately 800,000 jobs from 2007 to 2010. Although the economic recession officially ended in 2009, the region is still struggling to bring its economy back to the pre-recession level" (p. 5) and during this period, for every 100 jobs lost in the United States, 17 were in California, and of those, 9 were lost in the SCAG region" (p. 21).

Presented in Table 2 (Comparative Population Growth Forecasts), Year 2035 population projections for each of the city and county areas identified by the Lead Agency are compared against the most recent SCAG projections. As indicated, the Department's projected population increase exceeds current SCAG projections by up to 125.3 percent. From that, it would have to be assumed that projected traffic volumes would reflect a similar overestimation. **49**

As indicated in SCAG's "Growth Forecast Appendix, Proposed Final," "[t]he regional growth forecast is used as a key guide for future transportation investments in the SCAG region" (p. 10). Although the project's sole objective is to be "[t]o be consistent with regional plans" (DEIR/S, p. 1-5), the Department does not even look to the regional planning agency's current growth forecasts as the basis for its planning efforts. Since they serve as the fundamental basis upon which the Lead Agency's entire analysis is derived, rely upon outdated 2008 data, are inconsistent with current SCAG 2012 RTP/SCS projections, and fail to reflect the region's **50**

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current economic environment, the Lead Agency's population, housing, employment, and ADT projections constitute an "area of controversy" (14 CCR 15123[b]).

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Table 2
Comparative Population Growth Projections (Year 2035)

County of City	DEIR/S[1]	2012 RTP/SCS[2]	Difference	
	Year 2035	Year 2035	Number	% Overestimated
Orange County	3,653,990	3,421,000	232,990	106.8
Costa Mesa	126,958	114,000	12,958	111.4
Fountain Valley	64,525	59,500	5,025	108.4
Garden Grove	192,532	180,300	12,232	106.8
Huntington Beach	225,815	205,500	20,315	109.9
Los Alamitos	13,312	12,000	1,312	110.9
Unincorporated Orange County	237,211	189,300	47,911	125.3
Seal Beach	27,871	24,800	3,071	111.2
Westminster	102,017	92,600	9,607	110.2

Footnotes:
1. California Department of Transportation, Draft Environmental Impact Report/Environmental Impact Statement – San Diego Freeway Improvement Project, Orange and Los Angeles Counties, California, SCH #2009091001, May 2012, Table 3.1.2-1, p. 3.1.2-3.
2. Southern California Association of Governments, Growth Forecast Appendix, Proposed Final, April 2012, pp. 33-34.

Source: City of Seal Beach

If it can be assumed that each travel lane has a finite ability to facilitate the conveyance of vehicles (based on a specified vehicle mix and optimal LOS), there must exist a "cap" on the number of vehicles physically able to utilize the freeway. Since the Lead Agency purports that peak-hour traffic already exceeds LOS "E" both in the HOV and GP lanes, then it can be surmised that Year 2009 conditions closely replicate the existing freeway's carrying capacity without alterations in the time that motorists choose to travel. If presently at or nearing capacity, then the Lead Agency's assumptions concerning increased ADT is highly suspect.

If land-use intensification is the prime contributor to increased VMT, then he Lead Agency itself appears to be the major contributor to traffic growth. As indicated in Table 7 (Induced Travel Demand in Increased Vehicle Miles Traveled), the Lead Agency acknowledges that the proposed freeway improvements will increase VMT by 1,013,000 miles/year. In addition, the DEIR/S states that Alternative 1 will "result in approximately 32,000 direct/indirect/induced jobs," Alternative 2 will result in "approximately 34,000 direct/indirect/induced jobs," and Alternative 3 will result in "approximately 42,000 direct/indirect/induced jobs" (CIA, p. .6-2). 51

In its single focus to build more lane-miles, the Lead Agency ignores national trends, including changing travel behavior. For example, unaddressed are the affects of gasoline prices on travel. As reported in the Congressional Budget Office's (CBO) "Effects of Gasoline Prices on Driving Behavior and Vehicle Markets" (January 2008):

> The 100 percent increase in real U.S. gasoline prices since 2003, which is larger even than the record increases of the early 1980s, has induced motorists to adjust their driving habits and the types of vehicles they purchase. Those responses have important implications for the future fuel efficiency of the passenger vehicle fleet, for the way vehicles are driven, and for the use of the nation's highway and mass transit networks should higher gasoline prices persist. . .Freeway motorists have adjusted to

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> higher prices by making fewer trips and by driving more slowly. CBO analyzed data collected at a dozen metropolitan highway locations in California, along with data on gasoline prices in California, to identify changes in driving patterns. On weekdays in the study period, for every 50 cent increase in the price of gasoline, the number of freeway trips declined by about 0.7 percent in areas where rail transit is a nearby substitute for driving; transit ridership on the corresponding rail systems increased by a commensurate amount. Median speeds on uncongested freeways declined by about three-quarters of a mile per hour for every 50 cents the price of gasoline has increased since 2003 (pp. ix and x).
>
> The research suggests that a 10 percent increase in the retail price of gasoline would reduce consumption by about 0.6 percent in the short run.5 Over a longer period, consumers would be much more responsive to an increase in the price of gasoline (should the higher price persist) because they would have more time to make choices that took longer to put in place, such as buying an automobile that gets better gasoline mileage. Estimates of the long-run elasticity of demand for gasoline indicate that a sustained increase of 10 percent in price eventually would reduce gasoline consumption by about 4 percent. That effect is as much as seven times larger than the estimated short-run response, but it would not be fully realized unless prices remained high long enough for the entire stock of passenger vehicles to be replaced by new vehicles purchased under the effect of higher gasoline prices - or about 15 years. Over that time, consumers also might adjust to higher gasoline prices by moving or by changing jobs to reduce their commutes - actions they might take if the savings in transportation costs were sufficiently compelling. Those long-term effects would be in addition to consumption savings from short-run behavioral adjustments attributable to higher fuel prices (p. xi).

As further reported by the FHWA's "Innovations for Tomorrow's Transportation" (Issue 1, May 2009), in "Impacts of Higher Fuel Costs," the author (Dan Brand) reported: "We know from traffic engineering that small changes in traffic volumes on congested highways make a big difference in travel speeds. An indication of this is given above in the data section in which the average gas price increase of 28% over the first half of 2008 over 2007 resulting in about a 3% reduction in VMT over 2007 "influenced a 3% reduction in the Travel Time Index for the nation as a whole. This one-to-one correspondence of VMT reduction to travel time reduction is an important finding" (emphasis added) (p. 55).

In contrast, when comparing any of the three build options the No Build Alternative, VMT will substantially increase. Based on the connectivity between VMT and travel time reductions, to the extent that the Lead Agency's purpose and need declaration includes "improve trip reliability, maximize throughput, and optimize operations" (DEIR/S, p. S-1), a wide range of alternatives based on reductions in VMT should have been considered by the Lead Agency. In what appears contrary to federal and State policies relating to GHG emission reductions, VMT reduction strategies, however, were never considered.

3.2 Acceptance of Substandard Conditions

As specified in the OCTA's "2011 Orange County Congestion Management Program": "During subsequent LOS monitoring, CMP statute requires that CMPHS intersections maintain a LOS grade of 'E' or better, unless the baseline is lower than 'E'; in which case, the ICU rating cannot increase by more than 0.1" (p. 5).

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As specified in the Seal Beach General Plan, it is the adopted goal of the City to "provide a circulation system that supports existing, approved, and planned land uses throughout the City while maintaining a desired Level of Service on all streets and at all intersections" (Circulation Element, p. C-50). As a policy, the City strives to "maintain a citywide Level of Service not exceeding LOS D for roadway segments and intersections during the peak hour" (p. C-50). Recognizing that the maintenance of LOS "D" during peak-hour constitutes a lofty goal, as a target, the City does not accept LOS "E" or "F" conditions as constituting the foundation for its planning and transportation engineering efforts. 52

Is indicated in the MIS, completed in 2006, the foundational steps upon which that analysis (and arguably everything that follows) was based included: "(1) Identifying travel needs and mobility issues within the study area; (2) Establishing goals and objectives; [and] (3) Developing a broad range of possible alternative transportation concepts" (p. 10). As that information has been translated and reinterpreted in the DEIR/S, the fundamental error is the Lead Agency's acceptance of substandard traffic conditions (LOS "F") for the overwhelming majority of freeway users as a goal toward which Caltrans and the OCTA now strive. Rather than accepting the status quo and saying "maybe we can do just a little better for some drivers," a broader acceptance of the planning process and its resulting environmental documentation would be developed if the two agencies' vision was the formulation of alternatives and mitigation strategies designed to promote the attainment of acceptable transportation operations (LOS "D" or better conditions), not only on the I-405 Freeway but throughout the region based on a multiple modal solution (asking "what do we want to accomplish and how do we get there?"). 53

The MIS and all the well-intended but misguided efforts that followed are founded on the acceptance and/or perpetuation of a deficient and defective transportation system (e.g., LOS "F" conditions) as the "goal and objective" upon which the Lead Agency's alternatives (and vision) are based. By artificially constraining the analysis to a narrowly defined "corridor" and limiting the debate to the number and type of new lane-miles, a multitude of potential transportation solutions were effectively eliminated from the start or were never considered. At best, rather than "recovery," what is being offered is only a "band-aid" for a terminally ill patient. With nearly $6 billion dollars at stake, the public looks to its elected officials and governmental entities for meaningful solutions and sound public investments with a shelf-life extending beyond the retirement of those in office or sitting behind bureaucratic desks. With regards to the proposed project, it appears that the sponsoring agencies lack vision, seemingly content with the adage that "something is better than nothing" (e.g., "Alternative 2 is considered a viable project alternative because it will achieve. . .Relief of congestion compared to future conditions under the No Build Alternative" and "Alternative 3 is considered a viable project alternative because it will achieve. . .Reduction of congestion compared to future conditions under the No Build Alternative," VIA, pp. 18 and 22).

It is a fallacy to assume, at the outset, that: (1) workable and far-reaching solutions to the region's and/or subregion's traffic conditions cannot be formulated; (2) functional transportation conveyance systems cannot be devised and developed; and (3) substandard conditions are the best that Californians can hope to achieve. The proposed alternatives now being foisted on the public do not even strive to solve or remedy the region's transportation impacts. Presented with three virtually identical variations of the same alternative, it is not acceptable to only compare one failed strategy to another," ignoring in that comparison the standard of acceptable versus unacceptable (with regards to workable transportation system operations) and accepting the imposition of self-imposed blinders which only serve to prevent meaningful public dialogue and discourse. Anyone who remembers driving the freeways during the Los Angeles Olympics

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knows feasible solutions can be developed to the area's transportation problems, allowing for acceptable traffic operations on the freeways even during peak periods (absent freeway widening). What is required is an overall transportation approach woefully absent from that now presented. The Los Angeles Olympics experience proved that mitigation of freeway traffic impacts is, in fact, possible with strong agency leadership, a common vision, and broad public participation. 54

3.3 Avoidance, Minimization, and Mitigation Measures

As a preface to the presentation of any comments on "mitigation measures," it is important to note that, from the DEIR/S, it is not possible determine what is being represented by the Lead Agency as "mitigation measures," as that term is defined under CEQA. As indicated in the DEIR/S" "Table S-1 summarizes project impacts by alternative and identifies avoidance and minimization measures. Where applicable, these measures are sometimes also mitigation measures, as discussed in Chapter 4 of this Draft EIR/EIS" (p. S-12). For example, Table S-1 (Project Impact Summary Table) (pp. S-13 thru S-35) contains a single column labeled "avoidance, minimization and/or mitigation measures." In that table, with the exception of the column heading, the only time the term "mitigation measure" is mentioned is with regards to the following two "measures": (1) "CUL-1: "Work shall be halted in the vicinity of any previously known or unknown buried cultural materials unearthed during construction until a qualified archaeologist can assess the significance of the materials. Any further mitigation measures required will be developed in accordance with the requirements of Caltrans Section 106 PA – Stipulation XV in accordance with 36 CFR 800.13. Any mitigation measures required by the archaeologist will be implemented, including, if necessary, supplemental environmental documentation" (pp. S-24 and 25); and (2) "CUL-2: If human remains and associated artifacts are encountered during ground-disturbing activities, then the provisions of Public Law 101-601, Section 5097.98 and .99 of the PRC, and Section 7050 of the Health and Safety Code, will be followed. Any further mitigation measures required shall be developed in accordance with the requirements of 36 CFR 800.13, the post review discovery provision of the regulations implementing Section 106 of the NHP" (p. S-25). Both of those references refer to the impermissible deferral of mitigation measure and include no explicit requirements or performance measures and are, therefore, unenforceable. 55 56

In order to identify the Lead Agency's recommended mitigation measures, stakeholders are directed to "Chapter 4 of the Draft EIR/EIS" (p. S-12). In Chapter 4 (California Environmental Quality Act Evaluation), only a limited number of "measures" are referenced as "mitigation measures" therein. The DEIR/S states that "mitigation measures pursuant to CEQA were identified for each significant effect of the project, described above in Section 4.2.3" (p. 4-64). In accordance with the Lead Agency's declarations, recommended mitigation measures are limited to the following: (1) "Mitigation Measures GEO-1 through GEO-7" (p. 4-21); (2) "Mitigation Measures T-1 through T-9" (p. 4-22); (3) T-1, UT-2, and COM-1 through COM-11" (p. 4-23); and (4) "Mitigation Measure PAL-1" (pp. 4-21 and 47).

Since the term "avoidance and minimization measures" is not of CEQA derivation, it is assumed that it is intended to have application under NEPA. Because "some impacts determined to be significant under CEQA may not lead to a determination of significance under NEPA" (pp. S-1 and 4-1), it must be assumed that, with the limited exception of those identified "mitigation measures," all other actions constitute "avoidance and minimization measures" under NEPA.

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The Lead Agency describes the following actions as "avoidance and minimization efforts": (1) "Avoidance and minimization measures AQ-1 through AQ-14" (p. 4-6): (2) "minimization measures BIO-1 through BIO-9" (p. 4-8); (3) "minimization measure CUL-1" (p. 4-8), "Minimization Measure CUL-2" (p. 4-9), and "Minimization Measure CUL-3" (p. 4-8); (4) "Minimization Measures GEO-1 through GEO-7" (p. 4-9); (5) "Minimization Measures WQ-1 through WQ-6" (p. 4-10); (6) "Minimization Measures LU-1 and LU-2" (p. 4-11); (7) "minimization measures NOI-2 and NOI-3" (p. 4-12); (8) "Minimization Measures COM-13 and LU-3 through LU-6" (p. 4-18); and (9) "Minimization Measures HAZ-1 through HAZ-11" (p. 4-22). Because GEO-1 through GEO-7 are identified as both "mitigation measures" (p. 4-21) and "minimization measures" (p. 4-9), it is not possible to know the Lead Agency's intent with regards to those actions. Additionally, with regards to every other "effort" and/or "measure," since the DEIR/S contains no explicit categorization of those other actions, it is not possible to ascertain whether the Lead Agency has categorized them as "mitigation measures (under CEQA) or "avoidance and minimization measures" (under NEPA). 57

The Lead Agency notes that "all measures to avoid, minimize, and mitigate these potential significant effects have been incorporated into the project" (pp. 4-9 and 4-49). To the extent that the "avoidance and minimization measures" are already a part of the proposed action, then those measures do not impose any addition obligation other than directing OCTA and Caltrans the implement the project that they already propose. 58

Although never explicitly stated, it can be surmised that the Lead Agency's efforts to differentiate between "avoidance and minimization efforts" and "mitigation measures" is intended to segregate those actions with regards not only to applicability and monitoring but also compliance and enforceability. As specified under the CEQ's "Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact" (January 14, 2011) (NEPA Mitigation Guidelines) (Attachment B). As indicated therein, citing Robertson v. Methow Valley Citizens Council (1989), the CEQ "acknowledges that NEPA itself does not create a general substantive duty on Federal agencies to mitigate adverse environmental effects" (p. 3).

In Robertson v. Methow Valley Citizens Council, the federal court noted that NEPA requires "that mitigation be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated," but does not require that "a complete mitigation plan be actually formulated and adopted." CEQ Regulations recommend but do not mandate the monitoring occur in order to verify implementation of mitigation measures (40 C.F.R. 1502.2[c]).

The Lead Agency is, however, reminded of the provisions of 23 U.S.C. 139(c)(4) which states: "The Secretary shall ensure that the project sponsor complies with all design and mitigation commitments made jointly by the Secretary and the project sponsor in any environmental document prepared by the project sponsor in accordance with this subsection and that such document is appropriately supplemented if project changes become necessary."

3.4 Feasibility of Project Alternatives

As defined in Section 15364 of the State CEQA Guidelines, "'[f]easibility' means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors" (emphasis added). Under NEPA, as described in "Forty Most Asked Questions Concerning CEQ's NEPA Regulations" (March 23, 1981) (CEQ Questions), "reasonable alternatives" warranting detailed

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study are described as "those that are practical or feasible from the technical and economic standpoint and using common sense" (Question 2[a]).

Because the Lead Agency cannot demonstrate that it has the ability to effectuate any of the three build alternatives examined in the DEIR/S (e.g., "Full funding has not been identified for any of the proposed build alternatives and remains an unresolved issue," p. S-39) and because the Department has sought to utilize cost considerations as one of the key factors in eliminating otherwise feasible implementation options for further consideration therein, the Lead Agency has failed to present a legally adequate environmental analysis conforming to NEPA and CEQA. 59

As indicated in correspondence from William Kempton, OCTA's CEO to OCTA's Regional Planning and Highway Committee (Subject: Update on the Interstate 405 Improvement Project Alternatives, Business Models, and Delivery Option), dated April 16, 2012, which is neither included in nor referenced in the DEIR/S, current project cost estimates and funding options are described below:

> For Alternatives 1 and 2, the total estimated project cost is $1.3 billion and $1.4 billion, respectively. As the M2 revenues for this project are currently estimated to be $600 million over the life of the M2 program, this leaves an estimated funding need of $700 million for Alternative 1 and $800 million for Alternative 2.
>
> For Alternative 3, the express lanes alternative, the total estimated project cost is $1.7 billion. Alternative 3 is approximately two miles longer than the other two alternatives and includes an Express Lanes direct connector between the I-405 and the SR-73, and would require additional Intelligent Transportation System components to operate the Express Lanes facility. Alternative 3 delivers congestion management via tolling to provide the public with the option of a guaranteed speed and travel time through the corridor. Alternative 3 provides for greater vehicle throughput, as vehicles travelling at or near the speed limit in the Express Lanes will move through the corridor in greater numbers than vehicles in slower moving general purpose lanes. With the same M2 revenues of $600 million for the Express Lanes Alternative, the funding need is approximately $1.1 billion.
>
> For Alternative 3, three separate project finance options were modeled - Self Finance [SF], the use of Availability Payments [AP], and a P3 [public-private partnership] Concession. In all cases, the project cost is $1.7 billion. For the Self Finance option, approximately $300 million dollars could be raised from non-recourse future toll revenue bonds, leaving a funding need of $800 million. This funding need could be met by the sale of future M2 revenue bonds. This option would ensure that revenue generated would be controlled by OCTA, with these revenues projected to be approximately $1.4 billion over the next 30 years. With the Availability Payments option, approximately $1.2 billion could be raised, although the repayment cost of $5.8 billion exceeds the future toll revenue projections of $4.9 billion, leaving a deficit of $900 million. Performance based repayments would be made by OCTA regardless of toll revenues. With the P3 Concession option, approximately $800 million could be raised, leaving a funding need of $200 million. All toll revenues would go to the P3 Concessionaire, and there would be no debt costs associated with this option.

As indicated in Table I-10 (Proposed Funding and Shortfall) in the DEIR/S, the "funding shortfall" for Alternative 1 is $700 million, the "funding shortfall" for Alternative 2 is $800 million,

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and the "funding shortfall" for Alternative 3 is $800 million (p. I-18). However, at the June 26, 2012 community meeting in Seal Beach, William Kempton, OCTA's CEO stated that that "$1.3 billion" in Measure M/M2 funds are presently available to the OCTA. Although inconsistent with the information presented in the DEIR/S and other documentation available from the OCTA, to the extent that Mr. Kempton's statement is an accurate characterization of available funding, Alternative 1 could be implemented based on existing funding. Why is information concerning the amount of available Measure M/M2 funding inconsistently represented? **60**

Based on the information presented in the DEIR/S, inclusive of all materials that existed in the administrative record up to prior to the release of the DEIR/S, none of the three build alternatives can be demonstrated to be feasible. Because none of the funding options can, as of yet, be demonstrated to provide OCTA with the resources needed to implement any of the three build alternatives, the Lead Agency cannot demonstrate that the use of non-toll road financing is infeasible. Even when toll road revenues are considered, assuming a design-building structure and conveyance of all toll revenues to a future P3 concessionaire, OCTA still falls "$200 million" short of currently estimated project costs (without adjustments for future cost escalations).

Although not readily apparent, as indicated in correspondence from William Kempton, OCTA's CEO to OCTA's Regional Planning and Highway Committee (Subject: Outline of the Proposed Project Delivery Organizational Approach for the Interstate 405 Improvement Project), dated June 4, 2012, the CEO stated that "Alternative 3 self finance option is the most financially feasible and provides some return to the M2 Freeway Program" (p. 2).

As indicated in OCTA's "Measure M2 Triennial Performance Assessment Status Report, Staff Report" (November 15, 2010) (Triennial Report): "The OCTA's efforts on Interstate 405 in west Orange County illustrate both the challenges facing the OCTA in delivering M2. Listed in the Voter's Pamphlet as Freeway Project K, the improvements between the I-605 in Los Alamitos and the Costa Mesa Freeway (SR-55) has a Measure M budget of $500 million, making it one of M2's premier freeway projects. However, as the project has been more fully developed and has moved into environmental review, the costs of the 405 west project have increased to the $1.7 to $2.2 billion range, a far more expensive project than can be built in the next few years with a mix of state, federal, and M2 funds. Even with board direction to minimize all right-of-way takes by exploring narrower than standard lane widths and non-standard shoulders, building Project K may require innovative funding methods, including toll lanes or Express Lanes to aid in overall project funding. Without additional funding from non-traditional sources, the OCTA cannot fund promised improvements on the western portion of Interstate 405" (emphasis added) (p. 20). From this, it can be concluded that the Lead Agency's efforts to minimize ROW acquisition (e.g., "Minimize environmental impacts and ROW acquisition," DEIR/S, p. S-5) were not necessarily founded on benevolence but on more fundamental cost considerations.

As noted, the projected cost of Alternative 3 is identified as "$5.8 billion" and not the "$1.7 billion" identified in the DEIR/S (p. 2-10) or "$2.2 billion" identified in the Triennial Report (p. 20). For example, although the estimated cost of each is less than associated with Alternative 3, the following options were eliminated by the Lead Agency, in whole or in part, for economic reasons: (1) "Alternative M3 was estimated at $2.781 billion" (p. 2-41); (2) "Alternative M5 was estimated at $2.377 billion" (p. 2-42); (3) "Alternative M6 was estimated at $2.351 billion" (p. 2-43); (4) "Alternative M7 was estimated at $1.290 billion" (p. 2-43); (5) "Alternative M8 was estimated at $1.504 billion" (p. 2-44); (6) "Alternative M8a was estimated at $2 billion" (p. 2-45); (7) "Alternative M9 was estimated at $3.212 billion" (2. 46); (8) "Alternative M11 was estimated

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at $2.840 billion" (2-47); (9) "The total capital cost of Alternative M12 was not estimated but would likely be similar to Alternative M13 or $2.231 billion" (p. 2-48); and (10) "Alternative M13 was estimated at $3.231 billion" (p. 2-49). As noted, the estimated cost of both "Alternative M7" and "Alternative M8" are even less than the "$1.7 billion" identified in the DEIR/S for Alternative 3 but were subsequently rejected based on cost considerations (e.g., "The high cost of Alternative M8a also contributes to the determination that the alternative is not viable," p. 2-45).

"CEQA does not authorize an agency to proceed with a project that will have significant, unmitigated effects on the environment, based simply on a weighing of those effects against the project's benefits, unless the measures necessary to mitigate those effects are truly infeasible" (City of Marina v. Board of Trustees of California State University [2006]). As required under Section 15126.4(a) of the State CEQA Guidelines: "An EIR shall describe feasible mitigation measures" (emphasis added). Notwithstanding that requirement, a substantial portion of the Lead Agency's analysis is based on the tenet of "feasibility" and many of the "efforts" and/or "measures" are so vague (e.g., absent any means of quantification or assessment of performance) as to be enforceable. As such, feasibility cannot be used as a nebulous concept (that can be utilized when it serves the Department's interests and ignored when it does not) but must find form and substance in the DEIR/S (e.g., "The EIR serves not only to protect the environment but also to demonstrate to the public that it is being protected," 14 CCR 15003[b]). For example, with regard to the feasibility of implementing a broad range of "measures," the Department states: (1) "Beginning with preliminary design and continuing through final design and construction, plan, save, and protect as much existing vegetation in the corridor, especially eucalyptus and other skyline trees, as feasible" (Mitigation Measure VIS-1) (p. 4-64); (2) Beginning with preliminary design, and continuing through final design and construction, landscape and re-vegetate disturbed areas to the greatest extent feasible (Measure VIS-6) (p. 4-64); (3) "Provide vine planting on sound walls and retaining walls where feasible and appropriate" (Measure VIS-18) (pp. 4-65 and 66); (4) "The construction contractor shall establish Environmentally Sensitive Areas (ESAs) or their equivalent near sensitive air receptors within which construction activities involving extended idling of diesel equipment would be prohibited, to the extent that is feasible (Measure AQ-9); and (5) "To avoid impacts to raptors, all new highway lighting adjacent to NAVWPNSTA Seal Beach shall not contain features that allow for raptor perches, as feasible (Measure BIO-6) (emphasis added). **61**

In addition, the DEIR/S notes: (1) "Each and every significant effect on the environment must be disclosed in the EIR and mitigated if feasible" (p. 4-1); (2) "where feasible, additional minimization measures have been identified to further reduce project effects, as applicable" (p. 4-5); (3) "The project permitting process and associated permit conditions would require avoidance where feasible" (p. 4-7); (4) "Caltrans/OCTA has a robust public outreach process for this project, which will continue through completion of the project, and additional feasible measures that are identified during the public outreach process and circulation of the Draft EIR/EIS, and agreed to by Caltrans/OCTA, will be incorporated where feasible to further reduce the significant effects on community character" (p. 4-49); (5) "To the extent that it is applicable or feasible for the project and through coordination with the project development team, the following measures will also be included in the project to reduce the GHG emissions and potential climate change impacts from the proposed project" (p. 4-59). Since the OCTA cannot demonstrate that it even has a plan to pay for the capital costs of any of the three build alternatives examined in the DEIR/S (much less on-going maintenance costs and debt service), no substantial evidence exists that any of the identified "efforts" and/or "measures" will be implemented and, if implemented, to what degree and efficacy. **62**

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In Gray v. County of Madera (2008), the court ruled that mitigation measures must both be specific as to their performance or contain specific performance standards offering assurance that implementation will remedy the effect or provide a compensatory environment which is "substantially similar" to that which existed prior to the degradation attributable to the proposed action and that the feasibility of those measure to accomplish their intended purpose be sufficiently demonstrated. Citing that case:

> While we generally agree that CEQA permits a lead agency to defer specifically detailing mitigation measures as long as the lead agency commits itself to mitigation and to specific performance standards, we conclude that here the County has not committed itself to a specific performance standard. Instead, the County has committed itself to a specific mitigation goal – the replacement of water lost by neighboring landowners because of mine operations. However, this goal is not a specific performance standard such as the creation of a water supply mechanism that would place neighboring landowners in a situation substantially similar to their situation prior to the decline in the water levels of their private wells because of the mining operations, including allowing the landowners to use water in a substantially similar fashion to how they were previously using water. Moreover, the listed mitigation alternatives must be able to remedy the environmental problem. We have concluded that the listed mitigation alternatives, except for the building of a new water system, cannot remedy the water problems because they would not place neighboring landowners into a situation substantially similar to what the landowners experienced prior to the operation of the mine. And the option to build a water system, which is the only effective mitigation measure that was proposed if it was feasible, was never studied or examined. Thus, the County is improperly deferring the study of whether building such a system is feasible until the significant environmental impact occurs.

Additionally, based on the absence of a viable funding plan, there likely will need to be other undisclosed changes, concessions, and/or public costs required to implement any of the three build alternatives. Because those changes, concessions, and costs may not be finalized until after the close of the environmental process, the potential environmental implications of those actions may never be fully addressed and may occur outside any opportunity for stakeholder participation. Since the proposed action involves the long-term commitment of public funds (and the opportunity costs associated therewith), OCTA's commitment of those funds and/or ability to demonstrate a viable implementation strategy is an integral part of the project and, for the purpose of environmental compliance, cannot be separated therefrom. **63**

Existing environmental conditions and anticipated impacts can increase or decrease over time, scheduling considerations (including the anticipated commencement/completion dates) and the existence of internal and extraneous factors influencing that schedule (e.g., absence of money) are integral elements in assessing project-related and cumulative environmental effects. As indicated in the DEIR/S, facility construction is expected to commence in 2015 (e.g., "Construction of the proposed project is planned to commence in 2015," p. 2-26); however, since the Department has not demonstrated its ability to fund the identified improvements, that schedule could have substantial slippage. Alternatively, attainment could require substantial concessions (e.g., "All toll revenues would go to the P3 Concessionaire") which could potentially have a bearing on the proposed action and its environmental implications.

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The Lead Agency states that "[f]urther financial planning to identify full funding for the alternative selected for construction will be required to prepare the Financial Plan required by the Federal Highway Administration prior to approval of the Final EIR/EIS" (DEIR/S, p. S-40). Since too much is riding on the existence of and effectiveness of that future "financial plan" (e.g., selection and rejection of alternatives, existence and substance of identified "efforts" and/or "measures"), failure to include that information in the DEIR/S has deprived the affected public of meaningful opportunities to comment on the document, prematurely eliminated other potentially feasible alternatives based on premature and non-evidentiary rationalization, resulted in the deferral of critical analyses to a later time and date (outside opportunities for public participation), and appears to now predicate a single course of action (e.g., generation of toll revenues and conveyance of those revenues to a P3 concessionaire. Although its intended inclusion was presaged in both the "Notice of Preparation" (NOP) and "Notice of Intent" (NOI) but promptly eliminated from the DEIR/S (e.g., "Alternative 4 proposed to provide localized improvements within the I-405 corridor that could be fully funded and implemented with available revenue from Orange County's Renewed Measure M transportation sales tax initiative," pp. 2-3 and 4) and although the single stated objective of the proposed action is "[t]o be consistent with regional plans and find a cost-effective early project solution for delivery" (emphasis added) (p. 1-5), the one viable and feasible build alternative identified in the DEIR/S (i.e., Alternative 4 is a lower-cost option to provide localized improvements within the I-405 corridor that could be fully funded and implemented with available revenue from Orange County's Renewed Measure M transportation sales tax initiative," p. 2-28) was never seriously considered. **64** **65**

What does "cost-effective" even mean and what criteria will be used in its assessment and comparative analysis? The proposal to convey all future toll revenues to a private operator may reduce "up-front" costs but results in the forfeiture of any "opportunity costs" associated with the use of future revenues. Since the criteria are not specified in the DEIR/S and information concerning any alleged economic benefits (e.g., equating time savings to economic productivity), how will stakeholders be able to participate in the formulation of that criteria, in the comparative evaluation of alternatives (e.g., "Alternative 4" and "TSM/TDM/Mass Transit Alternative"), and in the determinations concerning the expenditure of public funds? Although consisting of literally thousands of page of text, the DEIR/S appears merely to be a house of cards whose structure is dependent on a yet to be determined, unknown, undisclosed, and unproven financing structure. Pending its release, with the exception of "Alternative 4" (and potentially the "TSM/TDM/Mass Transit Alternative") the Lead Agency cannot demonstrate the feasibility of any of the three build alternatives or defend the elimination of other alternatives based, in whole or in part, on financial considerations. **66** **67**

The DEIR/S notes: "Alternative 4 would neither provide additional capacity along the entire corridor nor enhance interchange operations. It would not meet the project purpose and was eliminated from further consideration in this Draft EIR/EIS" (p. 2-4); however, neither "additional capacity" nor "enhanced interchange operations"' were identified in the Lead Agency's declared P&N and single objective. As a result, the Lead Agency seeks to reject otherwise feasible alternatives based on criteria substantively different from those articulated by the Department for the proposed action. **68**

3.5 Congestion Relief

As indicated in "San Diego Freeway (I-405) Frequently Asked Questions" (USDOT, Caltrans, and OCTA, undated) (http://www.octa.net/pdf/405/faq.pdf): "It has been estimated that the width of the I-405 would need to be doubled from the existing ten lanes to twenty lanes to serve the

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traffic demand expected by year 2035. For a number of reasons, including right-of-way constraints and operational limitations of widening, none of the proposed improvements are expected to completely eliminate congestion" (Question 4). Acknowledging the existence of induced or latent demand, it is noted that "none of the proposed alternatives would completely eliminate congestion in the I-405 corridor. Additional general purpose lanes would fill up and become congested very quickly after they open" (emphasis added) (Question 12).

As reported in a report prepared by the Brookings Institute and University of California Berkeley, entitled "The Effect of Government Highway Spending on Road Users' Congestion Costs, Final Report to the Federal Highway Administration" (October 2004), the authors (Clifford Winston and Ashley Langer) concluded:

> [W]e estimate that one dollar of highway spending in the last year of our sample, 1996, reduced motorists' congestion costs only 3.3 cents in that year (2000 dollars). Note that this benefit is not an ongoing return, but only applies to the year in which spending occurred. Although highway spending serves many purposes, policymakers frequently cite reducing congestion as among the most important. Thus, our estimate seriously questions the cost-effectiveness of current spending priorities if policymakers wish to achieve this goal. As noted, we did not include several variables in the model that affected congestion costs but were arguably affected to some extent by highway spending. If we included any of these variables in the model, the effect of highway spending on congestion costs would be even lower (pp. 13-14).
>
> It could be argued that highway spending in 1996 would reduce congestion costs in future years by adding to the value of the capital stock. But such spending supplemented the value of each state's capital stock only six percent on average. In addition, any benefits from this modest improvement in the capital stock would be reduced significantly by depreciation in just a few years. Given that we found that spending reduced motorists' congestion costs only three cents in the year that spending occurred and that additional cost savings in the future would be much [less] (pp. 14-15).

"Each of the build alternatives is viable with each providing incremental throughput increase; however, none will totally alleviate congestion" (emphasis added) (Traffic Study, p. ES-4). "Each of the proposed alternatives project improves freeway capacity but does not totally satisfy projected future demand [b]ased on the fact that oversaturation is predicted under future expected traffic conditions (i.e., LOS F) for the I-405 in the study area" (emphasis added) (Traffic Study, p. 2.1-3). The Lead Agency acknowledges that the existence of congestion is a "fact" now and into the foreseeable future. With regards to each of the three build alternatives: 69

- Under the No Build Alternative, "[i]n general, under both 2020 and 2040 conditions for the No Build Alternative, the freeway mainline (including both general purpose lanes and HOV lanes) is expected to operate at LOS F in both the AM and PM peak hours in both the southbound and northbound directions. (emphasis added) (p. 2.4-1). "LOS F during AM and PM peak times is expected to occur on nearly all segments in 2020 and on all segments in 2040" (emphasis added) (p. 2.4.3). "The speed index ranges from 5 to 21 depending upon segment, direction of travel, and peak hour" (p. 2.4-3).
- "Under Alternative 1 conditions for Opening Year (2020), the freeway mainline (including both general purpose and HOV lanes) is expected to operate at LOS F during the AM and PM peak hours in both directions with few exceptions. Under Design Year (2040)

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traffic conditions, all lanes are expected to operate at LOS F during both AM and PM peak hours for both directions of travel (emphasis added) (Traffic Study, p. 2.5-1). "[A]ll segments are expected to operate at LOS F during peak hours" (emphasis added) (p. 2.5-2). "The speed index ranges from 6 to 38 depending upon segment, direction of travel, and peak hour" (p. 2.5-3).

- "[U]nder Alternative 2 conditions for 2020, the freeway mainline general purpose lanes and HOV lanes are expected to operate at LOS D to F in the AM and PM peak hours in the southbound and northbound directions, with LOS D more prevalent in the northern section of I-405. Under Design Year (2040) conditions, all general purpose lanes and HOV lanes are expected to operate at LOS F during both AM and PM peak hours" (emphasis added) (Traffic Study, p. 2.6-1). "[A]ll segments are expected to operate at LOS F during peak hours" (emphasis added) (p. 2.6-2). "The speed index ranges from 7 to 50 depending upon segment, direction of travel, and peak hour" (p. 2.6-3).
- "[U]nder Alternative 3 conditions, the freeway mainline general purpose lanes are expected to operate at LOS F in the AM and PM peak hours in both the southbound and northbound directions under 2020 and 2040 conditions. The express lanes are expected to operate generally at LOS C to D under 2020 and 2040 conditions" (emphasis added) (Traffic Study, p. 2.7-1). "LOS F is expected to occur in the general purpose lanes during the AM and PM peak hours on nearly all links in 2020 and on all links in 2040" (emphasis added) (p. 2.7-3). "The speed index ranges from 14 to 53 in the general purpose lanes and 65 in the express lanes whose speeds and volumes are managed through the imposition of tolls" (p. 2.7-3).

As indicated in the Traffic Study: "Whenever density exceeds 45 pc/mi/ln [passenger cars/mile/lane], the Level of Service category is "F", or very congested (i.e., traffic jams). The general purpose lanes in every alternative, and the HOV lanes in the No Build alternative and in Alternatives 1 and 2, are expected to operate at LOS F during the peak hours, except for spot locations. Under projected future traffic conditions for Year 2040, the express lanes in Alternative 3 are expected to operate at LOS C/D. . Management of the express lanes in Alternative 3 through tolling will be targeted to minimizing congestion in the express lanes during peak periods; this will maximize their speeds" (pp. ES-3 and ES-4). By the Lead Agency's own admission, everything will remain at gridlock with the limited exception of the express (HOT) lanes in Alternative 3. The Traffic Study demonstrates that congestion (as measured in vehicular throughput and relative speed) will be reduced for only those able to pay the toll; however, traffic in all the GP lanes will remain at LOS "F."

As noted in Caltrans' "Route Concept Report – Interstate 405, San Diego Freeway, 12-ORA P.M. 0.23/24.18" (November 1999) (RCR), LOS "F" is defined as "congestion" (e.g., "With these improvements the LOS would be at 'F' [congestion] in the year 2020 for the entire length of the route," Summary). As further defined in the Traffic Study, "LOS 'F' is used to define breakdowns in vehicular flow. Breakdowns occur when traffic incidents cause a temporary reduction in the capacity, at merge or weaving segments that result in a greater number of vehicles arriving than the number of vehicles discharged and when the projected peak hour flow rate exceeds the estimated capacity of the location" (emphasis added) (p. 2.1-2).

With regards to projected level of service conditions and vehicular throughput projections, presented in Table 3 (Level of Service and Vehicle Throughput) below is information extracted from the Traffic Study. As indicated therein, in general terms, with regards to level of service conditions, excluding the proposed "express lanes" under Alternative 3 where improved LOS conditions may exist through the active management of those lanes (i.e., controlling the number

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of vehicles through increasing tolls and changing occupancy requirements), either doing something (adding more lane miles) or doing nothing (not adding more lane miles) produces the relatively same LOS conditions (LOS "F"). In the "best case" freeway segment, vehicle throughput increases by only 1,200 vehicle per hour (vph) under Alternative 1, by only 2,400 vph under Alternative 2, and by only 3,000 vph under Alternative 3. If the old adage is true, "the more things change, the more they stay the same," it is unclear how massive public expenditures for the apparent benefit of a relatively few drivers (those willing to pay the toll) will substantially improve conditions for the overwhelming majority of the area's residents.

Table 3
Level of Service and Vehicle Throughput

Study Segment	No Build Alternative				Alternative 1				Alternative 2				Alternative 3			
	NB		SB		NB		SB		NB		SB		NB		SB	
	GP	HOV	SG	HOV	GP	HOV	GP	HOV	GP	HOV	GP	HOV	GP	HOV	GP	HOV
Level of Service																
SR-73 to Brookhurst	F	F	F	F	F	F	F	F	F	F	F	F	F	C	F	C
Brookhurst to SR-33 East	F	F	F	F	F	F	F	F	F	F	F	F	F	C	F	C
SR-22 East to I-605	F	F	F	F	F	F	F	F	F	F	F	F	F	D	F	D
Vehicle Throughput																
SR-73 to Brookhurst	7200	1200	7200	1200	7200	1200	7200	1200	7200	1200	7200	1200	7200	3200	7200	3200
	8400		8400		8400		8400		8400		8400		10400		10400	
Change from No Build	-		-		0		0		0		0		2000		2000	
Brookhurst to SR-33 East	4800	1200	4800	1200	4800	1200	6000	1200	7200	1200	7200	1200	6000	3000	6000	3000
	6000		6000		6000		7200		8400		8400		9000		9000	
Change from No Build	-		-		0		1200		2400		2400		3000		3000	
SR-22 East to I-605	7200	2400	7200	2400	7200	2400	7200	2400	9600	2400	9600	2400	8400	3400	8400	3400
	9600		9600		9600		9600		12000		12000		11800		11800	
Change from No Build	-		-		0		0		2400		2400		2200		2200	

Source: Albert Grover & Associates, Traffic Study – San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties. May 2011, Tables 2.5.9, 2.6.9, and 2.7-9, pp. 2.5-24, 2.6-24, and 2.7-29.

The information in Table 4 (Freeway Average Daily Traffic [ADT] Volumes – Existing and Future) is extracted from the Traffic Study (see Table 2.2.1, p. 2.2-1) and indicates that traffic volumes, as measured in average daily traffic (ADT), even without the proposed action, will increase substantially between "existing conditions" (Year 2009), "opening day" (Year 2020), and the project's "design year" (Year 2040). Ignoring traffic spikes that occur during the morning (AM) and evening (PM) peak hours, assuming that traffic volumes are consistent throughout the day (which itself is a false assumption) and the anticipated traffic diversion from arterial and secondary streets onto the freeway as a result of the proposed improvements, the projected increase in ADT that Caltrans expects to occur (absent the proposed action) exceeds the added capacity identified in Table 3 (Level of Service and Vehicle Throughput), even under

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the best-case scenario As a result, even with the proposed action: (1) traffic conditions (e.g., congestion) will worsen over existing conditions; (2) projected demand increases at a faster rate than projected supply; and (3) on "opening date," the improvements will prove obsolete.

Despite assertions of the purported intent of its endeavors (e.g. reduce congestion), undisclosed in the DEIR/S is the reality that the viability of both HOV and HOT lanes is, in fact, dependent on the perpetuation of congestion (e.g., "express lanes specifically do not suffer from reduced flow as general purpose lane congestion increases," Traffic Study, p. 2.1-3). The formation of carpools and the payment of tolls by motorists are both predicated on the existence of clear choices regarding travel time (i.e., congested GP lanes or free-flowing "express lanes"). Based on the resulting dependencies they engender and the decentralization of a diverse labor pool, in the absence of congestion, there exists little motivation for non-family members to form unions to travel to work or to pay the added travel costs when the HOT lane and the adjoining GP lane allow arrival at the appointed destination at generally the same time.

Table 4
Freeway Average Daily Traffic (ADT) Volumes – Existing and Future

Location	Existing Condition (Year 2009)	Opening Day (Year 2020)	Design Year (Year 2040)
SR-22 East – I-605	370,260	453,580	508,780
Projected Increase over Existing Conditions	-	83,320	138,520
Brookhurst Street – SR-22 East	257,400	309,270	343,640
Projected Increase over Existing Conditions	-	51,870	86,240
SR-73 – Brookhurst Street	306,900	374,300	418,960
Projected Increase over Existing Conditions	-	67,400	112,060

Source: Albert Grover & Associates, Traffic Study – San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties. May 2011, Tables 2.2.1, p. 2.2-1.

The Lead Agency alleges that the proposed action's "[l]ong-term benefits would include improvement to the transportation network in the area, reduction of congestion, and improved intersection circulation (emphasis added) (p. 3.4-1). The following two items are noticeably absent from that statement: (1) a definition as to what constitutes "congestion"; and (2) any linkage between "congestion" and "capacity" (either as an isolated variable or in combination with demand). Similarly, as used in the DEIR/S, "congestion" is spoken of as if it were a new concept (rather than one that pre-dating the automobile), that it is an isolated phenomenon and can be solved in small incremental stretches of roadway (somehow unique to each segment), and that a single and universally held perception (rather than multiple perspectives) of its existence can be defined. In reality, congestion is a persistent problem and not a condition of recent origin or unique to the southern California area. 70

Historic accounts of congestion can be traced back to Julius Caesar who banned wheeled traffic from Rome during the daytime. Leonardo da Vinci proposed the separation of wheeled traffic from pedestrian traffic (Encyclopedia Britannica, Traffic Control, online). Congestion exists in all metropolitan areas (including many in southern California) and perceptions regarding congestion (including tolerance) may be both societal and geographically diverse.

In "2010 Status of the Nation's Highways, Bridges, and Transit: Conditions and Performance, Report to Congress" (March 30, 2012), the FHWA states: "There is no universally accepted definition or measurement of exactly what constitutes a congestion "problem." The public's

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perception seems to be that congestion is getting worse, and it is by many measures. However, the perception of what constitutes a congestion problem varies from place to place. Traffic conditions that may be considered a congestion problem in a city of 300,000 may be perceived differently in a city of 3 million, based on differing congestion histories and driver expectations. These differences of opinion make it difficult to arrive at a consensus of what congestion means, the effect it has on the public, its costs, how to measure it, and how best to correct or reduce it. Because of this uncertainty, transportation professionals examine congestion from several perspectives. Three key aspects of congestion are severity, extent, and duration. The severity of congestion refers to the magnitude of the problem or the degree of congestion experienced by drivers. The extent of congestion is defined by the geographic area or number of people affected. The duration of congestion is the length of time that the roadway is congested, often referred to as the "peak period" of traffic flow" (p. 4-2).

In the "City in History" (1961), Lewis Mumford wrote:

> The facts of metropolitan congestion are undeniable; they are visible in every phase of the city's life. One encounters congestion in the constant stoppages of traffic, resulting from the massing of vehicles in centres that can be kept in free movement only by utilizing human legs. One encounters it in the crowded office elevator or in the even more tightly packed subway train, rank with the odors of human bodies. Lack of office room, lack of school room, lack of house room, even lack of space in the cemeteries for the dead. Such form as the metropolis achieves its crowd-form: the swarming bathing beach by the sea or the body of spectators in the boxing areas or the football stadium. With the increase of private motor cars, the streets and avenues become parking lots, and to move traffic at all, vast expressways gouge through the city and increase the demand for further parking lots and garages. In the act of making the core of the metropolis accessible, the planners of congestion have already almost made it uninhabitable.
>
> The costs of congestion itself, in impeding the essential economic activities of the metropolitan area, are augmented by the costs of the purely mechanical methods of overcoming this congestion. These costs, even if they were humanly tolerated, would long age have been rejected because of their financial extravagance, if rational economic standards had played any part in forming the metropolitan myth (p. 624).

As indicated in the FHWA's "Consideration for High Occupancy Vehicle (HOV) Lane to High Occupancy Toll (HOT) Lane Conversions Guidebook" (June 2007): "Traffic congestion on U.S. highways serving our largest metropolitan regions have reached unprecedented levels despite our heroic but, ultimately, failed efforts to build more highways in response to the nation's insatiable demand for travel. With the benefit of several decades' worth of hindsight, the U.S. transportation policy community has pledged a renewed commitment to attacking the urban transportation problem through a combination of demand and system management strategies focused on managing our existing transportation supply more effectively and efficiently" (emphasis added) (p. 1-1). Similarly, as indicated on the FHWA's website: "Congestion results when traffic demand approaches or exceeds the available capacity of the system" (http://www.fhwa.dot.gov/congestion/).

To the extent that "congestion" can be fundamentally defined as the imbalance between supply and demand (excess demand and insufficient supply), then congestion has two separate constituents (supply and demand). Absent a singular focus on "capacity, public effort to "reduce 71

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congestion" must, therefore, be approached from both perspectives. Because that has not occurred in the DEIR/S, decision makers are being asked to choose between "three of the same things" rather than "two or more different remedies" (e.g., the FHWA's "combination of demand and system management strategies"). 71

In order to assess performance and compare the only alternatives (excluding the No Build Alternative), the Traffic Study states: "For the proposed project which improves freeway capacity but does not totally satisfy projected future demand, the following measures of effectiveness (MOE) were selected to either quantitatively and/or qualitatively compare improvement alternatives: [1] Peak hour throughput (throughput being the number of vehicles able to pass a fixed point along the project route). [2] Relative speed, and conversely, the vehicle travel time to traverse the project length during the peak hour" (emphasis added) (Traffic Study, p. ES-3). "[B]ecause speed is more easily understood than throughput, it has been shown as a relative measure of improvement associated with providing added freeway capacity" (emphasis added) (p. 2.1-5). With only those two indices, as with "relative" speed, it is possible to compare the "relative" merits of the three build alternatives. 72

Without commenting on the validity of the measures cited, in contrast, the FHWA's "2011 Urban Congestion Trends – Improving Travel Reliability with Operations, FHWAQ-HOP-12-019" (undated) identifies the following measures of congestion: (1) hours of congestion (amount of time when freeways operate below 50 mph; (2) travel time index (TTI) (time penalty for trip on an average day (e.g., a TTI of 1.30 indicates a 20-minute free-flow trip takes 26 minutes [20 x 1.30] during peak); and (3) planning time index (PTI) (time penalty for a trip to be on time for 95 percent of trips (e.g., a PTI of 1.60 indicates a 20-minute free-flow trip takes 32 minutes [20 x 1.60]). None of these factors are even referenced in the DEIR/S.

The deck is now stacked. Because the only two variables to be analyzed are peak-hour throughput and relative speed, the only range of solutions posited is the number and type of additional lane-miles to be added to the specified freeway segment. Never asked is the more fundamental questions: (1) What is the root cause of traffic congestion? (2) If an issue of supply and demand, what actions can be taken to reduce the existing imbalance? (3) If a manner of too many automobiles and trucks, what can be done to take automobiles and trucks off the road? (4) If a matter of accessibility, how can access opportunities be enhanced?

The DEIR/S states that "[t]he purpose of the proposed action is to: [1] Reduce congestion; [2] Enhance operations; [3] Increase mobility, improve trip reliability, maximize throughput, and optimize operations; and [4] Minimize environmental impacts and right-of-way acquisition" (p. S-1). "Relative speed" is not, however, identified as among the project's purposes. It is evident that "congestion" is not actually being measures but that broad and ill-defined concept is, because it is "more easily understood," examined in the context of "relative speed." In that it may be a factor in calculating vehicle throughput, relative speed is, at best, one of the components that could be used in describing available supply (e.g., on the supply side, congestion is primarily a function of the physical characteristics of the facility and events that limit the availability of this capacity). Because "relative speed" is being measured and not "congestion," there is a substantial disconnect between the Lead Agency's P&N and both how "congestion" is defined and how it is being quantitatively expressed. How fast (or slow) an average vehicle traverses a set distance during a peak hour period is not a valid measure of congestion. Similarly, since no optimal or ideal relative speed exists or has been documented in the DEIR/S (e.g., number of vehicles per hour per lane that maintain a specified LOS), any incremental difference between one alternative and another is both meaningless and, in the 73

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absence of a set goal, fails to yield a determination of whether the resulting increase (or decrease) is worth the added (or lesser) cost (e.g., how should a one mph increase in average peak-hour speed valued?).

As speeds diminish and the frustration of SOVs mount, motorists may feel compelled to investigate other forms of transportation, employers may be forced to consider other working arrangements (e.g., telecommuting and flexible work hours), and individuals may alter or consider different life-style choices (e.g., increased attraction of transit-oriented developments). Although the Lead Agency seeks to portray those considerations in negative light, shorter or less frequent commutes and increased bus and train ridership may, in fact, not be bad things.

Moviegoers are familiar with the adage from "Field of Dreams": "Build it, and they will come." The traffic corollary is "don't build it and they will still come." Absent from the DEIR/S is any discussion of latent demand (defined as pent-up [dormant] demand for travel; travel that is desired but unrealized because of constraints) and induced demand (defined as realized demand that is generated [induced] because of improvements to the transportation system) and the consequences of that demand on traffic conditions once the improvements are completed. 74

As indicated in the United States Environmental Protection Agency's (USEPA or EPA) "Our Built and Natural Environments: A Technical Review of the Interactions between Land Use, Transportation, and Environmental Quality" (2001) (OBNE): "Over the past several decades, improvements in automobile-related infrastructure (highways, roads, parking lots), greater separation between jobs and housing, greater distances between destinations, and induced traffic (or additional travel prompted by road capacity expansions) have led to increases in vehicle travel" (p. 33). As documentation supporting the federally recognized linkage between increased road capacity and congestion, the USEPA stated:

> Probably the best-known quantification of induced travel using U.S. data is a study by a University of California-Berkeley team led by Mark Hansen. Using time-series data and multiple regression, Hansen et al. estimated the auto traffic effects of changes in road capacity. Hansen studied relatively long-run time-series data - up to 18 years - and cross-sectional data to overcome difficulties in other studies that used only cross-sectional data and limited time periods. The peer-reviewed results are statistically robust and quite clear: induced travel can occur and can absorb all new capacity. According to the study, vehicle miles traveled on state highways increase, on average, by 0.6 to 0.7 percent at the county level for each 1 percent increase in highway miles, and by 0.9 percent at the metropolitan level. The full increase in VMT materializes within five years of the change in road supply. New road capacity does not simply affect travel on the new road or new lanes. It may also affect traffic outside its own corridor. People might use the new road rather than an older, more congested route. People may choose new destinations. A decision to use the new road probably means a decision to use a road connecting to it. Thus, capacity increase can lead to travel growth on other roads as well as on new roads highway lanes.
>
> Hansen found that: "adding lane miles in a given county increases VMT throughout the wider region. This will occur if, for example, increasing the capacity of a highway in a given county induces commuting to or through that county from other counties in the region." Hansen found that capacity additions have different impacts in different metropolitan areas. An additional lane mile in San Francisco, Los Angeles, or San Diego metro areas produces roughly 12,000 additional daily VMT (pp. 22-23).

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As further indicated in the United States Transportation Research Board's (TRB) "Expanding Metropolitan Highways: Implications for Air Quality and Energy Use, Special Report 245" (1995), the TRB concluded that "[t]he evidence from the studies reviewed here supports the view that highway capacity additions can induce new trips, longer trips, and diversions from transit" (p. 162).

3.6 Additional VMT Equates to Reduced GHG

On December 7, 2009, the USEPA signed the following two findings regarding GHGs under Section 202(a) of the Federal Clean Air Act (CAA): (1) Endangerment finding - the USEPA finds that the current and projected concentrations of the following six "well-mixed greenhouse gases" in the atmosphere threaten the public health and welfare of current and future generations: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6); and (2) Cause or contribute finding - the USEPA finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the GHG pollution which threatens public health and welfare (USEPA, Docket No. EPA-HQ-OAR-2009-0171, December 7, 2009).

As reported in the California Department of Public Health's (CDPH) "Health Co-Benefits and Transportation-Related Reductions in Greenhouse Gas Emissions in the Bay Area" (November 11, 2011): "Climate change associated with the emission of greenhouse gases is the most significant threat confronting public health during the 21st century. In California, the transportation sector accounts for 38% of these emissions, outpacing all other sectors, including energy production. Within transportation, personal passenger vehicles account for 79% of greenhouse gas (GHG) emissions, and strategies to reduce carbon dioxide (CO_2) and other greenhouse gases include reducing both CO_2 emitted per mile and the overall miles traveled" (emphasis added) (p. 1).

As indicated in Caltrans' "Prioritization of Transportation Projects for Economic Stimulus with Respect to Greenhouse Gases, Final" (June 20, 2009), the Department states that "projects that increase capacity may or may not affect GHG emissions depending on the type of project. In general, projects that alleviate existing delays may reduce short-term GHG emissions but will likely have very little long-term GHG benefit since they do not decrease VMT in the long run. It is important to note that projects in currently approved RTP's [regional transportation plan] have primarily been selected and designed to address declines in travel mobility measures (e.g., reducing delay) that are projected to result from long-term population growth. Consequently, those projects that add capacity without reducing real VMT (i.e., resulting in shorter or fewer SOV trips) will not contribute to meeting mid-term and long-term GHG targets" (emphasis added) (pp. 6-7).

As indicated in Table 5 (Project Categories and their Anticipated Long-Term Relationship to GHG Emissions), Caltrans qualitatively organized typical projects into "added capacity projects" (those projects that improve operational efficiency, thus indirectly adding capacity, as well as those projects that directly add capacity though lane or transit/HOV improvements) and "non-capacity added projects" (projects that rehabilitate, maintain, or preserve conditions of pavement). For added-capacity projects, the likelihood of GHG reductions declines and the likelihood of increased GHG emissions rises as mixed-flow solutions are implemented. Based on Caltrans own analysis, of all the transportation improvement projects identified, the proposed action has the greatest likelihood of increasing GHG emissions and the least likelihood of reducing GHG emissions.

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Table 5
Project Categories and their Anticipated Long-Term Relationship to GHG Emissions

Added Capacity Projects	Example Projects (in no particular order)	GHGs	
Mixed Flow Capacity Addition	Additional lanes (incl certain types of auxiliary) Tolled roads (mixed use)	Increasing likelihood of GHG increases →	← Increasing likelihood of GHG reductions
Traffic Operations	Operational improvements (ramp metering, signal improvements, turn lanes, auxiliary lanes) Traffic management systems Truck lanes (climbing, separated flow) Elimination of at-grade rail crossings		
Enhancement and Capacity Additions for Alternative Modes	Bike facilities Pedestrian facilities Park & Ride (carpool) Tolled lanes (high occupancy restricted) HOV lane additions/enhancements		
Transit	Rail Bus Ferry Transit infrastructure (stops, waiting areas) Bus rapid transit Park & Ride (transit)		
Non-Capacity Added Projects	Example Projects (in no particular order)	GHGs	
Maintenance, Rehabilitation, Preservation	Pavement preservation Pavement rehabilitation and maintenance Stormwater/drainage	Long-term neutral Impacts without innovation	
Neutral/Other	Bridge preservation Bridge rehabilitation Bridge replacement Facilities preservation Facilities rehabilitation Facilities replacement Damage restoration Safety improvements Landscaping, Sound Walls		

Source: California Department of Transportation, Prioritization of Transportation Projects for Economic Stimulus with Respect to Greenhouse Gases, Final, June 20, 2009, Table 1 (Project Categories and their Anticipated Long-Term Relationship to GHG Emissions), p. 8.

Information from Caltrans' independent analysis serves to refute other statements presented in the DEIR/S, namely that "[t]o the extent that a project relieves congestion by enhancing operations and improving travel times in high-congestion travel corridors, GHG emissions, particularly CO_2, may be reduced" (p. 4-55). In support of that statement, the Lead Agency includes a graph (Figure 4.2) extracted from a single-page article (i.e., "Traffic Congestion and Greenhouse Gases: Matthew Barth and Konok Boriboonsomsin," p. 4-55) and included a web-link to that article. Noticeably absent from the DEIR/S analysis and the referenced graphic are the authors' own admonition. The cited study notes that different traffic management techniques (i.e., congestion mitigation increasing average traffic speeds from those under heavily congested conditions; speed management reducing high speeds to safer speeds; and traffic smoothing reducing the number and intensity of accelerations and decelerations) could affect CO_2 emissions "as long as travel demand does not increase because of the improved traffic flow." The Lead Agency's own analysis (e.g., "the proposed project is intended to add capacity ", p. 3.6-10) refutes any emission reduction benefits. 75

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In its substantially broader analysis of GHG emissions, Caltrans concluded: "Traditional transportation-related air quality assessments focus on several principles, some of which remain applicable in the GHG context. A key concept is the relationship, for a given point in time, between vehicle emissions and travel speeds. In general, stop-and-go traffic produces high emission rates for virtually all vehicle types and traditional urban-scale pollutants such as hydrocarbons (HC), carbon monoxide (CO), and oxides of nitrogen (NOx). Per-vehicle emissions of urban-scale pollutants decline as traffic flow improves until, at very high speeds (e.g., 60+ mph), emission rates increase again. Vehicular CO_2 emissions follow a similar pattern. Road congestion that significantly reduces speeds or increases engine loads will also increase emissions. A key disconnect between traditional urban-scale pollutants and CO_2, however, lies in the understanding that although emissions of traditional pollutants of interest (HC, CO, and NOx) have declined substantially in recent decades as vehicle technology has improved, CO_2 emissions are governed by fuel economy, which has remained static over time. Thus, holding fuel consumption per mile driven as a constant, any increase in VMT results in increased CO_2" (p. 9).

The above referenced study further notes that "[t]he literature separates short and long-term impacts, and identifies factors that influence how new capacity alters travel speeds, trip generation, mode choice, travel distance, and time-of-day travel choices. The National Research Council [NRC] found major highway capacity additions increase emissions over the long run, particularly in growing, less developed areas where capacity increases attract further development. NRC noted that in developed areas, traffic flow improvements such as left turn lanes and signal timing may reduce emissions without risking related traffic growth. More recent literature reviews also document a positive correlation between increased lane-miles of capacity and increased daily VMT; California-based analyses corroborate this link.[Footnote] Increased travel activity contradicts the AB 32 Scoping Plan, which envisions that by year 2030, control strategies will achieve an eight percent reduction in per-capita VMT from BAU [business as usual] conditions" (Project Category Description, Mixed Flow Capacity Addition).

The "footnote" cited by Caltrans is to Robert Cervero's and Mark Hansen's "Induced Travel Demand and Induced Road Investment, A Simultaneous Equation Analysis" (Journal of Transport Economics and Policy, Volume 36, Part 3, September 2002, pp. 469-490) (Attachment C). In that article Professor Cervero (Institute of Transportation Studies, Department of City and Regional Planning, University of California, Berkeley) and Professor Hansen (Institute of Transportation Studies, Department of Civil and Environmental Engineering, University of California, Berkeley) present simultaneous models predicting induced travel demand and induced road investment.

Based on a review of the literature, the accredited authors concluded that recent research is "broadly consistent with the assertions, made several decades ago, of two noted transport policy analysts, Anthony Downs and Wilfred Owen. Downs, argued that expanding congested freeways triggers a phenomenon he termed 'triple convergence' in which drivers shift their routes, times of travel, and modes in order to exploit the new capacity, thereby generating similar levels of congestion (at least during peak periods) as before. Downs' interpretation led Owen to conclude: 'Meeting the ever-growing needs for transport capacity has often proved to be a fruitless task, as the persistence in urban traffic jams attest.' In the United States, the contention that 'you can't build your way out of traffic congestion' has become the rallying cry of the Surface Transportation Policy Project (STPP). In a recent report based on 15 years of data across 70 US metropolitan areas, STPP concluded that regions that invested heavily in expanding road capacity fared no better in easing congestion than areas that did not" (p. 470).

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As defined therein, "'induced travel' reflect[s] all changes in trip-making that are unleashed by a road improvement: (1) newly generated trips (that is, latent demand); (2) longer journeys; (3) changes in modal splits; (4) route diversions; and (5) time-of-day shifts. 'Induced demand' is more restrictive, encompassing only the first three of these components, thereby representing only newly added VMT within a region" (p. 470). Based on their empirical findings, the authors found that modeling results were "consistent with theory and much of the empirical literature to date. Notably, a strong short-term travel induced demand effect was uncovered from the 22 years of county-level California data: from the elasticity estimate, every 10 per cent increase in lane-mile capacity was associated with a 5.9 per cent increase in VMT, controlling for other factors including the simultaneous influences of road supply and demand. However, the results also reveal a significant induced-investment effect, with lane-mile additions significantly explained by VMT: a 10 per cent increase in VMT was associated with a 3.3 per cent increase in lane-mile additions, all else being equal and simultaneous influences accounted for. Thus, 'induced demand' effects were found to be stronger than 'induced investment' effects, although not overwhelmingly so. Regarding the polarized debate that swirls around induced travel demand, as often is the case with ideological differences, there is some truth in both sides of the argument. That is, California experiences suggest that road investments induce travel demand and traffic growth induces road investments. The former dynamic appears to be stronger than the latter; however, both sets of relationships are statistically significant" (emphasis added) (pp 478-481).

In Environmental Council of Sacramento v. California Department of Transportation, Case No. 07CS00967 (July 15, 2008) (Attachment D), in a case involving highway improvements similar to those now being proposed, the court stated that "'[i]nduced demand is broader than a project's 'growth inducing impacts' in that a highway project's 'growth inducing impacts' may contribute to 'induced demand,' but 'induced demand' also may occur even if the project will not have an 'growth inducing impacts'" (Minute Order, p. 9). As noted in the court record "Will Kempton" (Caltrans Director) was expressly named in the suit (e.g., 'A peremptory of writ of mandate directed to Respondents California Department 12 of Transportation and Director Will Kempton shall issue under seal of this Court, ordering Respondents to do all of the following: (a) Within 30 days from service of this writ of mandate, Respondents shall vacate and set aside the June 21, 2007, certification of the Final Environmental Impact Report. . .(b) Respondents shall not reapprove the Project unless and until Respondents have certified an environmental impact report that complies with CEQA and the CEQA Guidelines, and otherwise complied with CEQA," emphasis added, p. 2). Since that same "Will Kempton" is now the OCTA's Chief Executive Officer, clearly the OCTA was intimately familiar with the case, the court's admonishment, and the requirements for a legally adequate CEQA document. Since the issues and defects raised in the above case are directly applicable to the proposed actions and its CEQA compliance obligations, each of the assertions and allegations raised by the Environmental Council of Sacramento, as presented therein, are incorporated herein by reference.

As specified in CEQ's "Memorandum to Heads of Agencies on the Application of the National Environmental Policy Act to Proposed Federal Actions in the United States with Transboundary Effects" (Council on Environmental Quality, Chair, July 1, 1997) (CEQ Memorandum): "Neither NEPA nor the Council on Environmental Quality's regulations implementing the procedural provisions of NEPA define agencies' obligations to analyze effects of actions by administrative boundaries. Rather, the entire body of NEPA law directs federal agencies to analyze the effects of proposed actions to the extent they are reasonably foreseeable consequences of the proposed action, regardless of where those impacts might occur. Agencies must analyze indirect effects, which are caused by the action, are later in time or farther removed in distance,

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but are still reasonably foreseeable, including growth-inducing effects and related effects on the ecosystem, as well as cumulative effects" (pp. 3-4).

Despite the Department's claim that the proposed action will decrease congestion, there exists substantial evidence that the proposed improvements will actually increase the number of vehicles (as measured, indirectly, by increased total VMT), thus increasing congestion. As indicated in Tables 3.1.6-3 (I-405 Mainline Estimated Daily Vehicle Miles of Travel) and 3.2.6-4 (Vehicle Miles Traveled) in the DEIR/S, increased daily VMT attributable to each of the three build alternatives is presented in Table 6 (I-405 Mainline Estimated Daily Vehicle Miles of Travel). From this, it becomes evident that the proposed action does not get motorists out of their vehicles and onto public transportation. In fact, the proposed action would appears to have the oppose affect. Similarly, because each of the three build alternatives increase VMT over the No Build Alternative, the DEIR/S own evidence (e.g., total VMT is not the same under the No Build Alternative and the three build alternatives under both 2020 and 2040 conditions), as summarized in Table 7 (Induced Travel Demand in Increased Vehicle Miles Traveled), demonstrates that the proposed action both diverts traffic and induces travel demand (e.g., growth inducing). 76 77

Table 6
I-405 Mainline Estimated Daily Vehicle Miles of Travel

Segment	2009	2020				2040			
		No Build	Alt 1	Alt 2	Alt 3	No Build	Alt 1	Alt 2	Alt 3
SR-73 to Brookhurst	1,053,000	1,142,000	1,225,000	1,283,000	1,314,000	1,204,000	1,341,000	1,437,000	1,492,000
Brookhurst to SR-22 East	1,796,000	1,929,000	2,089,000	2,167,000	2,195,000	2,013,000	2,244,000	2,405,000	2,460,000
SR-22 East to I-605	1,214,000	1,325,000	1,420,000	1,486,000	1,492,000	1,401,000	1,558,000	1,670,000	1,679,000
Total	4,063,000	4,396,000	4,714,000	4,936,000	5,001,000	4,618,000	5,143,000	5,512,000	5,631,000

Source: California Department of Transportation, Draft Environmental Impact Report/Environmental Impact Statement – San Diego Freeway Improvement Project, Orange and Los Angeles Counties, California, SCH #2009091001, Table 3.1.6-3 (I-405 Mainline Estimated Daily Vehicle Miles of Travel), p. 3.1.6-22)

Table 7
Induced Travel Demand in Increased Vehicle Miles Traveled

Total	4,063,000	4,396,000	4,714,000	4,936,000	5,001,000	4,618,000	5,143,000	5,512,000	5,631,000
Induced Demand			+318,000	+540,000	+605,000		+525,000	+894,000	+1,013,000

Source: California Department of Transportation, Draft Environmental Impact Report/Environmental Impact Statement – San Diego Freeway Improvement Project, Orange and Los Angeles Counties, California, SCH #2009091001, Table 3.1.6-3 (I-405 Mainline Estimated Daily Vehicle Miles of Travel), p. 3.1.6-22)

As indicated therein, when compared to the No Build Alternative, Alternative 1 will add 525,000 VMT, Alternative 2 will add 894,000 VMT, and Alternative 3 will add 1,013,000 VMT. As indicated in the PSR, with regards to automobile accidents and severity, the "average rate Statewide," as measured per million vehicle miles, is reported to be "0.006 fatal," "0.38 fatal plus injury," and "1.24 total" (Table 4, p. 17). Based on a projected daily increase of 1,013,000 vehicle miles, undisclosed is the projection that the three build alternatives will produce an estimated 2.2 annual fatalities, 140.6 annual fatalities plus injuries, and 458.8 annual accidents.

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Although representing a large projected increase in total vehicle miles traveled, the estimates appear unrealistically low in light of the USEPA's projection that between 2007 and 2030, VMT will increase by 45.6 percent within the Los Angeles-Riverside-Orange Metropolitan Statistical Area (MSA) (http://www.epa.gov/ttn/naaqs/ozone/areas/vmt/vmtcagf.htm). The reasons for any substantial deviation should be fully explained.

As indicated by the FHWA's "Multi-Pollutant Emissions Benefits of Transportation Strategies, Final Report" (November 14, 2006): "Transportation is a major source of air pollutant emissions. Nationally, on-road transportation sources are responsible for 27 percent of VOCs [volatile organic compounds] emissions, 35 percent of NOx [nitrogen oxides] emissions, and 55 percent of CO [carbon monoxide] emissions" (p. 1-1). The FHWA further noted:

> Strategies that reduce vehicle miles traveled (assuming no other effects) will reduce emissions of all pollutants. Each mile that a vehicle travels, it emits more pollution, so reducing vehicle travel mileage will reduce emissions of all seven gases [CO, particulate matter (PM_{10} and $PM_{2.5}$), NO_X, VOCs, sulfur oxides (SO_X), and ammonia (NH_3)]. However, in conducting emissions analysis, it is important to examine not only the reduction in vehicle miles traveled (VMT), but also the reduction in the number of vehicle trips. During the first portion of a vehicle trip, when the vehicle engine starts cold, the vehicle emits some pollutants at a much higher rate than during the remainder of the trip, since emissions control technology does not operate as efficiently as when the vehicle is warm. Some strategies reduce VMT by shortening vehicle trip lengths but do not reduce the number of vehicle trips. For instance, development of a park-and-ride lot may reduce VMT by encouraging carpools, but the park-and-ride lot generally does not reduce vehicle cold starts, only running emissions, since individuals must drive to the lot in the morning. On the other hand, most bicycle/pedestrian projects reduce vehicle trips entirely, and will eliminate both cold start and running emissions. Consequently, VMT-reducing strategies may result in different percentage reductions in different pollutants, depending on whether or not vehicle trip cold starts are reduced (p. 2-1).

The proposed action produces the "double whammy" of both increasing VMT and, by promoting SOVs, increasing the number of total vehicle trips. In addition, the projected increase of VMT under each of the three build alternatives results in increased consumption of gasoline and other petroleum products. As reported in the USEPA's "Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2010" (April 15, 2012), the USEPA conclude: **78**

> The transportation end-use sector accounted for 1,772.5 Tg CO_2 Eq. [teragrams of CO_2 equivalent] in 2010, which represented 33 percent of CO_2 emissions, 23 percent of CH_4 emissions, and 48 percent of N_2O emissions from fossil fuel combustion, respectively. . .Among domestic transportation sources, light duty vehicles (including passenger cars and light-duty trucks) represented 61 percent of CO_2 emissions, medium-and heavy-duty trucks 22 percent, commercial aircraft 7 percent, and other sources 10 percent. Passenger car CO_2 emissions increased by 20 percent from 1990 to 2010, light-duty truck. . . From 1990 to 2010, transportation emissions rose by 19 percent due, in large part, to increased demand for travel and the stagnation of fuel efficiency across the U.S. vehicle fleet. The number of vehicle miles traveled by light-duty motor vehicles (passenger cars and light-duty trucks) increased 34 percent from 1990 to 2010, as a result of a confluence of factors including population growth, economic growth, urban sprawl, and low fuel prices over much of this period. . .

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> Almost all of the energy consumed for transportation was supplied by petroleum-based products, with more than half being related to gasoline consumption in automobiles and other highway vehicles. Other fuel uses, especially diesel fuel for freight trucks and jet fuel for aircraft, accounted for the remainder. The primary driver of transportation-related emissions was CO_2 from fossil fuel combustion, which increased by 20 percent from 1990 to 2010 (p. 3-13).

As indicated in the DEIR/S, "all three build alternatives would result in increased energy usage" (p. 3.2.8-9). Specifically: (1) "Alternative 1 would result in the annual consumption of approximately 167,069 barrels more crude oil than the No Build Alternative" (p. 3.2.8-5); (2) "Alternative 2 would result in the consumption of approximately 284,212 barrels more crude oil than the No Build Alternative" (p. 3.2.8-6); and (3) "Alternative 3 would result in the consumption of approximately 322,589 barrels more crude oil than the No Build Alternative" (p. 3.2.8-6).

The DEIR/S further states: (1) "The future amount of crude oil use associated with the construction and maintenance of Alternative 1 is estimated to be approximately 15.05 million barrels. Compared to the No Build Alternative, there would be no indirect energy savings. This demand would be partially offset by long-term per-vehicle energy savings in the corridor due to improved traffic flows under Alternative 1" (p. 3.2.8-8); (2) "The future crude oil consumption for Alternative 2 is estimated to be approximately 16.12 million barrels. Compared to the No Build Alternative, there would be no indirect energy savings. This demand would be partially offset by long-term per-vehicle energy savings in the corridor due to improved traffic flows under Alternative 2." (p. 3.2.8-8); and (3) "The future crude oil consumption for Alternative 3 is estimated to be approximately 16.45 million barrels. The overall energy consumption for Alternative 3 would be the highest of all three build alternatives. Compared to the No Build Alternative, there would be no indirect energy savings. This demand would be partially offset by long-term per-vehicle energy savings in the corridor due to improved traffic flows under Alternative 3" (p. 3.2.8-8).

By even inferring the unproven existence of "long-term per-vehicle energy savings," the Lead Agency seeks to skew the more salient point that, under all build alternatives, a substantial increase in "future crude oil consumption" will occur and, with it, a corresponding increase in GHG emissions. Similarly, with the exception of the limited increase in the total number of vehicles utilizing the HOV/HOT lanes, "improved traffic flow" is a myth. Under all scenarios and both pre-project and post-project conditions, LOS "F" conditions will remain in all GP lanes during peak-hour periods. **79**

4.0 I-405 IMPROVEMENT PROJECT

As indicated in Caltrans' RCR, "Interstate 405 (I-405) also known as the San Diego Freeway has 24.18 miles located in Orange County and 48.2 miles located in Los Angeles County" (RCR, Summary). In contrast, the DEIR/S states that "[t]he San Diego Freeway (I-405) is generally a north-south route with 24 miles in Orange County and 48 miles in Los Angeles County" (p. 2-1). As such, it is unclear as to the precise and level of accuracy with which the DEIR/S analyzes or describes the proposed action and its potential environmental effects.

As indicated in the NOI, "The proposed project covers approximately 14 miles" (p. 2). Similarly, the DEIR/S notes that the "entire" length of the "express lanes" is only 14 miles (e.g., "It is anticipated that toll amounts to use the entire 14 miles of the proposed I-405 Express Lanes from SR-73 to I-605 would be similar," p. 2-20). Also, the Traffic Study states that "[t]he

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proposed project covers a distance of approximately 14 miles along I-405 between SR-73 and I-605" (p. 1-3). In an apparent contradiction, the DEIR/S states that the project covers "approximately 16 miles" (pp. title page and 1-23). In further contradiction, the AQR described the project as either consisting of a "15-mile corridor length" (AQR, p. 51) or "cover[ing] a distance of approximately 14 miles" (AQR, PM Conformity HOT Spot Analysis, August 1, 2007, unpaginated). Although not a large distinction, these glaring difference regarding a fundamental aspect of the proposed action points to a lack of internal inconsistency with regards to the manner in which the project is described and suggests the existence of an inconsistency in which the project is analyzed. **80**

Of more significance, however, is the possible misrepresentation of the three build alternatives. For example, as indicated in correspondence from Will Kempton, OCTA's Chief Executive Officer to OCTA's Regional Planning and Highway Committee (Subject: Update on the Interstate 405 Improvement Project Alternatives, Business Models, and Delivery Option), dated April 16, 2012, the CEO noted that "Alternative 3 is approximately two miles longer than the other two alternatives" (p. 2). That difference is neither identified nor analyzed in the DEIR/S. From all these conflicting statements, it is not possible to accurately determine the length of any of the three build alternatives. **81**

In addition, internal inconsistencies have been identified throughout the DEIR/S. For example, the AQR states that "Alternative 1 is fully funded and is in the 2008 Regional Transportation Plan" (p. 73). Conversely, the DEIR/S notes that "[f]ull funding has not been identified for any of the proposed build alternatives and remains an unresolved issue" (emphasis added) (p. S-39). **82**

As stipulated under Section 15123(b) of the State CEQA Guidelines, EIRs must include "[a]reas of controversy known to the lead agency including issues raised by agencies and the public" and "[i]ssues to be resolved including the choice among alternatives and whether or how to mitigate the significant effects." Since neither Caltrans nor the OCTA have presented a viable financing structure demonstrating the feasibility of any of the three build alternatives (thus allowing for public discussion and debate) and/or demonstrating the ability of either agency to effectuate any of the build alternatives or fund the "efforts" and/or "measures" identified therein, the Lead Agency has presented a legally inadequate CEQA analysis.

4.1 Orange County Transportation Authority Measure M/M2

As indicated in the DEIR/S: "A large portion of the funding for the proposed project is included in Orange County's Renewed Measure M transportation sales tax initiative (countywide half-cent sales tax) funding program. The Renewed Measure M (Measure M2) Program was authorized by Orange County voters in November 2006, and it began in 2011. The Measure M2 Program allocates sales tax revenues to specific Orange County, transportation improvement projects in three major areas – freeways, street, and roads, and transit. The Measure M2 Program, which is a 30-year $11.8 billion investment program designed to improve Orange County transportation, contains language that commits funding for improvements to the I-405 corridor and requires any arterial overcrossing replacements associated with widening I-405 to meet OCTA's "Master Plan of Arterial Highways" (MPAH) standards. Project K [San Diego Freeway (I-405) Improvements between the I-605 Freeway in Los Alamitos area and Costa Mesa Freeway (SR-55)] in Attachment A of the ordinance establishing the Measure M2 Program provides for improvements on I-405 that would "add new lanes to the San Diego Freeway [I-405] between I-605 and SR-55, generally within the existing right-of-way. The project will make

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best use of available freeway property, update interchanges and widen all local overcrossings according to city and regional master plans" (p. 1-17 and 18).

4.1.1 Measure M

As indicated in the "Orange County Local Transportation Authority Ordinance No. 2" (Amended September 23, 1991, November 25, 1991, May 23, 1994, May 13, 1996, June 9, 1997, December 10, 2001, September 13, 2004), as signed on August 2, 1990: "The purpose of this measure is to improve the quality of life, relieve traffic congestion, and improve air quality in Orange County" (emphasis added) (p. 9). Absent from the DEIR/S is any indication that the "purpose" of the proposed action includes improving the "quality of life" and "air quality." Why was that stated purpose not explicitly included in the project description? **83**

As specified therein, the "Ordinance No. 2" stipulates that the OCTA shall accomplish that stated purpose by, among other things, "[e]xpanding the present Los Angeles to San Diego commuter rail service throughout Orange County," by "[i]ncreasing transit service and providing discount fares for senior citizens and the disabled," and by "[r]equiring that any proposed change in the amount of funds for rail transit, freeway, regional and local street improvement expenditures be brought back to the voters for their approval" (p. 10). How does imposing a toll on freeway use reduce transportation costs for senior citizens and the disabled? Based on that language, does the Lead Agency concede that any expenditure about the "$500 million dollars" specified therein requires voters' consent? **84**

Included in "Ordinance No. 2" was the "Orange County Division, League of California Cities Countywide Traffic Improvement and Growth Management Program: Countywide Growth Management Plan Component" (Revised June 15, 1989, Amended September 23, 1991, Amended May 23, 1994). As stipulated therein, "[t]he goals of the Traffic Improvement and Growth Management Program shall be to: [1] Outline each agency's plans and efforts to develop multi-jurisdictional traffic solutions through well-defined cooperative planning process; [2] Specify traffic level of service standards; [3] Promote alternative forms of transportation and overall system efficiency by maximizing use of the existing transportation network through Transportation Demand Management (TDM); [4] Provide funding for construction and maintenance of street, road and highway facilities; [5] Require a locally collected and administered traffic mitigation fee to guarantee that new development pays its fair share toward dealing with traffic generated by the new development; [6] Foster a better balance of jobs and housing and attempt to reduce the length of commuter trips through careful planning; [7] Provide that local jurisdictions, where applicable, establish performance standards for fire, police, library, flood control, and other infrastructure services based on local criteria; [8] Require the phasing of new development to insure that service level goals are achieved; [9] Envisions the creation of a deficient intersections program to promote funding matches between local fees and proceeds from the sales tax corrected deficiencies."

How does the Lead Agency's designation of the project "corridor" and failure to consider the adjoining segment of the I-405 Freeway in Los Angeles County fulfill the goal of promoting "multi-jurisdictional traffic solutions"? How does the DEIR/S failure to consider any performance-based alternatives allow specificity of "traffic level of service standards"? How does the Lead Agency's rejection of the "TSM/TDM/Mass Transit Alternative" serve to "promote alternative forms of transportation"? **85**

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With the exception of "Santa Ana Freeway Improvements for the San Diego Freeway (I-405) to the Los Angeles County Line," "San Diego Freeway (I-5) from the I-5/I-405 Confluence to San Clemente," and "I-4/I-405 Interchange," the proposed action does not appear to be a part of the "Orange County Freeway Project Descriptions" presented in Measure M. Excluding reference to any subsequent inclusion in Measure M2, where in Measure M is the "I-405 Improvement Project" identified and described? **86**

4.1.2 Measure M2

As indicated in the OCTA's "Renewed Measure M Transportation Investment Plan," accompanying OCTA's "Ordinance No. 3," as adopted on July 24, 2006: "The Ordinance is not intended to modify, repeal or alter the provisions of Ordinance No. 1, and shall not be read to supersede Ordinance No. 2. The provisions of the Ordinance shall apply solely to the transactions and use tax adopted herein" (p. 8). The following description of "Project K (San Diego Freeway [I-405] Improvements between the I-605 Freeway in Los Alamitos area and Costa Mesa Freeway [SR-55])" was provided therein:

> Add new lanes to the San Diego Freeway between I-605 and SR-55, generally within the existing right-of-way. The project will make best use of available freeway property, update interchanges and widen all local overcrossings according to city and regional plans. The improvements will be coordinated with other planned I-405 improvements in the I-405/SR-22/I-605 interchange area to the north and the I-405/SR-73 improvements to the south. The improvements shall adhere to recommendations of the Interstate 405 Major Investment Study (as adopted by the Orange County Transportation Authority Board on October 14, 2005) and will be developed in cooperation with local jurisdictions and affected communities. Today, I-405 carries about 430,000 vehicles daily. The volume is expected to increase by nearly 23 percent, bringing it up to 528,000 vehicles daily by 2030. The project will increase freeway capacity and reduce congestion. Near-term regional plans also include the improvements to the I-405/SR-73 interchange as well as a new carpool interchange at Bear Street using federal and state funds. The estimated cost for these improvements to the I-405 is $500.0 million (emphasis added) (p. 13).
>
> Freeway Projects will be built largely within existing rights of way using the latest highway design and safety requirements. However, to the greatest extent possible within available budget, Freeway Projects shall be implemented using Context Sensitive Design, as described in the nationally recognized Federal Highway Administration (FHWA) Principles of Context Sensitive Design. Freeway projects will also be planned, designed and constructed with consideration for their aesthetic, historic and environmental impacts on nearby properties and communities using such elements as parkway style designs, locally native landscaping, sound reduction and aesthetic treatments that complement the surroundings. . .At least five percent (5%) of the Net Revenues allocated for Freeway Projects shall fund Programmatic Mitigation for Freeway Projects (emphasis added) (p. 4-5).

Ordinance 3 further noted that "Freeway Projects will be planned, designed and constructed using a flexible community-responsive and collaborative approach to balance aesthetics, historic and environmental values with transportation safety, mobility, maintenance and performance goals" (p. B-5). Absent from the DEIR/S are any statements of OCTA's adherence to the recommendations of the "Interstate 405 Major Investment Study," evidence of receptivity

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to Seal Beach's expressed concerns, or funding commitments to environmental mitigation within the City. Although "Alternative 4 is a lower-cost option to provide localized improvements within the I-405 corridor that could be fully funded and implemented with available revenue from Orange County's Renewed Measure M transportation sales tax initiative" (p. 2-28), absent from the DEIR/S is the analysis of any alternative designed "within [the] available budget."

What is "Context Specific Design" and how would the principles exposed therein relate to the planned relocation of the existing soundwalls along Almond Avenue? What is mean by "designed and constructed with consideration for their aesthetic, historic and environmental impacts on nearby properties and communities" in the proposed relocation of the existing soundwalls along Almond Avenue? How does the Lead Agency's self-imposed "independent utility and logical termini," excluding consideration of those freeway segments located to the north and south of the proposed action, conform to the mandate that "improvements will be coordinated with other planned I-405 improvements in the I-405/SR-22/I-605 interchange area to the north and the I-405/SR-73 improvements to the south"? **87**

Measure R was approved by Los Angeles County voters in November 2008 and increased sales taxes in Los Angeles County by one-half cent for 30 years in order to fund transportation projects and improvements. The ballot measure created the "Traffic Relief and Rail Expansion Ordinance" (effective January 2, 2009) (http://www.metro.net/measurer/images/ordinance.pdf) which included an expenditure plan, defined specific projects for funding, established a timeframe for the availability of funds, and expected level of funding.

Absent from the DEIR/S is any reference to or discussion of the Gateway Cities Council of Governments' "I-605 Congestion 'Hot Spots' Feasibility Analysis," as funded under Los Angeles County Measure R. That study is analyzing congestion improvement alternatives for various "hot spots" along the I-605, SR-91, I-405 and I-105 Freeways in Los Angeles County, as well as the surrounding arterial street network and includes improvements to freeway-to-freeway interchanges, additional freeway GP lanes, and arterial street improvements. How is the Lead Agency's failure to even identify the existence of that study and that ordinance consistent with Measure M2's requirement that freeway improvements be coordinated? **88**

To the extent that Caltrans and/or the OCTA assert that the project is publicly mandated (as a result of the passage of Measures M/M2), then, at a minimum, the Lead Agency must: (1) define the project's P&N and objectives as the fulfillment of that mandate; (2) include "Project K" as one of the alternatives examined in detail in the DEIR/S; and (3) identify "Project K" as the "preferred" alternative. The fact that none of those actions in fact occurred negates any assertion of alleged connectivity between the proposed action and the voters' directive. By defining the proposed action's P&N and objective as something other than the voters' directive and by subsequently eliminating "Project K" (i.e., Alternative 4) because it "would not meet the project purpose and was eliminated from further consideration" (p. 2-4) appear to suggest that a State bureaucracy believes that it is not bound by the majority of the will of the County's voters. **89**

Numerous City's residents have stated that the introduction of HOT lanes along the I-405 Freeway is inconsistent with the provisions of Measures M/M2. While Ordinance Nos. 2 and 3 include extensive references to "freeways," there is not a single reference to "toll" roads, to "HOT lanes," or to "express lanes." The City has reviewed those ordinances and concurs that no such references exist therein. Is the Lead Agency asserting that "HOT lanes" and/or "express lanes" are either explicitly or implicitly authorized thereunder and that Measures M/M2 funds can be used for the development of any form of pay-for-use roadway system? **90**

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4.2 Department-Specified Purpose and Need

Although purportedly the basis for the initiation of improvements to the I-405 Freeway, absent from the Lead Agency's declared P&N is any reference to Measures M/M2.

As indicated in FHWA's "NEPA and Transportation Decisionmaking – The Importance of Purpose and Need in Environmental Documents" (September 18, 1990): "The purpose and need section is in many ways the most important chapter of an environmental impact statement (EIS). It establishes why the agency is proposing to spend large amounts of taxpayers' money while at the same time causing significant environmental impacts. A clear, well-justified purpose and need section explains to the public and decision makers that the expenditure of funds is necessary and worthwhile and that the priority the project is being given relative to other needed highway projects is warranted. In addition, although significant environmental impacts are expected to be caused by the project, the purpose and need section should justify why impacts are acceptable based on the project's importance. As importantly, the project purpose and need drives the process for alternatives consideration, in-depth analysis, and ultimate selection. The Council on Environmental Quality (CEQ) regulations require that the EIS address the 'no-action' alternative and 'rigorously explore and objectively evaluate all reasonable alternatives'" (emphasis added).

On May 12, 2003, the CEQ issued a guidance letter to The Honorable Norman Y. Mineta, Secretary of the Department of Transportation concerning the role that the P&N plays in the context of compliance with CEQ's regulations under NEPA. As indicated therein: "The requirement for a discussion of 'purpose and need' in an environmental impact statement under the CEQ regulations is to 'briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action' (40 C.F.R. §1502.13). This discussion is important for general context and understanding as well as to provide the framework in which 'reasonable alternatives' to the proposed action will be identified. The lead agency - the federal agency proposing to take an action - has the authority for and responsibility to define the 'purpose and need' for purposes of NEPA analysis. This is consistent with the lead agency's responsibilities throughout the NEPA process for the 'scope, objectivity, and content of the entire statement or of any other responsibility' under NEPA" (p. 1).

With regards to CEQA, a project description shall include a "statement of objectives sought by the proposed project. A clearly written statement of objectives will help the lead agency develop a reasonable range of alternatives to evaluate in the EIR. . .The statement of objectives should include the underlying purpose of the project" (14 CCR 15124[b]).

Section 6002 of SAFETEA-LU established an "environmental review process" that is required to be followed for all environmental impact statements prepared for highway or transit projects that require approval of the USDOT. The FHWA's and the FTA's SAFETEA-LU Guidance contains detailed guidance regarding implementation of Section 6002. As defined therein, the term "transportation project" means any highway project, any public transportation capital project, and any multi-modal project that requires an approval from FHWA or FTA. As indicated in the DEIR/S: "Authority to operate a toll facility on the Interstate Highway System would be required from FHWA" (p. 1-19). In addition, as specified under Section 6002(f) therein, "[t]he statement of purpose and need shall include a clear statement of the objectives that the proposed action is intended to achieve, which may include - (A) achieving a transportation objective identified in an applicable statewide or metropolitan transportation plan; (B) supporting land use, economic development, or growth objectives established in applicable Federal, State, local, or tribal plans;

GL14 Continued

and (C) serving national defense, national security, or other national objectives, as established in Federal laws, plans, or policies."

As indicated in the NOI, "Caltrans, as the delegated National Environmental Policy Act (NEPA) agency, in cooperation with the Orange County Transportation Authority (OCTA), will prepare an environmental impact statement (EIS) on a proposal for a highway improvement project in Orange County, California" (p. 2) and "[t]he purpose of the project, as currently defined, is to increase capacity, improve traffic and interchange operations, and enhance safety on 1-405 between SR-73 and 1-605" (pp. 2-3). As indicated in the NOP, Caltrans "will act as the lead agency and will prepare an environmental impact report [EIR] for the project" and "Caltrans, in cooperation with the OCTA, proposes to increase capacity, improve traffic and interchange operations, and enhance safety by widening the segment of the I-405 from SR-73 to I-605" (p. 1). The "Public Scoping Notice" states that "Caltrans is the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) Lead Agency and the OCTA is the Funding Agency and a Responsible Agency under CEQA" (p. 1).

From those notices, it would appear that the purpose of the project is consistently defined and that the resulting DEIR/S would consistently replicate that purpose. However, as indicated in the DEIR/S, the Department subsequently states that "[t]he project purpose is a set of objectives the project is intended to meet. The project need is the range of transportation deficiencies that the project was initiated to address. The purpose of the proposed action is to: [1] Reduce congestion; [2] Enhance operations; [3] Increase mobility, improve trip reliability, maximize throughput, and optimize operations; and [4] Minimize environmental impacts and right-of-way acquisition. In furtherance of the project's purpose, the following objective is then established by the Lead Agency: "To be consistent with regional plans and find a cost-effective early project solution for delivery" (p. S-1). Absent from the DEIR/S' list of project purposes and objectives is any reference to "increase capacity, improve traffic and interchange operations, and enhance safety." For some inexplicable reason, the purpose and objectives of the proposed action, as described in the Department's scoping documents, are substantially different from the purpose and objectives of the proposed action described in the DEIR/S (indicating a lack of continuity and consistency between the NOP/NOI and DEIR/S). 91 92

The P&N statement presented in the DEIR/S neither identifies the need for a specific funding source nor limited the range of design and development alternatives that could be formulated by the Department in response thereto (e.g., cost and other financial considerations are not included in the P&N). Similarly, absent from the P&N is any reference to Measure M/M2 and/or the representations that were make to the County's voters at the time of there passage.

As indicated in the Lead Agency's technical studies, the proposed action's purpose and objectives further differ from those presented in either the NOP/NOI and DEIR/S. For example, a similar but not totally consistent purpose statement is present in the "Traffic Study – San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties" (Caltrans, May 2011). As stated therein, "[t]he purpose of the project is to add capacity and reduce congestion on the general purpose and High Occupancy Vehicle (HOV) lanes along the entire I-405 corridor from SR-73 to I-605; enhance interchange operations; increase mobility, improve trip reliability, maximize throughput, and optimize operations; and enhance safety, all while minimizing right-of-way (ROW) acquisition and ensuring the financial viability of proposed improvements" (emphasis added) (p. 1-1).

GL14 Continued

In contrast, the CIA states that "[t]he purpose of the proposed action is to: [1] Add capacity and reduce congestion on the General Purpose (GP) and High Occupancy Vehicle (HOV) lanes along the entire I-405 corridor from SR-73 to I-605; [2] Enhance interchange operations; [3] Increase mobility, improve trip reliability, maximize throughput, and optimize operations; [4] Implement strategies that ensure the earliest project delivery; and [5] Enhance safety" (p. S-1). Also, "[t]he following objectives have been established to successfully complete the project while minimizing environmental impacts: [1] Minimize ROW acquisition; [2] Ensure financial viability; [3] Meet, at a minimum, the commitments of Orange County's Renewed Measure M transportation sales tax initiative to add capacity to the I-405 within the project area; [4] Maintain or improve future traffic performance within the corridor; and [5] Improve the corridor so as to ensure the facility is maintained as an effective link in the National Strategic Highway Network" (p. S-1 and 2).

As presented in the DEIR/S, a similar set of "purposes" and "objectives" is presented in the NSR (p. 2) and a similar "purpose" statement is presented in the "Initial Site Assessment – San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties" (Caltrans, March 2011) (ISA) (p. 8).

As illustrated in Table 8 (Lack of Consistencies in the Proposed Action's Stated Purpose and Objectives), ignoring the additional substantial differences presented in the "Interstate 405 Major Investment Study, Final Report" (OCTA, February 2006) (MIS) and in the "Project Study Report/Project Development Support" (Caltrans/OCTA, July 2008) (PSR/PDS), the NOI/NOP, DEIR/S, and accompanying technical studies are inconsistent with regards to the stated "purpose" and "objectives" of the proposed action. As a result, since there exists no single set of objectives that the project seeks to accomplish, under CEQA, it is not possible to formulate a "range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project" (14 CCR 15126.6[a]). Instead, although entirely within the Lead Agency's control, what is presented is a "moving target" which is provided without explanation why the project's stated "purpose" and "objectives" remain constantly in flux. Presented below is a summary of the constantly changing P&N and objectives of the proposed action. **93**

In addition, absent from the project's stated purposes and objective is any reference to "safety"; however, the DEIR/S subsequently states that "the proposed project is a transportation project within an urbanized transportation corridor designed to enhance public safety and relieve congestion" (pp. 4-4, 4-5, 4-10). As such, the DEIR/S is not even internally consistent as to what the proposed project seeks to achieve.

Assuming that "goals" and "objectives" are synonymous for the purpose of environmental compliance, in comparison, the "goals" formulated for the West County Connector (WCC), as presented in the WCC FEIR/S included: "[1] Improve mobility and reduce congestion in the SR-22/WOCC study area; [2] Maximize cost-effectiveness of the SR-22/WOCC improvements; [3] Minimize adverse and maximize beneficial environmental impacts to SR-22/WOCC communities; [4] Minimize negative and maximize positive economic impacts to SR-22/WOCC communities" (p. v). The substantive deviation among the two adjoining and interconnected projects is never explained.

GL14 Continued

Table 8
Lack of Consistencies in the Proposed Action's Stated Purpose and Objectives

	NOI/NOP	DEIR/S	Technical Studies[1]
Purpose	Increase capacity Improve traffic and interchange operations Enhance safety on I-405 between SR-73 and I-605	Reduce congestion Enhance operations Increase mobility, improve trip reliability, maximize throughput, and optimize operations Minimize environmental impacts and right-of-way acquisition	Add capacity and reduce congestion on the General Purpose and High Occupancy Vehicle lanes along the entire I-405 corridor from SR-73 to I-605 Enhance interchange operations Increase mobility, improve trip reliability, maximize throughput, and optimize operations Implement strategies that ensure the earliest project delivery Enhance safety
Objectives	None stated	To be consistent with regional plans and find a cost-effective early project solution for delivery	Minimize ROW acquisition Ensure financial viability Meet, at a minimum, the commitments of Orange County's Renewed Measure M transportation sales tax initiative to add capacity to the I-405 within the project area Maintain or improve future traffic performance within the corridor Improve the corridor so as to ensure the facility is maintained as an effective link in the National Strategic Highway Network

Footnotes:
1. California Department of Transportation and Parsons, Visual Impact Assessment – San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties, May 2011, p. 3.

Source: City of Seal Beach

In defining meaning, the court (California Oak Foundation v. Regents of the University of California [2010]) stated that "[t]he primary goal in interpreting any statute is to 'determine the Legislature's intent so as to effectuate the law's purpose' [Citation]. To this end, we 'give meaning to every word and phrase in the statute to accomplish a result consistent with the legislative purpose, i.e., the object to be achieved and the evil to be prevented by the legislation' [Citation]. If the statutory language is clear, we follow its plain meaning so long as an absurd or unintended consequence does not result [Citation]" (emphasis added). A plain reading of the Lead Agency's objective indicates that the "objective to be achieved" is consistency with regional plans and that the "evils to be prevented" are cost inefficiencies and delayed implementation.

If so defined, by failing to present a factual analysis of the proposed action's consistency with regional plans (e.g., Southern California Association of Governments, 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy, April 4, 2012), the Lead Agency has not provided its decision makers and other stakeholders with sufficient information to demonstrate compliance. By pursuing an implementation plan far in excess of available funding (e.g., "[f]ull funding has not been identified for any of the proposed build alternatives and remains an unresolved issue," p. S-39) rather than focusing on improvements that could be built for the currently available funding (e.g., "Alternative 4 proposed to provide localized improvements within the I-405 corridor that could be fully funded and implemented with available revenue from Orange County's Renewed Measure M transportation sales tax initiative," pp. 2-3 and 4), the Lead Agency has pursued a path that prevents attainment of its own self-described objective (i.e., "early project solution for delivery).

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It is noted that "Alternative 4," as referenced above, is not the same project as "MIS Alternative 4" identified in the MIS [405 Major Investment Study, Final Report] and purportedly carried forward by the Lead Agency as "Alternative 1" in the DEIR/S (e.g., "Only one build alternative, Alternative 1, which was MIS Alternative 4, has been retained as a viable alternative and is fully evaluated in this document," p. 2-3).

Because the Lead Agency concludes that new "Alternative 4 would neither provide additional capacity along the entire corridor nor enhance interchange operations," it would thus "not meet the project purpose and was eliminated from further consideration in this Draft EIR/EIS" (p. 2-4). Since it is the single objective of the proposed action "[t]o be consistent with regional plans and find a cost-effective early solution for delivery" (p. S-1), it is evident that the proposed actions and stated objective are misaligned and that the environmental analysis has been artificially manipulated toward another predetermined outcome.

Alternatively, since "consistency" (or conformity) with regional plans constitutes a pre-existing obligation for the commitment of Federal funds (e.g., 40 C.F.R. 93.104[d], 40 C.F.R. 93.109), to paraphrase the DEIR/S, the Lead Agency's sole objective is to "pursue the implementation of the proposed action or pursue the implementation of the proposed action faster."

Referencing SCAG's 2012 RTP/SCS: "A successful RTP creates opportunities for business, investment, and employment in Southern California. This plan does so by proposing over $500 billion of investment in the next 25 years" (p. 12).

Recognizing that these are austere economic times, it must be realistically assumed that the identified level of investment is unattainable. In order to assist in prioritization, the 2012 RTP/SCS contain key "guiding policies," including: (1) "Policy 1: Transportation investments shall be based on SCAG's adopted regional performance indicators"; (2) "Policy 4: Transportation demand management (TDM) and non-motorized transportation will be focus areas, subject to Policy 1"; and (3) "Policy 5: HOV gap closures that significantly increase transit and rideshare usage will be supported and encouraged, subject to Policy 1" (p. 15). Identified performance outcomes include: (1) "Maximize mobility and accessibility for all people and goods in the region"; (2) "Preserve and ensure a sustainable regional transportation system"; (3) "Actively encourage and create incentives for energy efficiency, where possible"; and (4) "Encourage land use and growth patterns that facilitate transit and non-motorized transportation" (emphasis added) (p. 15). The proposed action fulfills none of these guiding policies and does not promote the achievement of any of those performance outcomes. As such, in the larger policy framework, the proposed action cannot be found consistent with the 2012 RTP/SCS.

As indicated in the California Transportation Commission's (CTC) "Statewide Transportation Needs Assessment, Final Report" (November 2011) (CTC Needs Assessment), Statewide, "[t]he total estimated revenue from all sources during the ten-year study period is $242.4 billion. This represents about 45 percent of the overall estimated costs of projects and programs that were identified in the needs analysis, and leads to a shortfall of about $295.7 billion over the ten-year period. If it is assumed that revenues for preservation (rehabilitation and maintenance) are provided at historical levels (43.4%), then the amount of revenue available for system expansion and system management projects during this period is $94.7 billion, or only about 48 percent of the estimated costs of needed projects" (p. 1-2). As evidence by those figures, the State is in desperate need for supplemental transportation funds and/or belt tightening.

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The OCTA has already tipped its hand with regards to its predetermination of the CEQA and NEPA processes ultimate outcome. As indicated in correspondence from Arthur T. Leahy, OCTA's CEO to OCTA's Highway Committee (Subject: Consideration of the San Diego Freeway Improvement Project for Future High-Occupancy Toll Land and Design-Build Authority), dated January 19, 2009, the CEO stated: (1) "The current estimated cost from the project study report to add one or two general purpose lanes ranges from $1.1 billion to $1.85 billion, but only $500 million is available in Renewed Measure M for this project. Implementing a HOT lane system on Interstate 405 would generate additional revenues to help fund these improvements and facilitate an early implementation of a more comprehensive traffic congestion relief project in the corridor" (emphasis added) (p. 3); and (2) "OCTA is ready to compete with other counties to implement HOT lanes as a public-private partnership project using design-build and to compete for anticipated federal economic stimulus funding" (p. 4). As such, based on the disparity between projected costs and available funding, only a revenue-generating alternative will be deemed feasible.

In addition, the "Draft Transportation Management Plan" (Caltrans/OCTA, August 2011) (Draft TDM), as included in Appendix D of the CIA, states that "[t]he construction of this project is expected to take approximately 54 months" (Draft TDM, p. 8) or five years (e.g., "The five-year construction period would begin in 2015," AQR, p. 1). Only Alternative 3 is expected to require 54 months (DEIR/S, Table S-1, p. S-19) to complete. As such, the CIA (and by extent the DEIR/S in its entirely) focuses primarily on the implementation of Alternative 3.

The DEIR/S indicates that Alternative 3 "was included in the project development process because it has revenue-generating potential and because it provides a congestion management element not present in the other build alternatives" (p. S-39). In addition, "[b]ecause of the tolling component of Alternative 3, there are additional options available to address the shortfall of Alternative 3 (e.g., a public private partnership and a TIFIA loan) that would not be available for Alternatives 1 and 2" (p. 1-18) and "[i]t is anticipated that construction of the tolled and GP lanes in each direction could be partially funded by the toll revenue anticipation bonds" (p. 2-3). As such, although no definitions are provided, it appears that the Lead Agency has artificially structured its sole objective to promote the subsequent selection of Alternative 3 in that the Lead Agency it will seek to argue that a toll-generating facility will best support a "cost-effective early project solution for delivery" (p. S-1). **94**

In suggesting that no preferential project has yet to be identified, it is disingenuous for the DEIR/S to state that "[a]fter the public circulation period for the Draft EIR/EIS, all comments will be considered, and the Project Development Team (PDT) will select a preferred alternative" (p. 2-27). Evidence of predetermination can be found in OCTA's 2010 LRTP. Presented therein is a "list of freeway projects included in the Year 2035 Preferred Plan" (p. 74). The following project is included on that list: "Interstate 405: From the SR-73 to the San Gabriel River Freeway (I-605), provide two High Occupancy Toll (HOT) lanes in each direction, converting existing HOV lanes, and adding one new HOT lane in each direction" and "[f]rom SR-73 to the San Gabriel River Freeway (I-605), add one mixed-flow lane in each direction" (emphasis added) (p. 74). Even though the CEQA/NEPA process has yet to be completed, the proposed action (i.e., see 2010 LRTP, p. B3) has already been included in the OCTA's "detailed Year 2035 Preferred Plan Project List" with a $2.2 billion budget and a Year 2022 completion date (emphasis added) (p. B3). **95**

As described in the DEIR/S, Alternative 3 includes "one GP lane between Euclid Street and I-605 and one tolled Express Lane in each direction between State Route 73 (SR-73) and State

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Route 22 (SR-22) each of I-405 to be managed jointly as a tolled Express Facility with two lanes in each direction between SR-73 and I-605" (Abstract). Since the objective of the proposed action is be "consistent with regional plans" (p. S-1), it is now overly convenient to merely look to OCTA's recently adopted long-range plan to demonstrate consistency.

Based on that declared purpose and objective, with regards to both describing the proposed action and limiting the range of alternatives under consideration, the DEIR/S states that "[t]he project proposes to improve the mainline freeway and interchanges on I-405 in Orange and Los Angeles counties" (emphasis added) (p. S-2). The Department states that the project "proposes" certain actions not that the project's "purpose" is specific actions. Neither the stated "purpose" nor singular "objective" specify or limit the range of solutions to mainline freeway improvements, specify an increase in lane-miles, or place revenue generation above mobility and throughput. The Lead Agency nonetheless elects to limit the environmental analysis to the following "three build alternatives": "Alternative 1 – Add One GP Lane in Each Direction; Alternative 2 – Add Two GP Lanes in Each Direction; and Alternative 3 – Express Lanes (Tolled) and Add One GP Lane in Each Direction" (p. S-3). Each of those alternatives examine only mainline freeway improvements and increased lane-miles.

As previously indicated, the project's declared purpose and objective is moving target, such that at each step in the process a new set of rationale is formulated in order to artificially narrow the range of alternatives without any attempt to reflect back in time to see: (1) what criteria had been previously applied and how new alternatives might promote the attainment of those foundational objectives; or (2) how previously discounted options might fair when examined from an evolving purpose statement. For example, as indicated, in part, in the MIS: "The need for improvements in the I-405 corridor stems from the mobility problems found in the corridor. The purpose of improvements is to address those problems. Four key points were identified that represent the most significant mobility problems within the study area: (1) Demand already exceeds current capacity, resulting in significant travel delays during peak and some off-peak periods. . .(2) Diversion of traffic is taking place onto arterials because the freeway is too congested during peak periods. . .(3) Operational problems occur on the freeway, primarily because of physical bottlenecks. . .(4) The corridor has a lack of public transportation options (pp. 11-13). Thirteen conceptual alternatives were identified in the MIS and subjected to a screening process in order to identify those alternatives most responsive to those identified mobility problems and transportation needs. With regards to each of those key issues, specific evaluation measures were identified. As indicated in Table 9 (Major Investment Study - Initial Screening Evaluation Measures) and Table 10 (Major Investment Study - Measures Used to Evaluate the Final Alternatives) terms like "mobility" were defined in a manner which allowed for objective (quantitative or qualitative) evaluation and comparative analysis.

As noted, bottlenecks (number of breaks in lane continuity), lane drops (completeness of auxiliary lanes), arterial VMT, trips diverted to transit, and environmental justice impacts were all factors that were used to identify and evaluate possible project alternatives in the MIS. As noted therein, the "TSM Alternative" resulted in a reduction of VMT (MIS, Table 4-5, pp. 45-46). In contrast, none of those criteria have been retained or considered in the DEIR/S. From that, it can be concluded that the purpose and objective of the project examined in the MIS is different from the purpose and objective of the project addressed in the DEIR/S. As a result of that change, contrary to what is inferred by the Lead Agency, there is no clear or direct continuity between the MIS and DEIR/S (e.g., the OCTA cannot throw out its old planning criteria and apply new criteria and then assert that the two are the same). 96

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Table 9
Major Investment Study - Initial Screening Evaluation Measures

Issue	Measure
Freeway mobility	Person (in vehicle) hours of delay in study area Percent change in peak period travel times on I-405 Volume-to-capacity ratios on I-405
Arterial mobility	Reduction in arterial VMT
Travel choices	Daily transit trips Daily HOV trips
Land use/Economic development	Value of time saved by commercial vehicles
Implementation	Total capital cost (of project) Cost effectiveness (cost per person hour of travel saved) Right-of-way impacted Visual impacts (from elevation)

Source: Orange County Transportation Authority, Interstate 405 Major Investment Study, Final Report, February 2008, Table 2-2 (Initial Screening Evaluation Measures), p. 17.

Table 10
Major Investment Study - Measures Used to Evaluate the Final Alternatives

Issue	Measure
Freeway mobility	Person (in vehicle) hours of delay in study area Percent change in peak period travel times on I-405 Volume-to-capacity ratios on I-405 Flexibility to increase capacity and manage demand Number of breaks in lane continuity (bottlenecks) Completeness of auxiliary lanes
Arterial mobility	Reduction in arterial vehicle miles (VMT) and hours (VHT) of travel Number of signalized intersections operating at LOS E or F Total delay at signalized arterial/freeway-ramp intersections Volume-to-capacity ratios of arterial mid-block intersections Volume-to-capacity ratios of freeway crossings not at interchanges
Operations	Number of freeway entrances and exits ramps requiring more than one lane
Travel choices	Daily transit trips HOV lane travel time improvements Transit service to transit-dependent areas
Land use/Economic development	Peak period travel times to major activity centers Value of time saved by commercial vehicles
Implementation	Total capital cost (of project) Cost effectiveness Right-of-way acquisition impacts to residential and commercial buildings and property Environmental justice impacts Archaeological sites impacted Public facilities impacted Parks and recreation impacts Acquisition of sites with hazardous materials

Source: Orange County Transportation Authority, Interstate 405 Major Investment Study, Final Report, February 2008, Table 4-1 (Measures Used to Evaluate the Final Alternatives), p. 41.

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As indicated in the DEIR/S: "Project studies for the I-405 Improvement Project were initiated in 2003 under an MIS process to develop viable alternatives for the I-405 corridor from SR-73 to I-605 (proposed project). Under the MIS process, 13 conceptual project alternatives were originally developed in consultation with the Department and OCTA and are documented in a Conceptual Alternatives Report (dated May 2004). The 13 conceptual alternatives were subjected to an initial screening process to identify the alternatives most responsive to the mobility problems and transportation needs of the I-405 corridor. The 13 conceptual alternatives included 4 alternatives that added travel lanes, as well as 4 alternatives that included fixed guideway transit in the median of the freeway and 2 that included bus-rapid-transit (BRT) operating on proposed dual HOV lanes along the freeway in each direction with median station stops similar to those currently in use on Interstate 110 (I-110) in Los Angeles. All of the alternatives included park-and-ride facilities, as well as either enhanced local bus service, express bus service, or both. Freeway and arterial mobility, travel choices, land use, economic development, and implementation measures were taken into consideration in the initial screening analysis" (p. 2-2).

With the possible single exception of "mobility" (a turn which should be considered distinct from "accessibility") none of the screening criteria against which those "13 conceptual alternatives" were evaluated (i.e., mobility, travel choices, land use, economic development, and implementation measures) relate to the stated purpose of the proposed action (i.e., reduce congestion, enhance operations, mobility, improve trip reliability, maximize throughput, and optimize operations, and minimize environmental impacts and right-of-way acquisition) and its singular objective (i.e., consistency with regional plans and cost-effective early project solution for delivery) or the criteria upon which the project's current list of alternatives have been based.

As subsequently indicated in the "Project Study Report/Project Development Support" (Caltrans/OCTA, July 2008) (PSR/PDS), the Department states that "[t]he purpose of the proposed project is to meet four primary objectives and one secondary objective. The four primary objectives are to: (1) increase the capacity of the freeway to meet more of the existing and forecasted demand, increase peak period corridor speeds, and reduce peak period corridor travel times; (2) improve traffic operations on the freeway mainline; (3) enhance interchange operations; and (4) enhance safety" (p. 7).

The project's current objective does not appear to comply with the requirements of Section 6002(f) of SAFETEA-LU. As specified therein: "Purpose and Need - (1) Participation - As early as practicable during the environmental review process, the lead agency shall provide an opportunity for involvement by participating agencies and the public in defining the purpose and need for a project. (2) Definition - Following participation under paragraph (1), the lead agency shall define the project's purpose and need for purposes of any document which the lead agency is responsible for preparing for the project. (3) Objective - The statement of purpose and need shall include a clear statement of the objectives that the proposed action is intended to achieve, which may include - (A) achieving a transportation objective identified in an applicable statewide or metropolitan transportation plan; (B) supporting land use, economic development, or growth objectives established in applicable Federal, State, local, or tribal plans; and (C) serving national defense, national security, or other national objectives, as established in Federal laws, plans, or policies" (emphasis added). 97

In addition, no definition of either "cost-effective" or "early" is presented and no parameters are provided against which those terms can be evaluated. Similarly, absent from the Lead Agency's stated objective is any reference to the I-605 Freeway or to any specific freeway improvements

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(e.g., add new GP, HOV, or HOT lanes). Additionally, the project's P&N neither includes any reference to tolling nor to the generation of additional funding (e.g., "It is anticipated that construction of the tolled and GP lanes in each direction could be partially funded by the toll revenue anticipation bonds," p. 2-3). As such, although the construction of new GP, HOV, and/or HOT lanes may constitute a possible course of action, those improvements clearly do not constitute the only manner in which the stated objective could be obtained. 98

The Lead Agency states that "[n]one of the conceptual alternatives including fixed guideway or BRT in the median of the freeway were included in the final evaluation due to their high costs and/or their ROW impacts" (emphasis added) (p. 2-3). As indicated in Section 15126.6(b) of the State CEQA Guidelines, "the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effect of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly." As such, cost considerations do not constitute a basis for rejection of project alternatives. In Citizens of Goleta Valley v. Board of Supervisors, the Appellate Court noted that "[t]he fact that an alternative may be more expensive or less profitable is not sufficient to show that the alternative is financially infeasible. What is required is evidence that the additional costs or lost profitability are sufficiently severe as to render it impractical to proceed with the project" (emphasis added). No such evidence has been presented by the Department. 99

Similarly, although the Lead Agency seeks to link the proposed action by referencing the alternatives analyses presented in both the MIS and PSR/PDS, the previous focus on "public transportation" (e.g., changes in local bus headways, fixed guideway and BRT services, and park-and-ride facilities) has inexplicably disappeared.

As noted in the DEIR/S: "A stand-alone TSM/TDM Alternative was identified for the corridor. It does not meet the project purpose and is described in Section 2.2.7, Alternatives Considered but Eliminated from Further Discussion. The TSM/TDM Alternative consists primarily of operational investments, policies, and actions aimed at improving traffic flow, promoting travel safety, and increasing transit usage and rideshare participation. . .TSM consists of strategies to maximize efficiency of the existing facility. . .TDM focuses on regional strategies for reducing the number of vehicle trips and vehicle miles traveled, as well as increasing vehicle occupancy" and "'[p]romoting mass transit and facilitating nonmotorized alternatives" (pp. 2-22 and 23). As further evidence of the lack of objectivity, based on the Lead Agency's own declaration: (1) "improving traffic flow, promoting travel safety, and increasing transit usage and rideshare participation" are not, either in whole or in part, apparently a part of the P&N for the proposed action; and (2) those actions would not, either direct or indirect, serve to reduce congestion, enhance operations; increase mobility, improve trip reliability, maximize throughput, optimize operations, and/or promote attainment of regional plans (p. S-1). 100

Because TSM/TDM activities are intended to increase "transit usage and rideshare participation" (p. 2-22) and "reduce the amount of single-occupancy vehicle trips" (p. 2-23), since it is the Lead Agency's desire to generate revenues by promoting express lane usage by "single-occupant vehicles" (p. 2-11), TSM/TDM strategies would appear to be the antithesis of the goals of the proposed action. Alternatives 1, 2, or 3 have not been formulated to reduce the number of vehicles on public roadways (e.g., "20 percent to 40 percent increase in GP lane capacity of the proposed alternatives," p. 1-22) or to reduce the number of VMT (e.g., "In 2040, daily VMT under Alternative 3 is anticipated to be greater than under the no-build condition by 1,013,000, compared to the existing condition daily VMT of approximately 4 million," p. 4-44);

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rather the proposed action seeks to perpetuate the myth that spending "$1.7 billion" (p. 2-10) or more to add more lane-miles is the only means available to effectively move people and goods.

To the exclusion of all other alternatives, since the measure of "throughput" is the number of additional through lanes provided (e.g., "Does not maximize throughput because no additional through lanes are provided," pp. 2-49 and 50) or where underutilization of HOV/HOT lanes is alleged (e.g., "Does not maximize throughput because there is substantial underutilization of the HOV lanes," p. 2-42), the Lead Agency has established a set of criteria designed only to promote the construction of additional lane-miles (and not to more people or goods).

As indicated in "2010 Urban Congestion Trends – Enhancing System Reliability with Operations" (FHWA-HOP-11-024, 2010), the FHWA states that "[t]oo much traffic demand and/or not enough supply causes congestion" (p. 4). Because the DEIR/S focuses exclusively on "increased supply," the alternative's analysis ignores congestion reduction opportunities associated with "reduced demand," only one-half of the available strategies that could be formulated to reduce congestion are ever considered. In "Final Report - Traffic Congestion and Reliability: Linking Solutions to Problems" (LSP) (July 19, 2004), the FHWA notes that a "key approach to the problem of congestion involves managing the demand for highway travel. These strategies include providing a variety of options that result in more people traveling in fewer vehicles, trips made during less congested times, or trips not made (at least in a physical sense)" (emphasis added) (p ES-12).

As defined in the State CEQA Guidelines, the term "project" means "far more than the ordinary dictionary definition" (14 CCR 15002[d]). Similarly, "CEQA was intended to be interpreted in such a manner as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language" (14 CCR 15003[f]).

In LSP, the FHWA asks: "Is Success Possible Against Congestion?" In response, it notes that "past successes tend to be localized. Multiple and systematic strategies for addressing congestion are required, given that demand is increasing on an already stressed highway and transit system" (LSP, p. ES- 13). "History has taught us that no single strategy can effectively address congestion – only through a combination of strategies can congestion be controlled" (p. 1-1). Since the DEIR/S lacks any evidence or analysis of "multiple and systematic strategies," the best that the Lead Agency can seek to accomplish is a "localized" improvement. By focusing exclusively on micro-scale improvements, neither the proposed action nor the alternatives thereto are defined in a manner promoting a broader solution to the problem that the Department purports to address in the DEIR/S nor are environmental effects of macro-scale actions ever examined therein.

As reported by the FHWA: "The effect of strategies aimed at controlling VMT growth – and controlling congestion in general – can have a dramatic impact on controlling congestion growth. Strategies that reduce VMT directly can lead to a substantial slowdown in congestion growths. Likewise, congestion mitigation strategies can have the same effect by increasing physical capacity, shifting demand, and improving roadway operations. In other words, congestion mitigation strategies can produce the same effect as reduced VMT growth. When used in combination, demand management and mitigation strategies can have a powerful impact on congestion growth" (emphasis added) (LSP, p. 3-8). Reducing congestion, therefore, involves at least a two-pronged strategy (i.e., demand management and mitigation strategies) that need to be pursued in combination. Only a single strategy (i.e., congestion mitigation) is, however, presented in the DEIR/S. An obvious alternative to the proposed action (to increase

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capacity) is to control VMT growth. As a result, both half the problem and half the solution have been totally ignored.

Besides its benefit in reducing congestion (as stated by the FHWA), VMT reductions have been identified by the Lead Agency as one of "four primary strategies for reducing GHG emissions from transportation sources" (p. 4-51). However, rather than reducing congestion, the proposed action has the potential to substantially increase congestion. As indicated in the DEIR/S:

(1) "Existing daily vehicle miles of travel in the study corridor is 4,063,000" (p. 3.1.6-21);
(2) "Under Alternative 1, on I-405, between SR-73 and I-605 in 2020, daily VMT is anticipated to have increased by 651,000, compared to the existing condition and by 1,080,000 in 2040" (p. 4-24);
(3) "On I-405, between SR-73 and I-605, in 2020, daily VMT under Alternative 1 is anticipated to be greater than under the no-build condition by 318,000, compared to the existing condition daily VMT of approximately 4 million. In 2040, daily VMT under Alternative 1 is anticipated to be greater than under the no-build condition by 525,000, compared to the existing condition daily VMT of approximately 4 million" (p. 4-35);
(4) On I-405, between SR-73 and I-605, in 2020, daily VMT under Alternative 2 is anticipated to be greater than under the no-build condition by 540,000, compared to the existing condition daily VMT of approximately 4 million. In 2040, daily VMT under Alternative 2 is anticipated to be greater than under the no-build condition by 894,000, compared to the existing condition daily VMT of approximately 4 million" (p. 4-39); and
(5) "On I-405, between SR-73 and I-605, in 2020, daily VMT under Alternative 3 is anticipated to be greater than under the no-build condition by 605,000 compared to the existing condition daily VMT of approximately 4 million. In 2040, daily VMT under Alternative 3 is anticipated to be greater than under the no-build condition by 1,013,000, compared to the existing condition daily VMT of approximately 4 million" (p. 4-44).

As further noted by the FHWA: "Adding new freeways or additional lanes to existing freeways will add large amounts of capacity to the roadway network. However there are other components of the transportation system that can be enhanced that will alleviate congestion, albeit in a more localized area. Widening arterial roads, providing street connectivity, provide grade separations at congested intersections and providing high-occupancy vehicle (HOV) lanes all will help to mitigate congestion. Also, adding capacity to the transit system, whether it is to the bus system, urban rail system or commuter rail system will assist in relieving congestion on the roadway network. Finally, adding capacity to the intercity rail system can reduce the use of highways by trucks" (LSP, p. 4-1). With the exception of HOV lanes, none of these FHWA-recognized congestion-reduction strategies have been addressed in the DEIR/S. **101**

By directly adding to total VMT, at best, the proposed action represents a band-aid not a path to the cure. To suggest that the proposed action is wrong-headed would be to ignore the benefits that congestion mitigation can offer. However, by ignoring the root cause (i.e., traffic growth), the singular focus of the DEIR/S is, at best, myopic and promises only a short-term, localized solution. In what is, at best, at old mind-set, at least with regards to the proposed action, Caltrans appears to perceive its purpose to be "build more freeways," thus committing current and future generations to automobile and truck dependency and necessitating the need for more freeway expenditures "down the road." Since the "preferred" alternative appears to be the one that involves the largest expenditure of public funds, some people might call that "job security."

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Section 15003(j) of the State CEQA Guidelines states that "CEQA requires that decisions be informed and balanced. It must not be subverted into an instrument for the oppression and delay of social, economic, or recreational development or advancement." As E.E. Schattschneider wrote: "All forms of political organizations have a bias in favor of the exploitation of some kinds of conflict and the suppression of others because organization is the mobilization of bias. Some issues are organized into politics while others are organized out" (The Semi-Sovereign People, 1961). In this context, "bias" constitutes the preoccupation with certain points of view and the simultaneous neglect of others. With regards to the DEIR/S, contrary to the requirements of CEQA, the Department's apparent bias is evident by its focus solely on "supply," absence of focus on "demand," and consideration of only new freeway lane-miles to the detriment of other accessibility-based and congestion-reducing options (e.g., "a TSM/TDM Alternative as an effective stand-alone alternative does not meet the project purpose" [p. 2-4] and "[t]he No Build Alternative is not considered a viable project alternative because it would not achieve the project's purpose" [p. 2-26]). 102

As indicated in a Memorandum from Mary E. Peters, Administrator, FHWA and Jennifer L. Dorn, Administrator, FTA to FHWA Division Administrators and FTA Regional Administrators (Subject: Guidance of "Purpose and Need"), dated July 23, 2003 and included in the SAFETEA-LU Guidelines, the following guidance is presented with regards to the preparation of purpose and need statements in NEPA documents: "The purpose and need statement serves as the cornerstone for the alternatives analysis, but should not discuss alternatives. The alternatives analysis is the place in the document for explaining how the considered range of alternatives meet the purpose and need. Care should be taken that the purpose and need statement is not so narrowly drafted that it unreasonably points to a single solution" (emphasis added) (p. 2). In addition, under NEPA, in Simmons v. U.S. Army Corps of Engineers (1997), the court cautioned agencies not to write purpose and need statements so narrowly as to "define competing 'reasonable alternatives' out of consideration (and even out of existence)." 103

Caltrans' website asserts that it is the mission of that State agency to "improve mobility across California" and to "maximize transportation system performance and accessibility." While freeway improvements constitute one possible manifestation of that mission, that singular strategy is not indicative of the range of physical improvements (e.g., maximize throughput) and operational actions (e.g., optimize operations) that could be undertaken in furtherance of that mission and advancement of the project's P&N.

4.3 Rejected Alternatives

The stated P&N of the proposed action is to: "[1] Reduce congestion; [2] Enhance operations; [3] Increase mobility, improve trip reliability, maximize throughput, and optimize operations; and [4] Minimize environmental impacts and right-of-way acquisition" (p. S-1). The Lead Agency subsequently uses one or more of those purpose statements as the basis for rejecting possible project alternatives.

In seeking to apply that P&N to the evaluation of possible project alternatives, the Lead Agency has misinterpreted the provisions of the State CEQA Guidelines. As specified, in part, therein, "the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives or be more costly" (emphasis added) (14 CCR 15126.6[b]). As such, the Lead Agency cannot exclude a potentially viable alternative whose implementation includes the prospects of reducing or

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eliminating a significant environmental effect because it does not accomplish one of the stated project purposes (objectives) to the same extent that another alternative might.

Since the Lead Agency currently lacks the funds to implement any of the build alternatives examined in the DEIR/S, it would appear disingenuous to reject another, otherwise feasible, alternative based, in whole or in part, on cost considerations (e.g., "The high cost of Alternative M3 also contributes to the determination that the alternative is not viable," p. 2-42; "The high cost of Alternative M5 also contributes to the determination that the alternative is not viable," p. 2-42; "The high cost of Alternative M6 also contributes to the determination that the alternative is not viable," p. 2-43; "The high cost of Alternative M8a also contributes to the determination that the alternative is not viable," p. 2-45; "The high cost of Alternative M9 also contributes to the determination that the alternative is not viable," p. 2-46; "The high cost of Alternative M10 also contributes to the determination that the alternative is not viable," p. 2-47; "The high cost of Alternative M11 also contributes to the determination that the alternative is not viable," p. 2-47; "The high cost of Alternative M12 also contributes to the determination that the alternative is not viable," p. 2-48; "The high cost of Alternative M13 also contributes to the determination that the alternative is not viable," p. 2-49); however, estimated "cost" is identified by the Department as a basis for the rejection of alternatives identified in the MIS. 104

The DEIR/S appears to present a double standard. Although "[n]one of the conceptual alternatives including fixed guideway or BRT in the median of the freeway were included in the final evaluation due to their high costs and/or their ROW impacts" (p. 2-2), none of the three build alternatives presented in the DEIR/S avoid "ROW impacts" and "[f]ull funding has not been identified for any of the proposed build alternatives and remains an unresolved issue" (p. S-39). In what appears to be an apparent inconsistency, project alternatives are rejected because they exceed the existing budget; however, each of that build alternatives examined by the Lead Agency also exceed the existing budget. Similarly, project alternatives have been rejected because of their potential ROW impacts; however, each of the build alternatives examined in the DEIR/s will also have ROW impacts. 105

Similarly, "costs" are only referenced in a short-term context (i.e., construction) and do not include long-term maintenance costs, administrative and management costs, financing and other debt service costs, and/or opportunity costs.

Although one of the stated purposes is to "minimize environmental impacts and right-of-way acquisition" (emphasis added) (p. S-1), the Lead Agency uses only a portion of that purpose statement (i.e., minimize right-of-way acquisition) as the primary basis for rejecting a number of possible alternatives. While the City generally supports the Lead Agency's desire to "minimize" ROW acquisition (particularly with regards to real property within Seal Beach), the term "minimize" appears problematic in that it may place too much emphasis on square footage calculations of affected properties over the broader objective of facilitation of movement of people and goods. There may exist situations where a small change in ROW acquisition would yield substantial congestion and mobility benefits but, pursuant to the Department's own criteria, a lesser performing alternative is deemed more desirous than another better performing option. For example, MIS Alternatives 5, 6, 7, 8, 8a, 9, 10, 11, and 12 are all rejected, in major part, because the Lead Agency asserts it "[h]as unacceptably high ROW impacts as measured by the number of single-family dwelling units and number of acres to be acquired" (pp. 2-42, 2-43, 2-44, 2-45, 2-46, 2-47, and 2-48). Since no reference to commercial uses is presented, it would appear that impacts upon ROW acquisition impacts affecting existing commercial uses is viewed by the Lead Agency differently that impacts on residential uses. 106

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In rejecting each of those alternatives, the DEIR/S specifies the number of "single-family dwelling units" (SFDU) that will be impacted; however, with regards to Alternatives 1, 2, and 3, the Lead Agency fails to disclose the number of affected SFDU, identifying only the number of "parcels" (pp. 3.1.1-20 and 3.1.1-31) that will be impacted. For example, with regards to the rejected MIS alternatives, between 67 and 200 SFDU (34.5 to 59.6 acres) will be affected. With regards to the three build alternatives, between 90 and 108 parcels (12.65 to 13.93 acres), including existing commercial uses (e.g., "Full acquisition of commercial properties has been limited to five parcels," p. 2-4) will be affected. By offering up different forms of measurement for both the rejected and pursued alternatives, the Lead Agency appears to be seeking to enflame public sentiments against the MIS alternatives while under-valuing the corresponding effects of the three build alternatives. **107**

With regards to "ROW acquisition and relocation," the DEIR/S presents an internally inconsistent analysis. As indicated in the DEIR/S, Alternative 1 will affect "90 public and privately owned parcels" (p. 3.1.1-20), Alternative 2 will affect "91 public and privately owned parcels" (p. 3.1.1-31), and Alternative 3 will affect "108 public and privately owned parcels" (p. 3.1.1-31). However, the CIA states that Alternative 1 will affect "[u]p to 155 public or privately owned parcels"; Alternative 2 will affect "[u]p to 173 public or privately owned parcels"; and Alternative 3 will affect "[u]p to 189 public or privately owned parcels" (Table S-1, p. S-4). As a result, although minimization of ROW impacts is purported to be a key criteria with regards to both the formulation of the proposed action and elimination of potential alternatives, it is not possible to clearly ascertain the extend of ROW impacts attributable to the three build alternatives presented in the DEIR/S. **108**

It has to be assumed that the above referenced number of "public and privately owned parcels" relates only to those which will be directly impacted and does not include other residential and non-residential uses. Absent from the DEIR/S is any attempt to identify, quantify, or illustrate the precise or general location of those "businesses" that could be impacted during construction and/or that may suffer a detrimental change to patronage once construction has been completed, much less explain the nature and duration of potential business disruption (e.g., "Construction at major interchanges could disrupt local business operations," DEIR/S, Table S-1, p. S-15). To the extent that the Lead Agency seeks to argue the benefits or reduced traffic on local arterials (e.g., "increase in mobility and operations of the freeway and roadway network would contribute to the increase in property tax base, sale tax revenue, and property values," CIA, p. S-6), the life of many businesses is dependent upon the volume of traffic traveling along abutting streets. **109**

Pursuant to Section 15125(c) of the State CEQA Guidelines, "[t]he EIR must demonstrate that the significant environmental impacts of the proposed project were adequately investigated and discussed and it must permit the significant effects of the project to be considered in the full environmental context." **110**

The DEIR/S states that "the proposed project would not normally affect tax revenue unless the use of the parcel is significantly affected" (CIA, p. 6-4); however, absent from the environmental analysis is any description of what might constitute a "significant affect." Evident of both the absence of objectivity and thoroughness of the environmental analysis can be found in the assertion that "[p]roperty values within the project area could be affected by displaced businesses, changes in the visual environment, improved access to community facilities and other residential areas, and nearby community enhancement projects" (CIA, p. 4). While "improved access" is toted as a basis for alleging an increase in property valuation (e.g.,

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"Increase in mobility and operations of the freeway and roadway network would contribute to the increase in property tax base, sale tax revenue, and property values," CIA, p. S-5), absent from the DEIR/S is any reference to or discussion of short-term or long-term impediments to access resulting from the proposed action (e.g., street closures) and how those actions could produce negative economic ramifications.

Similarly, the Lead Agency states that "[d]ecreased congestion along the I-405 corridor has the potential to allow regional motorists, as well as local residents, to reach businesses more efficiently, thereby allowing for increased visitation, faster customer turn-around and, consequently, increased revenues. This would be especially true for restaurants, retail stores, and shopping centers (e.g., IKEA and the South Coast Plaza) within the directly impacted area, as they are often destinations for residents and visitors" (emphasis added) (CIA, p. 6-3). When it appears beneficial to support the Lead Agency's predetermined conclusions, the DEIR/S asserts that freeway congestion adversely impact local businesses (e.g., South Coast Plaza); however, when it appears beneficial to argue that construction activities (when freeway ramps will be closed in their entirety for "up to 30 days" (RCS, Table 1, pp. 4 thru 6)) will not significantly affect those same businesses, the Lead Agency argues the loss of freeway accessibility is not significant (e.g., "There are no businesses that rely solely on freeway traffic, as they primarily serve local clientele that utilize surface streets to access the businesses," RCS, pp. 7 and 8). Although "[r]amps that provide access immediately adjacent to the South Coast Plaza (South Coast Drive NB off-ramp), Bella Terra Mall (Beach Boulevard off-ramps) or the Westminster Mall (Bolsa Avenue NB and Goldenwest SB off-ramps) will not be closed from November 1st to Jan 31" (RCS, p. 18), there are many other businesses located in proximity to closed freeway ramps and traffic detours that are also dependent upon seasonal shoppers. By acknowledging the dependence that many retailers have on revenues derived during key shopping periods, the Lead Agency must fairly and equitable consider the totality of businesses so affected and not single out only three centers to the detriment of all others. **111** **112**

In what appears to be a continuing application of a double standard, the Lead Agency states that "[a]ll temporary long-term closures are supported by adequate detours. . .and a robust local arterial street network. Access to all business will be maintained during construction of the I-405 improvement project and all are accessible from alternate freeway off-ramps and utilizing the local streets. Based on the short-term and temporary nature of the closures (10 to 30 days), the increased travel times and distances would not result in either a substantial economic effect on businesses or substantial delays or travels cost for residents or business patrons" (emphasis added) (RCS, p. 19). At least in one instance (i.e., Fairview Road Northbound Off-Ramp) "24,000 AADT [annual average daily traffic]" (RCS, p. 9) will be diverted onto local streets for up to 30 days. The Lead Agency, however, asserts that the proposed project is, in part, needed because "[a]s a result of the levels of traffic congestion on the freeway, traffic is being diverted to nearby arterials thereby impairing arterial mobility" (MIS, p. 55). As a result, in the perspective of the Department, "nearby arterials" are not, in fact, a "robust" system but a system that is currently operating at over capacity conditions as a result of existing congestion along the I-405 Freeway. Again, when convenient and fruitful, local arterials are "robust"; however, when a different argument is needed, those same roadways suddenly become impaired. **113**

NEPA requires that federal agencies "consider every significant aspect of the environmental impact of a proposed action" and "inform the public that [they have] indeed considered environmental concerns in [their] decision-making process" (Earth Island Institute v. United States Forest Service [2003]). With regards to the adequacy of the alternatives analysis, the City believes that there are inherent flaws in the Lead Agency's methodology. A total of 17

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topical issues were examined in the DEIR/S (i.e., land use; growth; farmlands/timberlands; community impacts; utilities/emergency services; traffic and transportation/pedestrian and bicycle facilities; visual/aesthetics; cultural resources; hydrology and floodplains; water quality and stormwater runoff; geology/soils/seismic/topography; paleontology; hazardous waste/materials; air quality; noise; energy; and biology). Based on the project's potential to produce significant environmental effects, those 17 topical issues were determined to warrant detailed project-specific analysis. With regards to the alternatives analysis, by electing to self-imposed blinders with regards to the rejected alternative's potential impacts (i.e., minimize right-of-way acquisition), absent an analysis of those same 17 topical issues, the Lead Agency is unable to objectively and fairly balance the full range of environmental and socioeconomic impacts and purported benefits and make requisite findings with regards to each alternative.

In assessing the environmental superiority of an alternative, all 17 environmental resource areas must be taken into account. The environmentally superior alternative is the alternative found to have an overall environmental advantage compared to the other alternatives based on all the impact analysis in the DEIR/S. Determining which of the alternatives is environmentally superior or even feasible involves judgment and depends on many factors, as well as requiring a weighing of one type of impact against another type (e.g., weighing short-term effects against long-term effects or weighing effects on the natural environment against effects on the human environment). Any methodology that ignores 16 of the 17 relevant or potentially relevant environmental issues and involves no balancing or weighting of those or other environmental effects only serves to minimize the range of possible alternatives brought forward for public consideration and prematurely excluding others. 114

4.4 Selected Alternatives

The DEIR/S consumes three pages (pp. 2-14 through 2-17) outlining how each of the three build alternatives contain "common design features" (i.e., are all the same). In comparison, it takes less than a page (pp. 2-17 through 2-18) to identify the "unique design features" (i.e., minor variations) of each alternative. As described therein: (1) "Alternative 1 generally does not have any unique features" (p. 2-17); (2) "Alternative 2 would add a second GP lane in the northbound direction from Brookhurst Street to the SR-22/7th Street interchange and a second GP lane in the southbound direction from the Seal Beach Boulevard on-ramp to Brookhurst Street" (p. 2-18); and (3) "Alternative 3 would add a tolled Express Lane in each direction of I-405 from SR-73 to SR-22 East. . .The policies governing operation of the Express Lanes in Alternative 3 are additional features unique to this alternative" (p. 2-18).

With regards to the near identical nature of the three build alternatives, the DEIR/S notes:

> In terms of pavement width, Alternative 3 has similarities to both Alternatives 1 and 2. By adding both an express lane and a general purpose lane, the overall width of the proposed paving most closely matches that proposed for Alternative 2 for most of the corridor, except for the area north of SR-22/Valley View where it resembles Alternative 1. The major difference in Alternative 3 is the addition of a direct connector bridge between SR-73 and I-405 (VIA, p. 57)

As such, based on their commonality, the three options constitute only minor variations of generally the same project. As such, the DEIR/S neither provides the project's decision makers with a range of reasonable alternatives (14 CCR 15156.6) nor fosters informed decision making (14 CCR 15002[a][1]). 115

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Under NEPA, a federal court (Northern Plains Resource Council v. Lujan [1989]) noted that NEPA does not require a separate analysis of alternatives which are not significantly different from alternatives actually considered or which have substantially similar consequences. Under CEQA, the court noted that the State CEQA Guidelines require that EIRs describe a range of reasonable alternatives to the proposed project. That requirement is "applicable only to the project as a whole, not the various facets thereof" (Big Rock Mesas Property Owners Association v. Board of Supervisors [1977]). Although acknowledging the existence of minor differences among Alternatives 1, 2, and 3, as a result of the lack of substantive variation, the Lead Agency has failed to present a "range of reasonable alternatives" allowing for a clear choice in the manner in which the stated P&N could be attained. 116

To the extent that each alternative were truly unique (e.g., "The analysis of this alternative assumes the design exceptions that are unique to this alternative,' DEIR/S, p. 2-5), each alternatives would be expected to generate unique transportation travel patterns within and surrounding the general project areas. The alternative improvements (e.g., I-405 Freeway mainline project sections) would, therefore, be expected to create differing levels of congestion and cause people to make differing transportation choices (i.e., varying modes choices and travel patterns), thus causing differing traffic impacts for each of the three build alternatives. The Traffic Study, however, indicates that "a single demand forecast was prepared. Forecasts for each of the alternatives utilize the same total traffic volumes on a segment" (p. 2.2-3). As a result, as further evidence of the absence of clear distinctions between alternatives, the traffic projections and associated analyses do not present unique area travel patterns associated with each of the alternative. 117

4.4.1 Alternative 1

As specified in the OCTA's "Renewed Measure M Transportation Investment Plan," adopted on July 24, 2006, "Project K (San Diego Freeway [I-405] Improvements between the I-605 Freeway in Los Alamitos area and Costa Mesa Freeway [SR-55])" "improvements shall adhere to recommendations of the Interstate 405 Major Investment Study (p. 13). As identified in the MIS, "[MIS] Alternative 4 is the Locally Preferred Strategy (LPS) for improvements to I-405 between I-605 and SR-73. The LPS provides for an additional general purpose lane in each direction on the freeway between I-605 and Brookhurst Street. It includes auxiliary lanes linking on-ramps to downstream off-ramps at numerous locations in the corridor. . .The preparation of the environmental documents and the associated engineering will revisit in substantially more detail many of the same topics included in the Major Investment Study. The environmental documents will be prepared in light of the OCTA identification of [MIS] Alternative 4 as the LPS" (pp. 92-93). MIS Alternative 4 is represented to be Alternative 1 in the DEIR/S (i.e., "Only one build alternative, Alternative 1, which was MIS Alternative 4, has been retained as a viable alternative and is fully evaluated in this document" (p. 2-3).

As a result, in accordance with the OCTA's "Renewed Measure M Transportation Investment Plan," Alternative 1 should be identified as the LPS or the "preferred project." This designation in the DEIR/S is critical because it serves to alert the project's stakeholders of the Lead Agency's intent, thus allowing affected parties to ascertain the objectivity and presence of inherent bias in the environmental analysis. 118

Despite the Lead Agency's declaration that the two scenarios are the same, it is not immediately evident that DEIR/S "Alternative 1" is the same as "MIS Alternative 4." As indicated in the MIS, "[t]he capital cost of [MIS] Alternative 4 is $490 million. It is the least expensive of the build

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alternatives. It is the narrowest of the build alternatives and requires the least additional right-of-way. Because it has the narrowest cross section of the build alternatives it requires the shortest bridge spans. Except for the area north of Seal Beach Boulevard, the existing freeway centerline is maintained in [MIS] Alternative 4. Much of the existing pavement and grading can be used. The roadway components, including the additional general purpose lane on the freeway in both directions north of Brookhurst Street to I-605, account for $480 million of the capital cost. The remaining $10 million is for the transit components including the capital costs associated with providing reduced headways on routes identified in Section 3.3" (pp. 70-71). With regards to congestion relief, "[MIS] Alternative 4 provides a reduction of 3.9 million hours" (p. 44). In addition, "Alternative 4 has a 12-15% reduction in general purpose lane travel time during the peak periods. It also is forecast to have a 3-10% improvement in HOV lane travel times" (p. 44).

In contrast, the DEIR/S states that "Alternative 1 would add a single GP lane in each direction on I-405 from Euclid Street to the I-605 interchange. Preliminary cost estimates for this alternative are $1.3 billion" (p. 2-5). Similarly, the "lane schematic" of MIS Alternative 4, as presented in Table 5-1 in the MIS (p. 87), differs substantially from the "lane configuration, northbound," as presented in Figure 2-1 (p. 2-6) and Figure 2-2 (p. 2-7) in the DEIR/S. Based on the Lead Agency's declaration that MIS Alternative 4 "is" DEIR/S Alternative 1, these differences and their rationale need to be fully addressed, including an explanation why the estimated cost nearly tripled. 119

4.4.2 Alternative 2

Since Alternative 2 appears to generally exist within a similar ROW as Alternative 1, it would appear that, if Alternative 1 were to be selected for implementation, at some later point in time, Alternative 2 or a variation thereof could be brought forward as a subsequent expansion plan. Absent from the DEIR/S is any declaration that the freeway improvements contemplated therein constitute anything other than a short-term response to an identified need or that selection of one alternative negates any other alternative and/or the possible conversion of shoulder areas to travel lanes. Unclear is whether that latter action (or any design or operational modification) would necessitate additional environmental review under CEQA and NEPA and, if so, what type of review would occur. 120

Once finalized, could Caltrans approve a lower intensity alternative (such as Alternative 1) and subsequent use that same documentation for a later expansion project (such as Alternatives 2 or 3)? Are there any existing limitations or authorizations allowing Caltrans to convert an existing GP or HOV lane into a HOT lane? 121

4.4.3 Alternative 3

As required under Section 21003.1(b) of CEQA: "Information relevant to the significant effects of a project, alternatives, and mitigation measures which substantially reduce the effects shall be made available as soon as possible by lead agencies, other public agencies, and interested persons and organizations." In addition, as specified under the State CEQA Guidelines, an adequate project description shall contain a description of: (1) the "precise location and boundaries of the proposed project"; (2) a "clear written statement of objectives sought by the proposed project," including the "underlying purpose of the project"; and (3) a "general description of the project's technical, economic, and environmental characteristics" (emphasis added) (14 CCR 15124).

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As indicated in correspondence from Arthur T. Leahy, OCTA's former CEO to OCTA's Highway Committee (Subject: Consideration of the San Diego Freeway Improvement Project for Future High-Occupancy Toll Lane and Design-Build Authority), dated January 19, 2009, the CEO made the following request to the OCTA's Highway Committee: "Approve the consideration of the San Diego Freeway (Interstate 405) Improvement Project for the implementation of high-occupancy toll lanes utilizing the design-build and public-private partnership method of procurement and authorize staff to move forward with further evaluation of high-occupancy toll lanes and next steps in the project development process and any future project nomination process." In addition, the CEO noted that "[t]here are numerous benefits to adding HOT lanes to the Interstate 405 Improvement Project. The HOT lanes could function much like the 91 Express Lanes, with OCTA being the owner and a private operator managing the lanes. The additional costs of the HOT lanes compared to building general purpose lanes would be minimal and would be far outweighed by the revenues anticipated to be generated" (pp. 1 and 3). Although that report was submitted substantially in advance of the release of the NOP and NOI (August 26, 2009), absent from the DEIR/S is any reference to, discussion, or analysis of the formation of a "public-private partnership" (P3) or the conveyance of any portion of the I-405 Freeway or the management thereof to a "private [profit-motivated] operator."

As proposed, the "private operator" would have control and management responsibility over both the HOT and HOV lanes (e.g., "The tolled Express Lane and the existing HOV lanes would be managed jointly as a tolled Express Facility. . . From SR-22 to I-605, the existing HOV lane and the second HOV lane that is being built as part of the WCC Project would become part of the tolled Express Facility. p. 2-10). Clearly, declaration of the Lead Agency's intent to pursue a "design-build and public-private partnership method of procurement" constitutes a component of the project's "economic characteristics" (within the meaning of 14 CCR 15124).

Additionally, contemplated is the conveyance of not only the "express facility" located along that segment of the I-405 Freeway which is explicitly addressed in the DEIR/S but also other freeway segments extending for an unspecified distance beyond those limits, including, but not necessarily limited to, those associated with the WCC. As a result, by the OCTA's own admission, the proposed action is not confined to the limits identified in the DEIR/S but encompasses a larger (undisclosed) geographic area. The Lead Agency, therefore, presents a truncated project description (San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus [1994]) which fails to address the whole of the contemplated action (14 CCR 15378). 122

As further indicated in correspondence from Will Kempton, OCTA's CEO to OCTA's Regional Planning and Highway Committee (Subject: Update on the Interstate 405 Improvement Project Alternatives, Business Models, and Delivery Option), dated April 16, 2012, a "P3 Concession option" (p. 2) is being considered. However, the DEIR/S contains no discussion of a possible "P3 Concessionaire" and/or the possibility that "[a]ll revenues would go to the private developer." 123 Since toll proceeds could potentially be used to fund mitigation plans and programs and/or compensate abutting municipalities for the impacts attributable to the freeway or toll road, the OCTA's consideration of conveyance of those revenues to a non-public entity constitutes an important project feature whose potential impacts (e.g., projected revenues unavailable for alternative use; implications with regards to the setting of toll rates; consequences of the potential bankruptcy of the concessionaire) have not been addressed by the Lead Agency. 124

Referencing correspondence from William Kempton, OCTA's CEO to OCTA's Regional Planning and Highway Committee (Subject: Outline of the Proposed Project Delivery

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Organizational Approach for the Interstate 405 Improvement Project), dated June 4, 2012, a "If Project Alternatives 1 or 2 are selected as the build alternative, OCTA would probably need to obtain its own design-build authority through the legislative process. . If Project Alternative 3 is selected as the build alternative, a provision of Streets and Highways Code 143, passed as SB 4 X2 in February 2009, would authorize design-build for the Project and tolling for the Express Lanes" (p. 3). Because it could have ramifications beyond the proposed project, the potential impacts of all requisite enabling legislation (e.g., amendments to Section 6800 of the California Public Contract Code; authorizing design-build legislation), the prospects of legislative passage, and the ramifications of need to be addressed in the DEIR/S. **125**

Section 6800 of the Public Contract Code allows Caltrans to enter into a maximum of 10 design-build contracts for State highway, bridge or tunnel projects, and local transportation entities may enter into a maximum of five contracts for local street or road, bridge, tunnel or public transit projects. Section 6800 does not impose a minimum cost threshold on eligible projects, but all 15 projects must be authorized (i.e., approved) by the California Transportation Commission (CTC), and must be slated to receive funding from state transportation funding programs. Section 6800 requires Caltrans to be the "responsible agency for the performance of project development services, including performance specifications, preliminary engineering, probid services, the preparation of project reports and environmental documents, and construction inspection services." The design-build authority under Section 6800 sunsets on January 1, 2014; however, "[c]onstruction of the proposed project is planned to commence in 2015" (p. 2-26).

Because it is dependent upon OCTA's ability to secure authorizing enabling legislation, based on the speculative nature of those efforts, it must be concluded that Alternative 3 is not a reasonable alternative. Although the court's ruling was in the context of alternatives raised by stakeholders, it would appear to have equal application to alternatives presented by a project sponsor. The Supreme Court has noted: "There is reason for concluding that NEPA was not meant to require detailed discussion of the environmental effects of 'alternatives' put forward in comments when these effects cannot be readily ascertained and the alternatives are deemed only remote and speculative possibilities, in view of basic changes required in statutes and policies of other agencies – making them available, if at all, only after protracted debate and litigation not meaningfully compatible with the time-frame of the needs to which the underlying proposal is addressed" (North Buckhead Vermont Yankee Nuclear Power Corp. v. Natural Resource Defense Council [1978], quoting Natural Resource Defense Council v. Morton [1972]). It is unclear how the Lead Agency can approve a build alternative dependent upon enabling legislation absent that legislation. Similarly, if so approved, it is unclear what pressures would be put on the legislature to rubber-stamp that legislation under the premise that environmental clearance had already been achieved and that delay or denial could result in the forfeiture of discretionary federal funds to the State. **126**

With regards to separate environmental justice considerations, under Alternative 3, SOVs may utilize the HOT lanes through the payment of a specified toll. As indicated in "The Social Impacts of Interstate Highway System, What Are the Repercussions" (Deakin, Elizabeth C., UCTC, June 2006), the author notes that "[f]or many, the social impacts of the Interstates have been positive: increased access, mobility, and options for individuals, households, and firms. For others, however - especially for those not able to own or drive a car - the Interstates have decreased access and mobility by undermining the viability of alternative modes of transport" (p. 16).

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As further indicated in "The Political Calculus of Congestion Pricing" (King David, Manville, Michael, and Shoup, Donald, UCTC, January 2007), the authors concluded: "Consider the prospects for congestion pricing in Los Angeles County, which has the worst traffic congestion in the United States. . .congestion pricing will initially make many drivers worse off. The demand for driving in Los Angeles (as most other urban areas in the US) is highly inelastic, so most people confronted with congestion pricing will end up paying the tolls or driving a less convenient route instead of switching to another travel mode or time. . .A study of congestion pricing's likely impacts in the Twin Cities made a similar point: for all but two small groups - transit users and affluent drivers - the tolls would exceed the time saving" (pp. 113-114).

Absent from the DEIR/S is any discussion or analysis of potential environmental justice impacts associated with the establishment of HOT lanes extending along and beyond the declared project limits. **127**

4.4.4 Alternative 4

On February 8, 2010, under Agenda Item 18 (Report on Traffic and Revenue Analysis for the San Diego Freeway [Interstate 405] Improvement Project and Contract Amendment), OCTA's Board of Directors "[a]uthorized staff to continue the analysis of four build alternatives for the San Diego Freeway (Interstate 405) Improvement Project through the environmental process."

As indicated in the NOP, Caltrans stated that four build alternatives will be considered, including "Alternative 4: Localized Improvements." As further indicated therein, "Alternative 4 provides an additional general purpose lane at various locations and improves various interchanges from Euclid Street to I-605" (p. 2). The NOP clearly distinguished "Build Alternative 4" from a separate "Baseline Alternative (No Build)." The "Baseline Alternative represents the 'No Build' alternative. No additional lanes or interchange improvements would be provided by this alternative" (p. 2). Similarly, the NOI identifies "Alternative 4; [sic] on I-405 from Euclid Street to I-605, providing additional general purpose lane at various locations and improving various interchanges" (p. 3) will be considered. Also, Caltrans' and the OCTA's "Public Scoping Notice" and "Newsletter" announcing the September 22, 23, and 30 and October 1, 2009 public scoping meetings included reference to "Alternative 4: Localized Improvements."

As indicated in SCAG's "Final Program Environmental Impact Report - 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy, SCH No. 2011051018" (April 4, 2012) (2012 RTP/SCS PEIR): "Since mixed flow lanes carry more traffic than any other component of SCAG's transportation system, mixed-flow capacity enhancements are also necessary to address traffic bottlenecks and relieve congestion on heavily traveled corridors" (p. 2-13). In direction contradiction to that acknowledgement, the DEIR/S notes: "Alternative 4 proposed to provide localized improvements within the I-405 corridor that could be fully funded and implemented with available revenue from Orange County's Renewed Measure M transportation sales tax initiative. Alternative 4 would neither provide additional capacity along the entire corridor nor enhance interchange operations. It would not meet the project purpose and was eliminated from further consideration in this Draft EIR/EIS. All elements of Alternative 4 are included in the proposed build alternatives. A description of Alternative 4, along with the reasons for its elimination from further consideration, is provided in Section 2.2.4, Alternatives Considered but Removed from Further Discussion" (p. 2-3 and 4). Section 2.2.4 (No Build [No Action] Alternative) of the DEIR/S, however, includes no further discussion of "Alternative 4: Localized Improvements," focusing exclusively on the "No Build Alternative" (pp. 2-23 through 2-26). Although the Lead Agency had committed to include "Alternative 4: Localized **128**

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Improvements" in the DEIR/S (as a separate and distinct alternative from the "Baseline Alternative [No Build]"), the Department failed to provide that analysis and, through its false representation, limited public participation in the environmental review process.

The Department's subsequent exclusion of the "Alternative 4: Localized Improvements" from the DEIR/S has deprived the project's decision-makers and other stakeholders of both the opportunity to consider a reasonable range of alternatives and the ability to compare those options against the three build alternatives presented in the DEIR/S. Since the NOP and NOI both constituted a good-faith declaration of the Lead Agency's intent upon which the affected public must rely, the Department's subsequent exclusion of "Alternative 4" from the DEIR/S has deprived interested parties of the ability to provide meaningful pre-circulation comments to Caltrans for consideration in the preparation of the DEIR/S. **128**

4.4.5 TSM/TDM/Mass Transit Alternative

The NOP stated that the DEIR/S will include an analysis of the "Transportation Systems Management (TSM)/Transportation Demand Management (TDM)/Mass Transit Alternative." As described therein, the "TSM/TDM/Mass Transit Alternative includes activities that will maximize the efficiency of the present highway system and expand travelers' transportation choices in terms of travel time, route, quality, and convenience. It involves low-cost operational improvements, rather than major capital projects, including but not limited to auxiliary lanes, ramp metering, ridesharing, and traffic signal timing optimization" (p. 2). Similarly, the NOI identified a "Transportation Systems Management (TSM)/Transportation Demand Management (TDM)/Mass Transit Alternative; [sic] makes only low-cost operational improvements, rather than major capital projects, to maximize the efficiency of the present highway system and expand travelers' transportation choices" (p. 3). Also, Caltrans' and the OCTA's "Public Scoping Notice" and "Newsletter" announcing the September 22, 23, and 30 and October 1, 2009 public scoping meetings included reference to a "Transportation Systems Management (TSM)/Transportation Demand Management (TDM)/Mass Transit Alternative."

No "TSM/TDM/Mass Transit Alternative" has, however, been presented in the DEIR/S. Instead, the Lead Agency notes: "Although a TSM/TDM Alternative as an effective stand-alone alternative does not meet the project purpose, as explained in Section 2.2.4, Alternatives Considered but Removed from Further Discussion, the PDT [Project Development Team] has included TSM and TDM elements as part of Alternatives 1, 2, and 3 as described in Section 2.2.1, Common Design Features of the Build Alternatives" (p. 2-4). Section 2.2.1 (Common Design Features of the Build Alternatives) of the DEIR/S states: "Although TSM and TDM measures alone do not satisfy the purpose and need of the project, the following TSM and TDM measures <u>may</u> be incorporated into each of the build alternatives for the proposed project" (emphasis added) (p. 2-17).

Under CEQA, the terms "must" and "shall" identify mandatory requirements; however, the terms "may" and "should" are permissive, with discretion left to the Lead Agency (14 CCR 15005). As a result, no commitment is made by the Department that TSM and/or TDM measures will, in fact, be included in the proposed action. Similarly, under NEPA, "[t]he use of language such as 'recommend,' 'may,' 'should,' and 'can' is intended to describe CEQ policies and recommendations. The use of mandatory terminology such as 'must' and 'required' is intended to describe controlling requirements under the terms of NEPA and the CEQ Regulations" (76 FR 3848, January 21, 2011). **129**

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The Department's subsequent exclusion of both "Alternative 4" and the "TSM/TDM/Mass Transit Alternative" from the DEIR/S has deprived the project's decision-makers and other stakeholders of both the opportunity to consider a reasonable range of alternatives and the ability to compare those options against the three build alternatives presented in the DEIR/S. Since the NOP and NOI both constituted a good-faith declaration of the Lead Agency's intent upon which the affected public must rely, the Department's subsequent exclusion of those alternatives from the DEIR/S has deprived interested parties of the ability to provide meaningful pre-circulation comments to Caltrans for consideration in the preparation of the DEIR/S.

The Department appears to have been down this same road before. Referencing Environmental Council of Sacramento v. California Department of Transportation, (2008) the court noted:

> Petitioners acknowledge that Caltrans considered and rejected many alternatives during the scoping process [Citation]. Nevertheless, Petitioners allege that the EIR fails to discuss a reasonable range of alternatives because the EIR considered only two "build" alternatives - with little variation between them - and failed to consider a transit-only alternative [Citation]. The Court agrees. The EIR did not include an in-depth discussion of the transit-only alternative because SACOG's [Sacramento Council of Governments] HOV-US 50 Corridor Study suggested that both light rail extensions and HOV lanes were necessary to alleviate congestion in the corridor [Citation]. But even if this statement is accurate, it is not a proper basis to reject the transit-only alternative as infeasible [Citation]. The test is not whether the transit-only alternative is the best strategy to achieve the Project's objectives, but whether it is a reasonable alternative that could feasibly accomplish most of the basic objectives of the Project and avoid or substantially lessen one or more of the Project's significant effects [Citation]. In this case, the objectives of the Project are to improve mobility, provide an option for reliable peak period travel time, improve traffic operations by reducing congestion and travel time, use highway facilities as efficiently as possible, provide incentives for commuters to use carpools, vanpools, or buses during peak period travel, and identify projects and strategies to improve adjacent street system and thereby enhance neighborhood livability [Citation]. The transit-only alternative is a potentially feasible alternative that could accomplish most of the basic objectives of the Project, while potentially avoiding or substantially lessening one or more potentially significant effects [Citation]. Thus, the transit-only alternative is a reasonable alternative that merits discussion and comparison to the two build options discussed in the EIR. Because the EIR included only two build alternatives, with little variation between them, Caltrans failure to include an in-depth discussion of the transit-only alternative precluded informed decision-making and informed public participation and rendered the EIR's discussion of alternatives inadequate (Minute Order, p. 14).

Under NEPA, agencies are under an obligation to follow their own regulations, procedures, and precedents, or provide a rational explanation for their departure (Big Horn Coal Company v. Temple [1986]). Although "business as usual" (BAU) has a separate meaning with regards to assessing GHG emissions, because the DEIR/S obviously suffers from the same maladies as the document prepared by Caltrans in the above referenced case, it would appears (through the presentation of the same defective analyses) that the Department believes that it is not required to accept judicial directions with regards to the preparation of adequate environmental documentation. **130**

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4.4.6 No Build Alternative

Under NEPA, Section 1502.14(d) of the CEQ Regulations requires that the alternatives analysis in an environmental impact statement (EIS) "include the alternative of no action." As described in the CEQ Questions: "There are two distinct interpretations of 'no action' that must be considered, depending on the nature of the proposal being evaluated. The first situation might involve an action such as updating a land management plan where ongoing programs initiated under existing legislation and regulations will continue, even as new plans are developed. In these cases 'no action' is 'no change' from current management direction or level of management intensity. To construct an alternative that is based on no management at all would be a useless academic exercise. Therefore, the 'no action' alternative may be thought of in terms of continuing with the present course of action until that action is changed. Consequently, projected impacts of alternative management schemes would be compared in the EIS to those impacts projected for the existing plan. In this case, alternatives would include management plans of both greater and lesser intensity, especially greater and lesser levels of resource development" (Question 3[a]).

Under CEQA, the Lead Agency misrepresents the "no build alternative" and, thereby, fails to provide the project's decision makers with an accurate and adequate environmental analysis. As indicated in the State CEQA Guidelines, where the project is a development project on identifiable property, the following applies: "[T]he no project alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in its existing state against environmental effects which would occur if the project is approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this no project consequence should be discussed. In certain instances, the no project alternative means no build wherein the existing environmental setting is maintained. However, where failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment" (emphasis added) (14 CCR 15126.6[e][3][B]). 131

The State CEQA Guidelines further state that the "no-project" alternative is not necessarily the same as the environmental baseline (14 CCR 15126.6[e][1]).

With the exception of the "SR-22 WCC Project," the "Project EA 0J440K" (p. 2-23), and unspecified "Costa Mesa Freeway Improvements" (e.g., "The baseline conditions under the No Build Alternative would provide no additional lanes or interchange improvements to the I-405 corridor. The project area would continue to operate with no additional improvements with the exception that the two earlier committed projects [SR-22 West County Connectors (WCC) Project and the Costa Mesa Freeway (SR-55) Improvements would be implemented]," CIA, p. S-2), the Lead Agency represents the No Project Alternative as the maintenance of the status quo (e.g., "no improvements would be made to the I-405 corridor within the project limits," p. 2-23).

As indicated in the PSR/PDS: "The proposed project is currently funded with an estimated $500 million as part of the Renewed Measure M (local half-cent sales tax) freeway program. The Renewed Measure M program was reauthorized by the Orange County voters in November 2006, and it is set to begin in 2011 and sunsets in 2041. . .As part of an effort to reduce construction costs on the Renewed Measure M freeway projects, OCTA will be advancing the

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proposed project's Project Approval/Environmental Document (PA/ED) phase and fund this effort through the SAFETEA-LU demonstration funds and local Renewed Measure M matching funds" (emphasis added) (p. 38).

As indicated in correspondence from Will Kempton, OCTA's Chief Executive Officer to OCTA's Highways Committee (Subject: Update on Project Alternatives for the San Diego Freeway (Interstate 405 Improvement Project), dated August 17, 2009, the OCTA notes that "[t]o date, the focus of this evaluation has been on identifying what improvements could be built for the currently available funding (Alternative 4). . .The commitment in M2 is to add new lanes throughout the corridor, generally within existing ROW, from State Route 55 to Interstate 605, and Alternative 4 may not meet that commitment entirely" (p. 2).

Notwithstanding any declarations by the Lead Agency, it is noted that DEIR/S' Alternative 4, as referenced above, is not the same proposal as MIS Alternative 4, as identified in the MIS and purportedly carried forward by the Lead Agency as Alternative 1 in the DEIR/S (p. 2-3).

As indicated in the MIS, "[t]he Baseline Alternative (or No-Build Alternative) incorporates the funded and/or environmentally approved transportation improvements as of March 1, 2004. Highway improvements to the existing condition included in the Baseline are presented in Appendix 6.1. Within the study area, these improvements include: [1] Programmed headway and service improvements on the following OCTA transit routes: [a] 29 Beach Boulevard, [b] 43 Harbor Boulevard, [c] 47 Fairview, [d] 52 Huntington Beach-Santa Ana, [e] 64 Bolsa, and [f] 70 Edinger-Irvine Center; [2] Recently completed reconstruction of I-405 south of Euclid Street to SR-73 to provide additional travel lanes, auxiliary lanes, ramp braiding, and interchange improvements; [3] Construction of a northbound ramp from Hyland Avenue; [4] Addition of an auxiliary lane between Magnolia Avenue and Beach Boulevard; and [5] Addition of a second HOV lane in each direction north of the interchange with SR-22 (near Valley View Street) to I-605 including direct carpool lane connectors between SR-22 and I-405 and between I-405 and I-605" (p. 20-21).

As reported by the FHWA: "The effect of 'doing nothing' to the transportation system is probably intolerable. Under the two percent VMT growth rate – roughly a continuation of recent trends – peak-period congestion will worsen substantially" (LSP, p. 3-8). Doing nothing is obviously not an option available to the OCTA and Caltrans (i.e., OCTA's and Caltrans' mandates require affirmative actions). Assuming no funding augmentation, with $500 million (or $600 million) in allocated Measure M funds, based upon its own declarations, the OCTA would pursue other actions/measures to comply with the Measure M mandate. By again alleging that the proverbial 'sky is falling" (e.g., "Congestion along the corridor would not be alleviated, and the situation would deteriorate with time," p. 2-23), that its "hands are tied" (e.g., "This alternative would be inconsistent with many regional and local planning goals and policies [e.g., cut-through traffic within neighborhoods located adjacent to I-405 during congested conditions, noise attenuation via the construction of soundwalls, enhanced roadway and freeway operations]," p. 3.1.1-20), and that the impacts of the "no build alternative" are greater than the impacts of the proposed action (e.g., "Direct effects of the No Build Alternative would include continued deterioration of freeway and local interchange operations. Indirect and cumulative effects of the No Build Alternative could include increased effects on the communities related to increased commute times and traffic diversion through adjacent neighborhoods," p. 2-24), the Lead Agency misrepresents both its consequential actions and those future project area conditions that would likely exist should Alternatives 1, 2, and 3 not be implemented. 132

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To the extent that the Lead Agency seeks to define the project in a fashion that substantially deviates from its Measure M/M2 mandate and the purpose for which the funds have been allocated and fails to pursue a design option that can be reasonably implemented within the fiscal limits imposed by its available resources, it self imposes artificial constraints that promote an alternative agenda. With "$500 million" (or $600 million) in committed Measure M funding and a MIS that identifies a build alternative that can be implemented within that available budget (or close thereto), it has to be assumed that a No Build Alternative is both feasible and exists in the form of a $500 million (or $600 million) investment in localized freeway improvements. By asserting that "[t]he No Build Alternative is not considered a viable project alternative because it would not achieve the project's purpose" (p. 2-26) demonstrates that the "project's purpose" (as presented in the DEIR/S) is substantially different than the basis upon which Measure M/M2 funds were originally committed. Additionally, by indicating that Alternative 4 is not economically feasible, then the cost estimates which served as the factual basis upon which Measure M/M2 were passed were either intentionally underestimated or were so unprofessionally prepared as to bear no relationship to the stated improvements. Since the Lead Agency is now contemplating the expenditure of a purported "$1.7 billion" (p. 2-10) or more (purported to be $5.8 billion by OCTA's CEO), the accuracy of OCTA's cost estimating skills and the role that the Department has played in independently validating those costs (see Utahns for Better Transportation v. United States Department of Transportation [2002]) must be brought into question. 133

The fact that OCTA's eyes ($1.1 to $5.8 billion) may be bigger that its stomach ($500 to $600 million) does not alleviate either the OCTA's or Caltrans' from their obligations to produce an adequate environmental analysis.

Similar to NEPA, the State CEQA Guidelines set out the dual character of the "no-project" alternative in situations where some other future development is likely under existing designations if the present project is disapproved. As stipulated therein: "The no project analysis shall discuss the existing conditions at the time the notice of preparation is published as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services" (14 CCR 15126.6[e][2]). Where the project is a development project on identifiable property, the following applies: "[T]he no project alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in its existing state against environmental effects which would occur if the project is approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this no project consequence should be discussed. In certain instances, the no project alternative means no build wherein the existing environmental setting is maintained. However, where failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment" (14 CCR 15126.6[e][3][B]). Because that description is not premised on existing entitlements, the expenditure of the $500 to $600 million in committed Measure M/M2 funds constitutes what would be "reasonably expected to occur."

Although recognizing that "[t]he existing condition is the 'CEQA Baseline' condition" (p. 4-23), the Lead Agency errors in stating that "[t]he No Build Alternative represents the 'baseline' condition" (Traffic Study, p. 1-8) and "[t]he No Build Alternative provides a 'baseline' for comparing impacts associated with the build alternatives. The baseline conditions under the No

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Build Alternative would provide no additional lanes or interchange improvements to the I-405 corridor. The project area would continue to operate with no additional improvements with the exception that the two earlier committed projects (SR-22 West County Connectors [WCC] Project and the Costa Mesa Freeway [SR-55] Improvements would be implemented)' (CIA, p. S-2). The City asserts that the No Build Alternative, or a variation thereof, must include those improvements that could be reasonably accomplished through the expenditure of $500 to $600 million in committed Measure M/M2 funds. 134

No other reference to the "Costa Mesa Freeway improvements" is presented in the DEIR/S. Further explanation of the nature and relevancy of those improvements is required, including an explanation why those improvements were not universally considered throughout the DEIR/S.

The DEIR/S' No Build Alternative does not meet applicable NEPA and CEQA requirements. 135

4.5 Operational Performance

The role of the EIR is to make manifest a fundamental goal of CEQA, namely to "inform the public and responsible officials of the environmental consequences of their decisions before they are made" (Laurel Heights Improvement Association v. Regents of University of California [1988]). In citing CEQA, the court stated that "'[t]he EIR must contain facts and analysis, not just the bare conclusions of the agency' [Citation]. 'An EIR must include detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project' [Citations]. 'CEQA requires an EIR to reflect a good faith effort at full disclosure; it does not mandate perfection, nor does it require an analysis to be exhaustive' [Citation]" (Bakersfield Citizens for Local Control v. City of Bakersfield [2004] [Bakersfield]). "Failure to comply with the information disclosure requirements constitutes a prejudicial abuse of discretion when the omission of relevant information has precluded informed decisionmaking and informed public participation, regardless whether a different outcome would have resulted if the public agency had complied with the disclosure requirements [Citations]" (Bakersfield, quoting from Dry Creek Citizens Coalition v. County of Tulare [1999]). Similarly, in Dry Creek Citizens Coalition v. County of Tulare (1999), the court stated that "[a]n adequate EIR must be 'prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences' [Citation]."

As indicated in the DEIR/S: (1) "Alternative 1 is considered a viable project alternative because it would achieve the project's purpose and need by accomplishing the following: [a] Reduce congestion; [b] Enhance operations; [c] Increase mobility, improve trip reliability, maximize throughput, and optimize operations; and [d] Minimize environmental impacts and ROW acquisition" (p. 2-8); (2) "Alternative 2 is considered a viable project alternative because it would achieve the project's purpose and need by accomplishing the following: [a] Reduce congestion; [b] Enhance operations; [c] Increase mobility, improve trip reliability, maximize throughput, and optimize operations; and [d] Minimize environmental impacts and ROW acquisition" (p. 2-10); and (3) "Alternative 3 is considered a viable project alternative because it would achieve the project's purpose and need by accomplishing the following: [a] Reduce congestion; [b] Enhance operations; [c] Increase mobility, improve trip reliability, maximize throughput, and optimize operations; and [d] Minimize environmental impacts and ROW acquisition" (p. 2-14).

As indicated in Caltrans' "Performance Measures for the Quarter Ending December 31, 2011" (Office of Strategic Planning and Performance Management, undated), it is the Department's

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broader objective to, "[b]y 2012, ensure that 100% of projects meet their approved purposes and need at project completion" (Objective 3.3, p. 22). The corresponding performance measure is the "[p]ercent of projects that meet their approved purpose and need at project completion" (ibid.). In the case of the proposed project, absent specified quantitative or qualitative standards, that performance measure is all but meaningless since there is no verifiable standard against which performance can be effectively judged. Merely stating that a specific project meets its "approved" P&N does not make it so absence of a qualitative or qualitative assessment of projected performance. **136**

What constitutes an "approved" purpose and need statement, what agency is responsible for that approval, and what is the process through which "approval" is vetted? How does Caltrans calculate full or partial attainment and evaluate performance? Was the proposed action's P&N and single objective (see p. S-1) "approved" and, if so, by who? **137**

As reported in "Suggested Procedures for Evaluating the Effectiveness of Freeway HOV Facilities" (Turnbull, Katherine F. Henk, Russell H., and Christiansen, Dennis L, February 1991):

> Many HOV facilities have been implemented without clearly defining the goals and objectives of the project. This lack of a clear understanding of the purpose and goal of the project makes evaluating the effectiveness difficult, since there is no way of knowing if the goal has been reached when the goal has not been defined. Compounding this problem in some cases is the use of objectives that either cannot be measured or are inappropriate.
>
> Many evaluations have been conducted using very general evaluation criteria. These measures may be as simple as a statement that the HOV lane should reduce travel times for bus and automobile commuters, without identifying the level of time savings that should occur. Thus, no benchmark or specific threshold is identified against which the project can be measured. If the HOV facility leads to any improvement in the general evaluation measure, the project is considered successful (p. 13).

The DEIR/S uses nebulous terms like "reduce," "enhance," "increase," "improve," "maximize," "optimize," and "minimize" (p. S-1); however, no effort has been made to: (1) define or quantify those terms so as to allow comparative evaluation; and (2) establish a yardstick above which conditions are deemed to be acceptable and below which they are deemed not. Freeway users might universally agree that "free flow conditions," "unrestrained speeds," and "extra-wide lanes" might be desirous; however, drivers accept some level of reduced flow and design constraints (e.g., speed limits) as trade-offs for living in southern California. Prior to stating that "we need this or that" (e.g., comparing "apples to apples" rather than "apples to oranges"), there needs to exist a more fundamental discussion concerning "what constitutes acceptable operational conditions" and "what types of trade-offs are reasonable, appropriate, and acceptable to fulfill broader societal goals." **138**

By defining the project "corridor" as a short segment of the I-405 Freeway and ignoring the benefits in a more programmatic approach to corridor planning, the only question now being asked is how many and what type of new lanes should be constructed along a defined segment (defined not by the boundaries of the condition that the proposed action seeks to resolve but by relatively arbitrary points of ingress and egress). As a profession, traffic engineers are now debating choices such as building or not building parking structures, asking whether the

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incentivization or decentivization of downtown parking produces the greatest potential to reduce inner-city traffic snarls (i.e., getting vehicles out of downtown areas).

The USEPA's OBNE notes that "[d]evelopment patterns have contributed to increased vehicle use. Investment in highway capacity encourages more vehicle travel by temporarily reducing travel time and costs. Dispersed, low-density development with significant distances between housing, jobs, schools, and shopping make walking, bicycling, or use of transit difficult for most trips. Urban design that emphasizes the automobile, such as large surface parking lots, wide streets, and a lack of sidewalks, make vehicle use more comfortable and safer than walking or bicycling, even for short trips" (p. 2).

The traffic modeling presented in the DEIR/S only serves to allow the Lead Agency and the affected public to answer the comparative question of which alternative is "better" with regards to the variables presented (i.e., vehicle throughput and relative speed). It does not, however, allow decision makers and stakeholders to ascertain whether different investment options (e.g., dedicated truck lanes, public transit, and bicycle lanes) may produce greater or lesser gains. **139**

The primary basis of the traffic study is vehicular throughput, defined as "the number of vehicles able to pass a fixed point along the corridor during the greatest hour of demand." This analytical approach focuses on vehicles passing particular points on the freeway but ignores a more critical measure of a transportation improvement, namely the movement of people and goods, particularly given our overburdened transportation system. Vehicle throughput does not provide complete disclosure of transportation impacts and mitigations (e.g., accommodation of added SOVs can adversely impact [a] the overall transportation system by reducing overall mobility and [b] the environment by increasing VMT) and results in a failure to consider other related transportation and environmental impacts beyond Caltrans' ROW. **140**

Although the DEIR/S uses a number of indices focusing exclusively on vehicle counts, such as "vehicles per lane per hour" (vphpl) and "vehicles per hour" (vph) (e.g., p. 3.1.6-75), the fundamental focus of transportation planning should more rightfully be directed toward the movement of people and goods (not only on the movement of automobiles and trucks). One of the criteria that should be appropriately utilized to evaluation performance relates to the number of people moved. Since HOVs would typically include more occupants that SOVs, an emphasis on vehicle throughput would not serve as a valid yardstick; however, person throughput is never considered. With regards to "vehicle throughput," as indicated in Table 11 (I-405 Improvement Project Alternatives Comparison - Vehicle Throughput), the Lead Agency makes specific representation as to performance (measured in percent improvement). Vehicle throughput is, however, measures against the Lead Agency's No Project Alternative which incorrectly assumes no improvements to the designated corridor, including those fully funding improvements identified in Alternative 4. **141**

Table 11
I-405 Improvement Project Alternatives Comparison - Vehicle Throughput

Performance	Alternative 1	Alternative 2	Alternative 3	No Build Alternative
SR-73 to Brookhurst Street	0%	0%	24%	Not specified
Brookhurst Street to SR-22 East	20%	40%	50%	Not specified
SR-22 East to I-605	13%	25%	23%	Not specified

Source: California Department of Transportation, Draft Environmental Impact Report/Environmental Impact Statement – San Diego Freeway Improvement Project, Orange and Los Angeles Counties, California, SCH #2009091001, Table 2-1 (I-405 Improvement Project Alternatives Comparison), p. 2-30

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In "What We've Learned about Highway Congestion," included in "Access – Transportation Research at the University of California" (Fall 2005), the author (Pravin Varaiya) notes: "A high-occupancy-vehicle (HOV) restriction reduces congestion by encouraging carpooling. But it also increases congestion in two ways. First, the restriction imposes a non-HOV congestion penalty by increasing congestion on the non-HOV lanes. Second, it imposes an HOV capacity penalty by decreasing the capacity of the HOV lane itself. Analysis of Bay Area data suggests that the effect of the combined penalties is larger than the positive carpooling effect. Thus, the likely net result of HOV restrictions in the Bay Area is worsening congestion. Bay Area data facilitate such assessments because the area's HOV lanes are time limited (5:00 to 9:00 a.m. and 3:00 to 7:00 p.m.), allowing us to compare traffic on the same freeway segments during and outside of HOV restriction periods" (p. 7).

"Bay Area data" would appear to have substantial relevancy in assessing the proposed project because much of the methodology cited in the DEIR/S was "developed by Bay Area Metropolitan Transportation Commission" (e.g., Traffic Study, pp. 2.5-25, 2.6-25, and 2.7-27). Why were "time limited" HOV lanes not included in the environmental analysis?

As further indicated in "Caltrans Strategic Plan 2007-2012" (December 17, 2007) and Caltrans' "Performance Measures for the Quarter Ending December 31, 2011" (undated), one of the Department's mobility goals states: "By 2012, reduce single occupancy vehicle (SOV) commute trips by 5%" (Objective 2.4). Pursuant to its strategic plan, strategies to accomplish that objective include: (1) "Work closely with local jurisdictions on land use issues to promote mode shift" (Strategy 2.4.1); (2) "Partner with stakeholders and region on implementing Transportation Demand Strategies" (Strategy 2.4.2); (3) "Establish baseline performance data for vehicle occupancy" (Strategy 2.4.3); (4) "Improve interconnectivity between modes (Strategy 2.4.4); (5) Complete California's HOV system" (Strategy 2.4.5); (6) "Partner with transit and rail authorities making transit options more useful, inviting, and less difficult to use" (Strategy 2.4.6); (7) "Increase support for non-motorized and promotion/incentives for use of other alternative means of transportation" (Strategy 2.4.7); and (8) "Assess the need for a Park and Ride Lot Program" (Strategy 2.4.8). The corresponding "performance measure" is the "percent of single-occupant vehicles compared to the total commute trips" (PM2.4A). As outlined in "Performance Measures for the Quarter Ending December 31, 2011," categories of "commute trips" include drove alone (single-occupant vehicles), carpooled, public transportation, walked, bicycle, motorcycle, other means, and worked at home. The performance report states that a reduction in SOV commute trips is the "desired trend."

Notwithstanding that Statewide policy declaration, under Alternative 3, Caltrans is proposing to allow SOVs to utilize the HOT lanes, thus creating an incentive for single-occupant travel and, in so doing, a disincentive for carpool formation. Although the Traffic Study alleges that "[t]he Express Lanes would encourage carpooling" (p. 1-12), the introduction of HOT lanes would appear to promote rather than curtain single-occupant automobile usage. As such, because the Department's Statewide goals appear divergent from project-specific objectives, the DEIR/S should explain this apparent dichotomy and describe how the introduction of HOT lanes will promote the attainment of Statewide "Objective 2.4." **142**

As specified in the FHWA's "Federal-Aid Highway Program Guidance on High Occupancy Vehicle (HOV) Lanes" (August 2008), "[e]ffective management of an HOV lane involves developing and using an HOV operation and enforcement plan, along with a performance-monitoring program (p. II-2). States implementing low-emission and energy-efficient and/or HOT vehicle exceptions must operate in accordance with the restrictions and requirements of

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Section 166(d) in Title 23 of the U.S.C. which established a minimum average operating speed that HOV facilities with exempted vehicles must maintain. In accordance therewith, the minimum average operating speed is defined at Section 166(d)(2)(A) as 45 miles per hour (mph) for an HOV facility with a speed limit of 50 mph or greater and not more than 10 mph below the speed limit for a facility with a speed limit of less than 50 mph.

The Federal Clean Air Act Amendments (CAAA) created the inherently low-emission vehicle (ILEV) program and TEA-21 allowed States to authorize ILEVs to use HOV lanes without meeting the occupancy requirements. Absent from the Lead Agency's air quality conformity analysis is any reference to or compliance with this authorization.

Recently approved regulations of the California Air Resources Board (CARB) require automobile manufacturers to offer more zero- or very low-emission cars (e.g., battery electric, hydrogen fuel cell and plug-in hybrid vehicles) in California starting with model year 2018. By 2025, one in seven new automobiles sold in California (roughly 1.4 million) must be ultra-clean.

As indicated in Table 2.5.10 (Speed Index and Demand-to-Capacity Ratio Summary – Alternative 1 [2040]), as presented in the Traffic Study, no segments of the designated corridor achieve that standard. As further indicated in Table 2.6.10 (Speed Index and Demand-to-Capacity Ratio Summary – Alternative 2 [2040]), with the sole exceptions of northbound Brookhurst to SR-22 East during the AM peak hour and southbound Brookhurst to SR-22 East in the PM peak hour, under Alternative 2, the HOV lane does not appear to meet the specified standard. Although the Lead Agency deems Alternative 2 to be a success (i.e., "Alternative 2 is considered a viable project alternative because it would achieve the project's purpose and need," p. 2-10), low-emission, energy-efficient, and HOT vehicles would be prohibited from using the HOV lane. Building in prohibitions on use by low-emission and energy-efficient vehicles would appear contrary to any P&N statement promoting the minimization of environmental impacts. No such disclosure is, however, presented in the DEIR/S. **143**

Referencing Table 2.7.10 (Speed Index and Demand-to-Capacity Ratio Summary – Alternative 3 [2040]), the City acknowledges that all segments of the corridor exceed the federal standard; however, because it was neither established as an objective nor examined by the Lead Agency, the Department never considers potential modifications to Alternative 2 (e.g., increased vehicle occupancy requirements) allowing utilization by low-emission and energy-efficient vehicles. **144**

Conversely, Section 166(d)(2)(B) provides that an HOV facility is considered degraded if average operating speed in the HOV lanes drops below 45 mph for 90 percent of the time over a consecutive 180-day period during morning or evening weekday peak hour periods (or both for a reversible facility). If HOT or low-emission and energy-efficient vehicles are allowed to use an HOV lane and the lane becomes degraded, Section 166(d)(1)(C) requires the State to limit or discontinue the use of the lane by the number of HOT vehicles and/or low-emission and energy-efficient vehicles necessary to bring the facility back to compliance or to take other actions that will quickly bring the operational performance up to the Federal standard. **145**

When exempted vehicles are allowed to operate on HOV facilities, the State must annually certify to the FHWA that it continues to meet all requirements of 23 U.S.C. 166, including those related to vehicle eligibility; operational performance monitoring, evaluation, and reporting; and enforcement. The State is required to include in its certification a clear demonstration that the presence of low-emission and energy-efficient or HOT vehicles has not caused the facility to become degraded (as defined by 23 U.S.C. 166[d][2][A]).

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For HOT lanes (pursuant to 23 U.S.C. 166[d]), the following additional elements are required in the annual certification: (1) the State must indicate the presence of a program that addresses how motorists can enroll and participate in the toll program; (2) the State must indicate that it has implemented a system that will automatically collect the tolls or indicate that such a system will be implemented in a reasonable period of time following establishment of the HOT lane; and (3) the State must demonstrate policies and procedures to manage demand for the facility by varying the toll amount, if necessary to ensure acceptable performance. Absent from the DEIR/S is any discussion of: (1) the existing facility's compliance with those standards; (2) the ability of Alternative 3 to conform therewith; and (3) operational and monitoring considerations proposed to ensure on-going attainment of operational performance requirements. In addition, based on those projects and other actions identified therein, the OCTA's 2010 LRTP identifies "level of improvement of the Year 2035 Unconstrained Plan over the Year 2035 Baseline" (p. 89). Those performance measures, as listed in Table 12 (Unconstrained Plan Performance Analysis), constitute potential performance standards against which individual project's can and should be judged. Absent from the DEIR/S, however, is any reference to those performance measures or any evaluation of the proposed action's furtherance or compliance thereof. 146

Table 12
Unconstrained Plan Performance Analysis

Performance Measure	2035 Baseline	2035 Unconstrained Plan
Daily vehicle hours traveled	3.4 million	Reduce by 24%
Daily hours of delay due to congestion	1.5 million	Reduce by 58%
Average peak period freeway speed (AM)	29 miles per hour	Increase by 31%
Average peak period HOV speed (AM)	35 miles per hour	Increase by 32%
Average peak period roadway speed (AM)	13 miles per hour	Increase by 86%
Daily transit trips	144,000	Increase by 55%

Source: Orange County Transportation Authority, Destination 2035 – Moving Toward a Green Tomorrow, Table 5-12 (Unconstrained Plan Performance Analysis [Compared to 2035 Baseline), p. 89.

4.6 Toll Revenues

If a State chooses to implement variable or dynamic pricing on an HOV facility, a Section 166 (23 U.S.C. 166) toll agreement must be executed pertaining to the use of toll revenue collected from the operation of the facility. Specifically, tolls may be collected subject to the requirements of Title 23 U.S.C. Section 129, which mandates that all toll revenues will be used first for debt service, for reasonable return on investment of any private person financing the project, and for the costs necessary for the proper operation and maintenance of the facility (including reconstruction, resurfacing, restoration, and rehabilitation). Section 129 further provides that if there are any excess revenues, then the State may use these revenues for any purpose that is eligible under Title 23 as long as the State annually certifies that the facility is being adequately maintained. Section 166 further requires that the State, in using any excess toll revenue, give priority consideration to projects for developing alternatives to SOV travel and projects for improving highway safety.

To the extent that a public project produces revenues, those revenues constitute a component of the proposed action and are, therefore, a subject of the resulting environmental analysis. Absent from the DEIR/S, however, is any discussion of toll revenues, such as the amount anticipated, authorizations concerning and limitations regarding the use of those funds, and 147

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OCTA's tentative plans concerning those public monies (e.g., "All toll revenues would go to the P3 Concessionaire"). Also, the Lead Agency does not specify whether a P3 agreement (including the allocation of public funds to private for-profit entities), as a component of the proposed action or a consequential result thereof, is subject to CEQA and/or NEPA compliance.

How would the conveyance of "all toll revenues" to a private concessionaire affect the ability of the OCTA and the Department to utilize those same revenue to pursue TSM/TDM programs or provide environmental mitigation in response to the proposed action? What are the projected gross and net revenues from Alternative 3 and how was that projection derived? What economic information is presented to or will likely be presented to the project's decision makers that has not been included in the DEIR/S? Why has the Lead Agency elected not to include any economic information in the DEIR/S? 148

Since the DEIR/S does not address the generation or dispersion of toll revenues, design-build construction strategies, or P3 agreements, insufficient information is provided by the Lead Agency to submit meaningful comments thereupon. The City's inability to raise substantive comments should neither be construed by the Lead Agency as any endorsement of agency plans or proposals nor affirmation that construction and operational (e.g., "The operation of the tolled lanes would be funded by toll revenue, p. 2-3) issues regarding those items would not result in the generation of potentially significant environmental effects.

4.7 Consistency with Regional and Local Transportation Plans

4.7.1 Consistency with Regional Transportation Plans

As indicated in the DEIR/S, the "proposed project is included in the 2008 Regional Transportation Plan (RTP) and 2011 Federal Transportation Improvement Program (FTIP) and includes the following project description for the project [ORA030605]: "FROM SR-73 TO I-605 ADD 1 MF [mixed flow or GP lane] LANE EACH DIR AND PROVIDE ADDITIONAL CAPITAL IMPROVEMENTS, INCLUDING PROJECTS ORA045, ORA151, ORA120310" (pp. 1-1 and 4).

As indicated in the OCTA's "Project Study Report/Project Development Support" (July 2008): "The proposed project is included in the Southern California Association of Governments 2004 Regional Transportation Plan (RTP) as project ORA030605. The project was added to the RTP in Amendment #3, which was adopted June 7, 2007. The project is included in the RTP for study only. The project description would "construct on [sic] additional general purpose lane in each direction on I-405 and provide additional improvements from SR-73 to LA County line" (emphasis added) (p. 18). From these excerpts, with regards to conformity with the RTP, regional plan consistency only exists to the extent that a single mixed-flow (general purpose) lane where to be implemented (Alternative 1) (e.g., "Alternative 2 is not consistent with the RTP or FTIP," p. 3.1.1-31; "Alternative 3 is not consistent with the current RTP or FTIP, p. 3.1.1-32). Similarly, since ORA030605 was included "for study only," from that declaration, it cannot be assumed that the merely listing of that project equated to regional plan consistency. 149

As indicated in the CIA, Alternatives 2 and 3 are "[c]urrently, inconsistent with the Regional Transportation Plan (RTIP) 2008" (p. S-4). The DEIR/S notes that "the design concept and scope for Alternatives 2 and 3 are substantially different from what was analyzed in the 2008 RTP" (emphasis added) (p. 4-5) and "Alternatives 2 and 3 will have to go through the SCAG RTP and FTIP amendment process prior to being able to determine consistency with the plans" (p. 4-5). As such, neither Alternatives 2 nor 3 can be deemed consistent with the RTIP. 150

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On December 12, 2011, the OCTA Board approved the OCTA's "Express Lane Planning and Implementation Principles." As indicated, in part, therein: (1) "Design and management of the interface of express lane facilities with existing freeway, high-occupancy vehicle, and express facilities shall seek to achieve a consistent, seamless user experience"; (2) "Express lane projects shall not be implemented to replace committed projects to be funded with local transportation sales tax revenues"; (3) "Although Caltrans and Federal Highway Administration control highway operations, OCTA does not intend to replace existing mixed-flow freeway lanes with express lanes"; and (4) "Existing high-occupancy vehicle lanes may be functionally encompassed within an express lane, provided: (a) The total number of lanes is increased by the project; and (b) Both vehicle throughput and average vehicle occupancy levels can be maintained and/or improved" (emphasis added).

Absent from the DEIR/S is any reference to or analysis of the proposed actions consistency and compliance with OCTA's adopted "Express Lane Planning and Implementation Principles." However, since "[e]xpress lane projects shall not be implemented to replace committed projects," it would appear that Alternative 4 constitutes the only build alternative consistent with that policy document. What is the Lead Agency's definition of "committed projects"? 151

In addition, absent from the DEIR/S is any analysis of the proposed action's consistency with the 2012 RTP/SCS. Since "[l]and use impacts would occur if the proposed project effects would conflict either with General Plan land use designations or zoning, or with applicable environmental plans and policies" (p. 3.1.1-20), the DEIR/S' failure to address (or even acknowledge the existence of) the 2012 RTP/SCS prevents the Lead Agency from determining the presence of potential conflicts with applicable plans and policies.

The 2012 RTP/SCS notes that the congestion management process (CMP) "requires and ensures that highway capacity projects that significantly increase the capacity of single occupancy vehicles (SOV) be developed in a comprehensive context that considers all possible alternatives, including transit, TDM and TSM strategies" (emphasis added) (p. 40). As a result of the inclusion of Alternative 3 and its allocation of finite capacity to SOVs to the deference of HOV+2, any assertion of regional plan consistency would necessitate that the proposed action's CEQA and NEPA documentation examine the project in a "comprehensive context" (e.g., program-scale corridor planning) and include an expanded analysis of both transit and TDM/TSM alternatives.

As further evidence of project fragmentation, ORA030605 has been included on the list of "FTIP Project" in the 2012 RTP/SCS. That project is described as "I-405 FROM SR-73 TO I-605 ADD 1 MF LANE EACH DIR AND PROVIDE ADDITIONAL CAPITAL IMPROVEMENTS. #317. COMBINED WITH ORA045, ORA151 AND ORA120310" (emphasis added) (p. 66). Although those "combined" projects are not separately identified in the 2012 RTP/SCS, referencing the "Orange County RTIP Project" list which was included in the 2008 RTP, the following additional projects have been identified: (1) ORA045 – "BOLSA AVE (CHESTNUT TO GOLDENWEST) WIDEN BOLSA AVE BRIDGE FROM 4 TO 6 LANES" (p. 47); (2) ORA120310 – "WESTMINSTER – GOLDENWEST BRIDGE WIDENING OVER I-405, ADD 1 SB LN (5 TO 6 LNS)" (p. 50); and (3) ORA151 – "BOLSA CHICA RD (DUNCANNON TO RTE 405 WIDEN FROM 4 TO 6 LANES" (p. 51). Although SCAG now defines ORA030605, ORA045, ORA151, and ORA120310 as a single project, improvements to "combined" local arterials and bridge overcrossings have been separately processed and have neither been identified as a part of the proposed action nor have the cumulative impacts of those improvements been incorporated into the Lead Agency's analysis of cumulative environmental effects. 152

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4.7.2 Consistency with Local Transportation Plans

The determination of consistency of lack of consistency with local plans is a critical determination under NEPA. In Maryland-National Capital Park and Planning Commission v. U.S. Postal Service (1973), the Court stated: "When local zoning regulations and procedures are followed in site location decisions by the Federal Government, there is an assurance that such 'environmental' effects as flow from the special uses of land - the safety of the structures, cohesiveness of neighborhoods, population density, crime control, and esthetics - will be no greater than demanded by the residents acting through their elected representatives." Although a limited number of compatible policies may be identified, in whole, the City has determined that the proposed action is not sufficiently consistent with the Seal Beach General Plan. 153

Based on their unique perspective and special expertise, the Lead Agency should defer to local government decisions concerning the interpretation and project-specific application of local plans and policies adopted by those agencies for the purpose of environmental protection.

5.0 ENVIRONMENTAL COMPLIANCE

CEQA contains a "substantive mandate" requiring public agencies to refrain from approving projects with significant environmental effects if "there are feasible alternatives or mitigation measures" that can substantially lessen or avoid those effects (Mountain Lion Foundation v. Fish and Game Commission [1997]). As specified in Citizens of Goleta Valley v. Board of Supervisors (1988): "CEQA defines 'feasible' as 'capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors' [Citation]. The fact that an alternative may be more expensive or less profitable is not sufficient to show that the alternative is financially infeasible. What is required is evidence that the additional costs or lost profitability are sufficiently severe as to render it impractical to proceed with the project." Compliance with that "substantive mandate" requires that the Lead Agency both "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project" (14 CCR 15126.6[a]) and "identify and focus on the possible significant impacts of the proposed project" (14 CCR 15126.2[a]). Absent from the DEIR/S is both a range of reasonable alternatives and objective analysis of the potential environmental effects of the proposed action. 154

5.1 Tiering or Environmental Documents

CEQ Regulations (40 C.F.R. Parts 1500-1508) and FHWA regulations (23 C.F.R. 771.111[g]) recognize the use of tiering as one option for complying with NEPA. The intent if tiering is to encourage agencies to eliminate repetitive discussions and focus on the actual issues which are ripe for decision at each level of environmental review.

The genesis of the proposed action stems from the passage of Measure M in November 1990 and Measure M2 in November 2006. Each of the capital improvements projects identified therein constitute a "program" collectively addressing identifiable and interrelated traffic and transportation problems within Orange County. Additionally, projects that are consistent with applicable regional transportation plans can avail themselves of certain environmental standards and practices designed to promote both permit streamlining and environmental disclosure. Although both CEQA and NEPA encourage and promote the "tiering" of environmental documents, the Lead Agency has not elected to tier the DEIR/S upon the 2012

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RTP/SCS PEIR. It is assumed that the decision not to pursue tiering is the result of: (1) the 2012 RTP/SCS' broader focus on sustainability and the implications of that focus on alternative solutions and general aversion to SOVs; (2) the lack of consistency between the proposed action and the 2012 RTP/SCS; (3) an attempt to support the asserting that the proposed action has "independent utility and logical termini" and can be viewed as independent of other segments of the regional network; and/or (4) an attempt to avoid the disclosure of cumulative environmental effects, including the linkage between transportation and growth. **155**

As indicated in the SAFETEA-LU Guidelines: "The FHWA/FTA guidance on linking planning and NEPA describes considerations for using planning information in the NEPA process. In accordance with that guidance: [1] The purpose and need for a project can be shaped by goals and objectives established in a corridor or subarea study carried out by a state DOT, MPO [metropolitan planning organization], or transit agency as part of the statewide or metropolitan planning process; [2] A general travel corridor or general mode or modes (i.e., highway, transit, or a highway/transit combination) resulting from transportation planning analyses may be part of the project's purpose and need statement; and [3] If the financial plan for an MPO's long-range transportation plan indicates that funding for a specific project will require special funding sources (e.g., tolls or public-private financing), such information may be included in the purpose and need statement" (Question 33).

As further indicated in the FHWA's "Guidance on Using Corridor and Subarea Planning to Inform NEPA" (April 5, 2011): "In February 2007, the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) issued statewide and metropolitan transportation planning regulations that implemented changes to Federal law as a result of Public Law 105-178, the Transportation Equity Act for the 21st Century (TEA-21) and Public Law 109-59, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). The transportation planning regulations supplement authority under the Council on Environmental Quality (CEQ) NEPA regulations and allow the FHWA and FTA, as NEPA lead agencies, to use the results or decisions of in State department of transportation (DOT), metropolitan planning organization (MPO), or public transportation operator corridor and subarea planning studies as part of the environmental review process under NEPA so long as legal requirements are met. . .The statewide and metropolitan transportation planning regulations and Appendix A to 23 C.F.R. Part 450 allow for analysis from corridor and subarea studies to be fully utilized during project environmental review, when conditions in that regulation are satisfied" (pp. 1-2). "Corridor and subarea studies can be used to produce a wide range of analyses or decisions for FHWA review, consideration and possible adoption in the NEPA process for an individual transportation project, including: [1] The foundation for purpose and need statements; [2] Definition of general travel corridor and/or general mode(s); [3] Preliminary screening of alternatives and elimination of unreasonable alternatives; [4] Planning-level evaluation of indirect and cumulative effects; [5] Regional or eco-system-level mitigation options and priorities; and [6] Linkage with housing, development, economic, and environmental goals and analysis" (p. 5). Despite those benefits, no efforts have been made to either define the proposed action in the context of a broader planning-related corridor or utilize foundational work contained in SCAG's subarea plans. **156**

5.2 Fragmentation/Segregation

As indicated in the NSR: "I-405 is considered a bypass route to the Interstate 5 (I-5) Santa Ana/Golden State Freeway through Orange County and an important component of the county's transportation system" (emphasis added) (p. 1). As further indicated in the DEIR/S, the "I-405

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represents a major link to other freeway systems within the Orange County area and is a strategic component of the county's transportation system" (emphasis added) (p. 1-19). Webster defines a "system" as "[a] regularly interacting or interdependent group of items forming a unified whole." Although the Lead Agency recognizes that the I-405 Freeway is part of a larger functioning and interconnected "system," only a small part of that system has been considered in the DEIR/S. Absent from the DEIR/S is any discussion of the operation of the system as a whole or the relationship between its component parts. For example, to the extent that the I-405 is a "bypass route to the Interstate 5," then the converse is likely true (i.e., Interstate 5 is a bypass to the I-405). During the project's 4.5-year construction period, some number of drivers may, therefore, elect to divert their trips to the I-5 Freeway in order to avoid the construction zone. Similarly, once a toll is imposed, non-toll paying SOVs and HOV+2 (who might otherwise be charged a toll) may change their trip patterns to use the I-5 in lieu of the I-405 Freeway. Although the relationship between those two highways is acknowledged (i.e., "bypass"), no analysis of trip diversion between those two highways is presented. **157**

Pursuant to Section 1501.2(b) of the CEQ Regulations, agencies shall "identify environmental effects and values in adequate detail so they can be compared to economic and technical analyses." The federal court (Fritiofson v. Alexander) has stated that CEQ's regulations require connected, cumulative, and similar actions to be considered together in the same EIS. Where proposals are functionally or economically related, those proposals must be considered in a single EIS.

In "Update on Project Alternatives for the San Diego Freeway (Interstate 405 Improvement Project)," as presented at the OCTA Board of Director's August 24, 2009 meeting, the OCTA noted that if the I-405 Freeway were to be "built for demand – up to 20 lanes [would be] needed" (p. 3). The PSR/PDS identifies a 2030 horizon year (e.g., "The design year used for the PSR/PDS is 2030 as approved by the PDT [Project Development Team]. Year 2030 is the current forecast year for OCTAM [Orange County Transportation Analysis Model] and the horizon year for the SCAG Regional Transportation Plan," p. 16).

In actuality, the forecast year for the 2012 RTP/SCS is not 2030 as indicated in the DEIR/S but 2035. As indicated in the DEIR/S' traffic analysis, a 2040 design year has been assumed (p. 3.1.6-39). If "up to 20 lanes" were determined to be "needed" by 2030, an even greater number of lanes would logically be needed in either 2035 or 2040. The Lead Agency states that the "No Build Alternative configuration would not accommodate future traffic demand" (p. 2-23). However, since OCTA itself states that "20 lanes [are] needed" by 2030, it is evident that none of the three build alternatives will "accommodate" projected future traffic demand. From those excerpts, it become evident that the proposed action constitutes only a short-term solution to identified "congestion" problems and that the proposed improvements include an eye toward subsequent expansion (e.g., "Alternative 3 would provide a full standard highway cross section, with 12-ft-wide mainline travel lanes and shoulders on the left and right sides in both directions," p. 2-11). As such, while building in flexibility for later expansion through retention of lane-sized shoulders, the Lead Agency recognizes but never discloses the anticipated need for subsequent improvements to the I-405 Freeway corridor beyond its stated horizon. Just as geographic boundaries cannot be arbitrarily set to avoid the analysis of "what's just around the corner," self-imposed blinders cannot be installed to avoid, at least a perception, of "what's up ahead." **158**

In certain circumstances, California authorizes the use of shoulders and/or narrow lanes on freeways as travel lanes. As indicated in the FWHA's "Efficient Use of Highway Capacity Summary – Report to Congress" (November 2010): "In dedicated shoulder-lane operations,

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either general purpose or HOV-specific capacity has been added through the permanent conversion of shoulders. Most HOV applications use the interior lane for HOV operations, while the exterior shoulder is used for general purpose traffic so as to maintain the same number of general purpose lanes that existed prior to implementation. A typical HOV application would convert a three-lane freeway with 12-ft lanes, 10-ft exterior shoulder, and 8-ft interior shoulder to 11-ft general purpose lanes, 14-ft (including buffer striping) HOV lane, 5-ft exterior shoulder, and 2-ft interior shoulder" (pp. 25-26). While "[i]t is always desired to have a minimum 12-ft lane width for all freeway travel lanes. . .with regard to temporary shoulder use, narrower lane widths can be acceptable due to the limited use and operating conditions during their use" (p. 35). Designed with a 14-foot wide interior shoulder and 10-foot wide exterior shoulder, the proposed I-405 Freeway improvements could be subsequently converted to readily accommodate both an additional HOV/HOT lane and an additional GP or transit-only lane. Within the general project area, such conversions have occurred along the I-5 Freeway. **159**

By maintaining shoulder widths conforming to the above standards, the Lead Agency appears acknowledge that additional capacity-enhancing efforts will be required in the future. The conversion of interior and exterior shoulders to temporary of permanent HOV and GP lanes would appear a logical "next step."

In accordance with CEQ Regulations, the purpose of cumulative effects analysis is to document agency consideration of the context and intensity of the effects of a proposal for agency action, particularly whether the action is related to other actions with individually insignificant but cumulatively significant impacts (40 CFR 1508.27[b][7]). Under NEPA, the federal court noted that "[p]lanning and building highways in a piecemeal fashion threatens to frustrate [the analysis of alternatives required by NEPA] by allowing a gradual, day-to-day growth without providing an adequate opportunity to assess the overall, long-term environmental effects of that growth" (Patterson v. Exon [1976]). Under CEQA, segmentation occurs when a single project is split into smaller components with the effect of avoiding analysis of the environmental impacts of the total project (Burbank-Glendale-Pasadena Airport Authority v. Hensler [1991]). The harm created by segmentation is that "a narrow view of a project could result in the fallacy of division, this is, overlooking its cumulative impacts by separately focusing on isolated parts of the whole." Accordingly, under CEQA, the term "project" is "given a broad interpretation in order to maximize protection of the environment" (McQueen v. Board of Directors of the Mid-Peninsula Regional Open Space District [1988]). An "impermissably truncated" project description severely distorted not only the actual project but the alternatives to the project. Even were the EIR is deemed to be adequate in all other respects, the selection and use of a "truncated project concept" constitutes a violation of CEQA (County of Inyo v. City of Los Angeles [1981]).

As indicated in Caltrans' "California HOV/Express Lane Business Plan 2009," excluding toll roads in Orange County (e.g., SR-73, SR-133, SR-241, and SR-261), "[a]s of July 2008, the existing HOV lane system had 1,424 existing lane-miles and 124 lane-miles under construction. Future expansion of the network includes 269 programmed lane-miles and 974 proposed lane-miles planned by state and local agencies" (p. 5). In that publication, no "express lanes" are "planned or programmed" along the I-405 Freeway between the I-605 and SR-73 Freeways. Although the proposed action constitutes a modification of and addition to the "California HOV/Express Lane Business Plan," by asserting that the proposed action has independent utility and logical termini" (DEIR/S, p. 1-24), the Lead Agency seeks to ignore the existence of and contributory environmental impacts of those functionally or economically-related facilities. **160**

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In Kings County Farm Bureau v. City of Hanford (1990), the court ruled that an EIR is deficient if it "avoids analyzing the severity of the problem and allows the approval of projects which, when taken in isolation, appear insignificant, but when viewed together, appear startling."

For example, the Department states that anticipated toll rates for travel through the designated 14-mile to 16-mile corridor may be $9.75 during peak period (p. 2-20). It is not inconceivable that tolls along the abutting limited-length "corridor" to the north (under the jurisdiction of the Los Angeles County Metropolitan Transportation Authority) and tolls along the abutting limited-length "corridor" length to the south (under the jurisdiction of the OCTA but potentially operated by a different P3 concessionaire) might also be "similar" (expressed in 2012 dollars). A driver's 42-mile to 48-mile morning commute to work might, therefore, cost $29.25 or, assuming those rates are reversed during the PM peak hour, $58.50 a day ($292.50/ week or $14,625/year).

As indicated in the Seal Beach General Plan (Housing Element), "[t]he area median income for Orange County in 2011 was reported as $84,200. For extremely-low-income households in Orange County, this results in an income of $27,700 or less for a four-person household, when adjusted for high housing costs" (p. II-7). Based on that median annual income, an Orange County resident using the proposed HOT lanes as a part of a daily commute to work would spend over 50 percent of their household income merely on toll fees. Toll fees would likely consume too large of a percentage of living costs even for occasional use. **161**

Similarly, as indicated in the LACMTA's "HOV Performance Program Evaluation Report," "[l]ow speeds encountered as vehicles in the carpool lanes approach the carpool lane terminus and experience delays reentering the general-purpose traffic stream. These delays can nullify travel time savings accrued upstream while traveling in the carpool lane" (p. 96). To the extent that the Lead Agency seeks to define the project "corridor" as only a segment of an interconnected network, the environmental analysis needs to acknowledge that substantial bottlenecks will be created at each end and that any alleged travel time savings may, in fact, be "nullified." By focusing exclusively on the identified corridor, insufficient information is presented to fully consider the traffic-related ramifications both to the north and to the south.

As indicated in "San Diego Freeway (I-405) Frequently Asked Questions" (USDOT, Caltrans, and OCTA, undated) (http://www.octa.net/pdf/405/faq.pdf):

> The maximum number of lanes northbound on I-405 under any of the current alternatives would be ten, including two carpool lanes. Conceptual engineering showed that two lanes would be terminated into SR-22/7th Street, three lanes (one carpool lane and two general purpose) would terminate into I-605 northbound, and five lanes (one carpool lane and four general purpose) would continue northbound on I-405 matching the existing condition in LA County. During the upcoming environmental and preliminary engineering phase, a detailed traffic study will be conducted to determine what potential traffic impacts might occur near the LA County line and how such impacts might be avoided, minimized, or mitigated (Question 20).

Despite the Lead Agency's declaration that potential bottlenecks attributable to lane merging near the County line will be examined in the DEIR/S, no such analysis is presented therein.

As outlined in 23 C.F.R. 771.111(f), in order to ensure meaningful evaluation of alternatives and to avoid commitments to transportation improvements before they are fully evaluated, the action evaluated in each EIS shall: (1) connect logical termini and be of sufficient length to address **162**

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environmental matters on a broad scope; (2) have independent utility or independent significance (i.e., be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made); and (3) not restrict consideration of alternatives for other reasonably foreseeable transportation improvements. The FHWA's assessment of independent utility and logical termini occurs during the NEPA review and is intended to include consideration of whether the proposed action will result in a usable facility and will be a reasonable expenditure, even if no additional improvements in the area are made. **162**

Referencing the "HOV/Express Lane Business Plan 2009": "According to a report by Caltrans, nearly 50% of the HOV lanes in the state experience periods of degradation in the peak hour according to the federal definition – meaning that average speeds of 45 mph speed or lower have been measured more than 10% of the time" (p. 9). As such, "50% of the HOV lanes" in California share a similar malady. Rather than seeking a cure, Caltrans seeks to apply temporary solutions one freeway leg at a time.

Absent from the DEIR/S is any reference to the following current HOT/HOV lane projects: (1) "Draft Environmental Impact Report/Environmental Impact Statement and Section 4(f) Evaluation - I-710 Corridor Project, Los Angeles County, California, District 07-LA-710-PM 4.9/24.9, EA 249900" (Caltrans and LACMTA, June 2012) (I-710 Corridor DEIR/S); (2) "Final Environmental Impact Report/Environmental Assessment with Finding of No Significant Impact – The Interstate 10 (San Bernardino Freeway/El Monte Busway) High Occupancy Toll Lanes Project, SCH No. 2009061060" (Caltrans, April 2010); (3) "Final Environmental Impact Report/ Environmental Assessment with Finding of No Significant Impact – The Interstate 110 (Harbor Freeway/Transitway) High Occupancy Toll Lanes Project, SCH No. 2009061059" (Caltrans, April 2010); (4) "Draft Environmental Impact Report – Add One High Occupancy Vehicle Lane in Each Direction on the San Bernardino Freeway (Interstate 10) from Puente Avenue to State Route 57/71 in Los Angeles County" (Caltrans and LACMTA, November 2011); and (5) "Final Environmental Impact Report/Environmental Impact Statement -- Interstate 5 (Santa Ana Freeway) from State Route 91 in Orange County to Interstate 605 in Los Angeles County, California" (Caltrans and FHWA, June 19, 2007) (I-5 FEIR/S). Similarly, absent there from is any discussion of planned or proposed transit expansion projects including, but not limited to, the California High-Speed Rail Authority's "California High-Speed Train."

The Lead Agency states that "'[s]egmentation' may occur when a transportation need extends throughout an entire corridor, but environmental issues and transportation needs are inappropriately discussed for a segment of the corridor" (p. 1-24). The DEIR/S then goes on to conclude that "[t]he proposed project satisfies the requirements for independent utility and logical termini" (p. 1-22) and "[b]y meeting FHWA requirements for independent utility and logical termini, and offering several transportation improvements within these boundaries, the project avoids 'segmentation'" (p. 1-24). The City disagrees with that rationalization. Rather than presenting reasoned analysis of the Lead Agency's rationale for the establishment of "independent utility and logical termini," only a conclusionary statement is presented absent supporting documentation. Since improvements to other segments of the I-405 and I-605 Freeways (and other freeways in southern California) can be reasonably anticipated, by defining the project's "corridor" and "termini" in the manner presented, the Lead Agency presents an incomplete and flawed environmental analysis. **163**

As indicated in a Memorandum from FHWA's Director, Office of Environmental and Planning to Regional Federal Highway Administrators and Federal Lands Highway Program Administrators (Subject: Guidance on the Development of Logical Project Termini), dated November 5, 1993:

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"Logical termini for project development are defined as (1) rational end points for a transportation improvement, and (2) rational end points for a review of the environmental impacts. The environmental impact review frequently covers a broader geographic area than the strict limits of the transportation improvements. . .Choosing a corridor of sufficient length to look at all impacts need not preclude staged construction. Therefore, related improvements within a transportation facility should be evaluated as one project, rather than selecting termini based on what is programmed as short range improvements. Construction may then be 'staged,' or programmed for shorter sections or discrete construction elements as funding permits" (emphasis added) (p. 2). The FHWA further notes that "the termini chosen must be such that: [1] environmental issues can be treated on a sufficiently broad scope to ensure that the project will function properly without requiring additional improvements elsewhere, and [2] the project will not restrict consideration of alternatives for other reasonably foreseeable transportation improvements" (p. 9).

As stipulated in the State CEQA Guidelines, "CEQA was intended to be interpreted in such a manner as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language" (14 CCR 15003[f]). By seeking to treat congestion as a localized condition (evident only along a narrowly described segment of a major north-south freeway linking Orange and Los Angeles Counties) which can be cured by focusing only on a 14-mile or 16-mile long length of a single freeway (ignoring the adjoining segments of that same freeway feeding that congested link), the Lead Agency unreasonably confines the resulting environmental analysis to only that segment of the freeway system where short-term (insufficient) funding commitments have been made (ignoring the existence of other funding commitments by that same agency and assignable to other freeway segments).

The Lead Agency has already sought to fragment the larger transportation improvement project once by isolating the WCC from the proposed action (e.g., "construction of the SR-22 WCC Phase II Project is underway on the 2-mile segment of the I-405 that overlaps SR-22. The project will add two HOV lanes in the median of I-405 between SR-22 and I-605, along with HOV direct connectors at the I-405/SR-22 and I-405/I-605 interchanges," p. 2-1). By continuing to piecemeal highway construction projects along definable links, CEQA and NEPA compliance, as well as the environment those statutes were designed to protect, "die a 1,000 cuts." **164**

5.3 Undisclosed Project Facilities

NEPA stipulates that "connected actions" be considered as part of an EIS and CEQA stipulates that the project examined in an EIR must include the "whole of the action." That, however, is not the case with the proposed action. As indicated the AQR: "the following TSM and TDM measures may be incorporated into each of the build alternatives for the proposed project. . .[1] Pedestrians improvements would be added wherever possible; [2] Additional Park & Ride/Intermodal facilities would be added at various locations to integrate with Bus Rapid Transit (BRT), express bus, Go Local Metrolink Connectors, community circulators, and local bus. . .[3] Auxiliary lanes would be provided in various locations" (AQR, PM Conformity Hot Spot Analysis, August 1, 2007, unpaginated).

Although specific to the I-5 Freeway, the following excerpt from the I-5 FEIR/S would also appear to have relevancy to the proposed action: "Because the I-5 Corridor travels through Los Angeles and Orange Counties, compliance with the Los Angeles County CMP and Orange County CMP is required. Each of the cities within the study area is responsible for implementing the requirements of the CMP. The CMP must include a Transportation Demand Management **165**

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(TDM) component that includes a trip reduction and travel demand element that promotes alternative transportation methods, such as carpools, vanpools, transit, bicycles, and park-and-ride lots. The adoption of a TDM ordinance was required of every local jurisdiction within Los Angeles and Orange Counties" (emphasis added) (pp. 43-44). Referencing OCTA's "2011 Orange County Congestion Management Program" (CMP):

> Park-and-ride lots serve as transfer points for commuters to change from one mode of travel (usually single-occupancy automobile) to another, higher capacity mode (bus, train, carpool, or vanpool). Providing a convenient system of park-and-ride transfer points throughout Orange County encourages ridesharing and the use of higher capacity transit systems, which improves the efficiency of the transportation system. Park-and-ride lots are also a natural companion to Orange County's network of High Occupancy Vehicle (HOV) lanes and transitways on the freeways (p. 27).

Although "park-and-ride lots" are identified by Caltrans as required components of a CMP, identified the OCTA as "natural companions" to HOVs lanes, and listed as "TSM and TDM measures [that] may be incorporated into each of the build alternatives," no discussion of those lots is presented in the DEIR/S. While no definition of "natural companions" is presented, Webster defines "natural" as "having an essential relation with" or "occurring in conformity with the ordinary course of" or "existing in and produced by" or "having a physical or real existence." In the context of the DEIR/S, "natural companion" must, therefore, be interpreted as being integrally connected with the proposed action. 165

The Lead Agency states that the proposed project will include "bicycle and pedestrian facilities to further offset increased fuel consumption associated with the projected increase in VMT" (DEIR/S, p. 3.2.8-6). Those "bicycle and pedestrian facilities" are, however, neither specifically identified nor is their location discussed (even in the broadest fashion). To the extent that the Lead Agency seeks to place pedestrians and bicyclists in close proximity to freeway traffic, there may exist unknown and unaddressed health and safety issues which have yet to be evaluated in the DEIR/S. In Seal Beach, Almond Avenue is designated as a Class III bicycle route. How do project-related impacts to Almond Avenue affect the functionality of that roadway as a "bicycle and pedestrian facility"? To the extent that the proposed action impedes bicycle use, how would that action serve to "offset increased fuel consumption"? 166

Absent from the DEIR/S is any discussion or analysis of those "pedestrian improvements," "park & ride/intermodal facilities," "auxiliary lanes," and "added" public transit services and facilities represented to be associated with the proposed action. As such, based on their exclusion, the project would be expected to produce additional physical changes which have not been disclosed by the Lead Agency. Alternatively, as a result of there noticeable absence, OCTA can subsequently assert that, absent there inclusion in the DEIR/S, the agency has no authorization or obligation for their construction, construction, operation, and/or maintenance.

5.4 Other Related, Connected, Cumulative, and Similar Projects

As indicated in the DEIR/S: "There are no additional projects anticipated within or around the project area Therefore, no additional cumulative impacts are anticipated" (VIA, p. 59). In contrast, the CIA states that "[c]umulative impacts are addressed within the individual chapters of this CIA. Table 1-1 [Reasonably Foreseeable Projects] contains a list of [19] reasonably foreseeable projects which could be implemented during construction of the proposed project" (p. 1-20).

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Additionally, Caltrans recently prepared separate CEQA and NEPA documents for at least two other HOV lane project, including: (1) "Final Environmental Impact Report/Environmental Assessment with Finding of No Significant Impact – The Interstate 10 (San Bernardino Freeway/El Monte Busway) High Occupancy Toll Lanes Project, SCH No. 2009061060" (April 2010); and (2) "Final Environmental Impact Report/Environmental Assessment with Finding of No Significant Impact – The Interstate 110 (Harbor Freeway/Transitway) High Occupancy Toll Lanes Project, SCH No. 2009061059" (April 2010). Neither of those environmental documents nor does the DEIR/S identify one another as connected, cumulative, and similar actions nor do any of those documents consider the combined impacts of toll road development. Similarly, after a multi-year construction process that the City and its residents have had to endure, Caltrans is now completing the WCC. With regards to that project, the DEIR/S notes: 167

> On the portion of SR-22 that overlaps with I-405 within the project limits (I-405 PM 20.8/24.0), two projects – the I-405/SR-22 HOV Connector (EA 071621) and the I-405/I-605 HOV Connector (EA 072631) – are currently in the construction phase and are collectively referred to as the SR-22 West County Connectors (WCC) Project. The SR-22 WCC Project area includes the portion of I-405 between I-605 and SR-22 East and the portion of I-605 between I-405 and Katella Avenue. The SR-22 WCC Project will add a second HOV lane on I-405 in each direction from SR-22 East to I-605, and it will also provide structures to directly connect the HOV lanes between the I-405, SR-22 East, and I-605. During the design phase of the SR-22 WCC Project, the SR-22 WCC Project area was evaluated by the Department for system connectivity and compatibility with the proposed future I-405 Improvement Project (p. 1-20).

The Lead Agency represents the WCC, not as a related, connected, cumulative, or similar project, but as part of the existing "baseline" and, therefore, not incrementally contributing to the generation of cumulative environmental effects. That categorization only serves to circumvent the Lead Agency's obligation to analyze the cumulative effects of "other closely related past, present, and reasonably foreseeable probable future projects" (14 CCR 15355[b]). 168

Under NEPA, in Webb v. Gorsuch (1983), the federal court noted that, "[g]enerally, an administrative agency need consider the impact of other proposed projects when developing an EIS for a pending project only if the projects are so interdependent that it would be unwise or irrational to complete one without the others." Under CEQA, in San Franciscans for Reasonable Growth v. City and County of San Francisco (1987), the court "found the cumulative impact analyses of the EIRs to be insufficient because those impacts were evaluated using a list of projects which included only those projects already approved but not yet under construction and projects actually under construction [Citation]. We concluded that it would have been both practical and reasonable for the City to include in the cumulative analyses projects under environmental review, even if the projects had not yet surmounted all the 'regulatory hurdles' [Citation]." In compliance therewith, other related, connected, cumulative, and similar projects not considered in the DEIR/S are identified below.

- **2012 RTP/SCS**. SCAG notes that "the 2012 RTP includes a regional Express Lane network that would build upon the success of the 91 Express Lanes in Orange County and two demonstration projects in Los Angeles County planned for operation in late 2012. Additional efforts underway include the extension of the 91 Express Lanes to I-15 in Riverside County along with planned Express Lanes on the I-15. Also, traffic and revenue studies are proceeding for I-10 and I-15 in San Bernardino County" (emphasis

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added) (p. 15). As identified by SCAG, the "express/HOT lane network" includes those freeway segments presented in Table 13 (Express/HOT Lane Network).

Table 13
Express/HOT Lane Network

County	Route	From	To
Los Angeles	I-405	I-5 (North SF Valley)	LA/OC County Line
	I-11-	Adams Blvd (s/o I-10	I-405
	I and SR-110	Adams Blvd	US-101
	US-101	SR-110	I-10
	I-10	US-101	I-710
	I-10	I-710	I-605
LA, Orange	SR-91	I-110	SR-55
LA, SB	I-10	I-605	I-15
Orange	I-405	LA/OC Line	SR-55
	I-5	SR-73	OC/SD County Line
	SR-73	I-405	MacArthur
Riverside	SR-91	OC/RV County Line	I-15
	I-15	Riv/SB County Line	SR-74
	I-15	SR-74	Riv/SD County Line
San Bernardino	I-10	I-15	SR-210
	I-10	SR-210	Ford St
	I-15	SR-395	Sierra Ave
	I-15	Sierra Ave	6th Street
	I-15	6th Street	Riverside/SB County Line

Source: Southern California Association of Governments, 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy, April 4, 2012, Table 2.6 (Express/HOT Lane Network), p. 56

Referencing the 2012 RTP/SCS PEIR: "The 2012-2035 RTP/SCS also includes an expansion of the existing Express/HOT lanes and toll road system in Orange County to address the congested commuter corridor between housing-rich Riverside County and jobs-rich Orange County. Additionally, improvements to several major corridors in other parts of the region are proposed to be financed by tolls, including the SR-710 Tunnel Gap Closure and the High Desert Corridor" (p. 2-13). As described and illustrated in the 2012 RTP/SCS, a large segment of the freeway system within southern California will include either new HOT or converted HOV lanes. Since presently only a segment of the I-91 Freeway contains a toll road, the regional implications of that "network" needs to be examined as a collective whole and the cumulative impacts addressed in the DEIR/S. 169

In correspondence from the OCTA to SCAG, dated February 14, 2012 (Re: Comments on the Draft 2012 Regional Transportation Plan and Program Environmental Impact Report), as included in the 2012 RTP/SCS PEIR, the OCTA made no formal request to modify the description of ORA030605 in order to include or accommodate HOV/HOT lanes. The OCTA did, however, note that "[t]he draft RTP includes the implementation of a regional high-occupancy toll lane network. This network appears to utilize existing and planned high-occupancy vehicle lanes to generate new revenues by selling excess capacity to single-occupancy drivers. The proposed regional HOT lane network assumes

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that Orange County would include HOT lanes on Interstate 5 (I-5) between the San Diego County border and the southern end of State Route 73 (SR-73); along I-405 between the northern end of SR-73 and the Los Angeles County border; and along State Route 91 (SR-91) extending the Express Lanes west to the Los Angeles County border. On December 12, 2011, the OCTA Board approved the Express Lane Planning and Implementation Principles. OCTA requests that these principles be incorporated into the assumptions for segments of the regional HOT lane network that are within Orange County. Furthermore, the proposed HOT lane improvements to I-5, and SR-91 should be subject to further study to evaluate right-of-way impacts, community issues, and overall feasibility, prior to inclusion in the constrained plan" (emphasis added) (Response to 2012-2034 RTP/SCS Comments, Part III). Because the OCTA acknowledged the existence of a "regional HOT lane network" and promotes the development of "a consistent, seamless user experience," the cumulative impacts of other planned or proposed components of that network should be addressed either as a component of the proposed action or as contributors to the cumulative impacts examined in the DEIR/S. 170

As further indicated in correspondence from the Transportation Corridors Agency (TCA) to SCAG, dated February 13, 2012 (Re: Comments on the Draft 2012 Regional Transportation Plan/Sustainable Communities Strategy and Program Environmental Impact Report), as included in the 2012 RTP/SCS PEIR: (1) "Tolled centerline miles in the region will increase from 61 in 2008 to 408 in 2035, including toll roads, express lanes, HOT lanes, and tolled truck lanes"; (2) "Toll roads and express lanes charge users a fee for travel"; (3) "The toll road system is designed to interrelate with transit service"; and (4) "SCAG has launched a two-year study of congestion pricing strategies that can provide needed transportation facilities" (emphasis added) (Response to 2012-2034 RTP/SCS Comments, Part III). This projected increase in toll-lane miles constitutes a fundamental change in freeway operations throughout southern California, extending substantially beyond the geographic confines of the proposed action.

The potential for congestion pricing to induce change in driving habits and travel patterns is acknowledged by SCAG. SCAG has noted that: (1) "The primary purpose of congestion pricing is to make important changes in the ways we use the scarce resources of roads and parking capacity" and "[c]ongestion pricing changes the way we drive by more accurately pricing the cost of a finite resource – roads and parking spaces" (Express Travel Choices Study, Frequently Asked Questions, January 13, 2011, pp. 4-5); and (2) "Tolling can have a significant impact on travel behavior" and "[t]hese effects can collectively become quite significant as prices increase" (emphasis added) (SCAG, Discrete Choice Models and Behavior Response to Congestion Pricing Strategies, May 11, 2011, Slide 20). Nowhere in the DEIR/S or in any other planning-related and/or environmental documentation (e.g., SCAG's "two-year study of congestion pricing strategies") are the larger impacts of that change examined. 171

- **Express Travel Choices Study**. SCAG notes that "[t]he Riverside County Transportation Commission (RCTC) is in the process of working with the Orange County Transportation Authority (OCTA) to extend the SR 91 Express Lanes into Riverside County and is studying the potential for Express Lanes in the I-15 corridor. The San Bernardino Associated Governments (SANBAG) is studying possible Express Lane implementation in the I-10, I-15 and SR 210 corridors. Also, OCTA is including an Express Lane option in its proposed I-405 widening project between I-605 and SR 55" (Express Travel Choices Study, Frequently Asked Questions, January 13, 2011, p. 7).

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Absent from the DEIR/S is any discussion or analysis of the proposed "express lanes" on the I-10, I-15, SR-91, and SR-210 Freeways.

- **Destination 2035 – Moving Toward a Green Tomorrow.** As noted in San Franciscans for Reasonable Growth v City and County of San Francisco (1984), "probable future projects" can be interpreted as reasonably probable future projects. The court found that projects that are undergoing environmental review are reasonably probable future projects. In Gray v. County of Madera (2008), the court stated that "any future project where the applicant has devoted significant time and financial resources to prepare for any regulatory review should be considered as probable future projects for the purposes of cumulative impact." Each of the project's listed in OCTA's 2010 LRTP, therefore, constitute "probable future projects" for the purpose of cumulative impact assessment.

Presented in the OCTA's 2010 LRTP is a "full list of freeway projects included in the Year 2035 Preferred Plan," including "[l]ane additions for specific freeway and toll road segments between the 2008 Base Year and 2035 Preferred scenario" (p. 74). As indicated therein: "These projects draw from approved funding programs, including Measure M2, as well as recent and ongoing OCTA planning efforts that have analyzed transportation needs and opportunities throughout Orange County. The Preferred Plan of projects also considers available funding and financial resources over the course of the next 25 years. Particular emphasis is placed on the identification of a program of projects that can be implemented using the funding sources that are reasonably anticipated to be available" (emphasis added) (p. 71).

Because each of the following projects are proposed by the same "sponsor," they demonstrate OCTA's currently planned activities scheduled to occur within the proposed project's build-out period. The listing presented in Table 14 (Orange County Transportation Authority - Year 2035 Preferred Plan) is inclusive of only those projects located with Orange County, identified by the OCTA as components of the "Year 2035 Preferred Plan," and does not include any transportation system improvements located in Los Angeles County. Additional related, connected, cumulative, and similar projects is presented in the LACMTA's "2009 Long Range Transportation Plan" (October 2009).

The proposed action is listed among the above described projects. It is, however, noted that, with the singe exception of "throughput," the long-range plan's stated "goals and objectives" differ from the P&N described for the proposed action. As presented in the OCTA's 2010 LRTP, the OCTA's goals/objectives include: "(1) Expand Transportation System Choices; Expand access to travel options across all travel modes, improve connectivity to major destinations, and improve integration between transportation options. (2) Improve Transportation System Performance: Improvements to travel speeds, travel times, person throughput, and roadway and transit service levels. (3) Ensure Sustainability: Timely maintenance of transportation infrastructure, implementation of environmental protection strategies, and use of innovative project delivery methods to reduce taxpayer costs" (p. 1).

Since the proposed action is a component of the OCTA's broader implementation program, it is unclear why project-level objectives would differ so substantially from the program-level objectives presented in OCTA's 2010 LRTP. The rationale for this dichotomy should be addressed and an explanation presented how the project's P&N serves to promote the attainment of the goals and objectives presented therein. **172**

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Table 14
Orange County Transportation Authority - Year 2035 Preferred Plan

Category	Project	Description
Transportation System Management Projects	Interstate 5 HOV expansion from Pacific Coast Highway to Avenida Pico	Add one HOV lane in each direction from Pacific Coast Highway to Avenida Pico
	Interstate 5 HOV Lane Expansion	Add one HOV lane each direction from State Route 55 to State Route 57
	Interstate 5 HOV Lane Expansion	HOV ramp improvements at Barranca Parkway
	Interstate 405 HOT Project	Convert existing HOV lane to HOT, add one additional HOT lane each direction from State Route 73 to Interstate 605
	State Route 57 Improvements	Provide HOV interchange at Cerritos Avenue
	State Route 57 Improvements	Add one truck climbing auxiliary lane in the northbound direction from Lambert Road to Los Angeles County line
	State Route 57 Improvements	Add one HOV lane each direction from MacArthur Boulevard to Interstate 405
	State Route 73 HOV Connector	Add HOV lane connector to Interstate 405
	State Route 91/State Route 241 Interchange	Add HOV/HOT connector at State Route 241/State Route 91 interchange (eastbound on-ramp/westbound off-ramp)
	Freeway Service Patrol & Call Box Program	Continuation of motorist aid services
	Toll Roads Video Detection Demonstration Project	Image-based toll collection system demonstration project
General Purpose Improvements	Interstate 5 Improvements between State Route 55 and El Toro "Y"	Add one mixed-flow lane in each direction from State Route 55 to Interstate 405
	Interstate 5 Improvements from State Route 57 to State Route 91	Add one mixed-flow lane in each direction from State Route 57 to State Route 91
	Interstate 5 Improvements South of the El Toro "Y"	Add one mixed-flow lane in each direction from Avery Parkway to Alicia Parkway
	Interstate 5 Improvements South of the El Toro "Y"	Reconfigure interchange of Interstate 5 with Avery Parkway
	Interstate 5 Improvements South of the El Toro "Y"	Reconfigure interchange of Interstate 5 with La Paz Road
	Interstate Improvements Projects from State Route 55 to Interstate 5	Add one ancillary lane in the northbound direction from Jefferey [sic] Road to Culver Drive
	Interstate 405 Improvements Project from State Route 55 to Interstate 5	Add one mixed-flow lane in each direction from Interstate 5 to State Route 55
	Interstate 405 Improvement Projects from State Route 73 to Interstate 605	Add one mixed-flow lane in each direction from State Route 73 to Interstate 605
	State Route 55 Improvements	Add one mixed-flow lane in each direction from Interstate 405 to Interstate 5
	State Route 55 Improvements	Add one mixed-flow lane in each direction from Interstate 5 to State Route 22
	State Route 55 Improvements	Add one auxiliary lane in each direction between select on/off ramps through project limits from Interstate 405 to Interstate 5

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Table 14 (Continued)
Orange County Transportation Authority - Year 2035 Preferred Plan

Category	Project	Description
Purpose Improvements	State Route 57 Improvements	Add one mixed-flow lane in the northbound direction from Lincoln Avenue to Orangethorpe Avenue
	State Route 57 Improvements	Add one mixed-flow lane in the northbound direction from Orangewood Avenue to Katella Avenue
	State Route 91 Improvements from State Route 55 to Orange County/Riverside County Line	Add one westbound lane from State Route 241 to Gypsum Canyon Road
	State Route 91 Improvements from State Route 55 to Orange County/Riverside County Line	Add one auxiliary lane in each direction from State Route 241 to Green River Road
	State Route 91 Improvements from State Route 57 to State Route 55	Add one mixed-flow lane in the eastbound direction from State Route 57 to State Route 55
Interchange Projects	Interstate 5/Stonehill Drive Interchange	Add southbound off-ramp at interchange with Stonehill Drive
	Interstate 5 Local Interchange Upgrade	Improve interchange of Interstate 5 with Avenida Pico
Interchange Projects	Interstate 5 Interchange Upgrade	Reconstruct interchange of Interstate 5 with 1st Street/4th Street to increase weaving length to standard on southbound Interstate 5
	Interstate 5/Marguerite Parkway Interchange	Add interchange at Marguerite Parkway
	Interstate 5/Alicia Parkway Interchange Improvement	Improve interchange of Interstate 5 with Alicia Parkway
	Interstate 5/Los Alisos Boulevard Interchange	Add Interchange at Los Alisos Boulevard
	Interstate 5/North Irvine Traffic Mitigation Ramp Improvements	Improve access ramps to/from Interstate 5
	Interstate 405/South Bristol Braid Interchange Reconstruction	Reconfigure interchange of Interstate 405 with State Route 55 and Bristol Street
	Interstate 405/Irvine Center Drive/ North Irvine Traffic Mitigation Improvements	Improve various access ramps to/from Interstate 405
	Interstate 605 Freeway Access Improvements	Ramp improvements at interchange with Katella Avenue
	State Route 55/Meats Avenue Interchange	Construct on-ramp/off-ramps at the Interchange to State Route 55
	State Route 57 Improvements	Ramp improvements at Lambert Road
	State Route73/Glenwood Drive/Pacific Park Drive Interchange	Construct southbound ramp interchange with Glenwood Drive/Pacific Park Drive
	State Route 91 Improvements from State Route 57 to State Route 55	Improve interchange with State Route 55
	State Route 91 Improvements from State Route 57 to State Route 55	Improve interchange with Lakeview Drive
	State Route 91/Gypsum Canyon	Improve access ramp at Gypsum Canyon Road

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Table 14 (Continued)
Orange County Transportation Authority - Year 2035 Preferred Plan

Category	Project	Description
Interchange Projects	State Route 91/Fairmont Boulevard Interchange	Add interchange and overcrossing at Fainmont [sic] Boulevard
	State Route 241/Jeffrey Road Interchange	New interchange at Jeffrey Road
Other Projects	Soundwall Program	Construct soundwalls along freeways to minimize traffic noise from freeways into residential neighborhoods
	State Highway Operation and Protection Program (SHOPP)	Various freeway safety improvements, as needed
Environmental Mitigation	Environmental Cleanup and Freeway Mitigation Programs	Transportation-related water quality program and acquisition/restoration habitat, respectively

Source: Orange County Transportation Authority, Destination 2035 – Moving Toward a Green Tomorrow, Table 5-2 (Preferred Plan Freeway Projects), pp. 75-76

As reported in the FHWA's "Final Report - Traffic Congestion and Reliability: Trends and Advanced Strategies for Congestion Mitigation" (September 1, 2005), "vehicle merging maneuvers" have "the most severe effect on traffic flow" (p. 2-4) and "[a]s the traffic grows on a roadway with fixed capacity, bottleneck-related congestion becomes increasingly dominant" (p. 2-9). "Physical bottlenecks are locations where the physical capacity is restricted, with flows from upstream sections (with higher capacities) being funneled into them. . .On much of the urban highway system, there are specific points that are notorious for causing congestion on a daily basis. These locations – which can be a single interchange, a series of closely spaced interchanges, or lane-drops – are focal points for congestion in corridors; major bottlenecks tend to dominate congestion in corridors where they exist" (LSP, pp. 2-1 and 2).

The DEIR/S notes that "[d]uring the 54-month construction period, construction-related delays along the I-405, I-605, SR-22, and SR-73 freeways and interchanges, as well as on the surrounding local arterials, are anticipated" and "[l]ane reductions and restrictions are also anticipated on mainline, connector, ramp and arterial roadway facilities to accommodate construction activities. These restrictions may include: [1] Narrower lane and shoulder widths; [2] Reduction in number of lanes; [3] Elimination of separate turn lanes at intersections; [4] Speed reduction due to sharper lane transition/taper" (TDM, p.10, see also DEIR/S, p. S-13).

Although it does nothing to alleviate the above described problems, accepting virtually no responsibility, the OCTA's "2011 Orange County Congestion Management Plan" asserts that "public outreach" (e.g., "OCTA and Caltrans developed a comprehensive public outreach program for commuters impacted by construction projects and improvements on Orange County freeways. The outreach program alleviates traffic congestion during freeway construction by providing up-to-date ramp, lane, and bridge closure information; as well as suggestions for alternate routes and travel modes," p. 26), in combination with the actions of other agencies (e.g., "most jurisdictions implement traffic management plans to alleviate roadway congestion during construction," p. 26), constitutes appropriate mitigation for freeway construction impacts.

It is not unreasonable to assume that for a period of 4.5 years, major construction-related bottlenecks and travel delays will be created along segments of the I-405 Freeway where construction activities are evident and where additional enforcement activities are occurring (e.g., "A highly visible CHP presence would alert motorists that road work is being performed and that motorist behavior is under surveillance," RCS, p. 23; Draft TDM, p. 13). Since the Lead

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Agency purports that one of the stated purposes of the proposed action is to "reduce congestion," the creation of both short-term and long-term conditions leading or contributing to bottlenecks cannot be ignored. Similarly, although the three build alternatives are "expected to reduce the level of cut-through traffic within adjacent jurisdictions for motorists seeking alternative travel routes" (p. 3.1.1-21), absent from the DEIR/S' analysis is the potential for and consequences of "cut-through traffic" during the facility's lengthy construction period. 173

The analysis of only a single freeway segment without the inclusion of other adjoining segments and the continuity resulting therefrom will produce unaccounted for bottlenecks during both peak periods. To the extent that Caltrans has plans to eliminate those bottlenecks with subsequent or concurrent widening plans (e.g., "Opportunities to improve the operation of 'intentional' bottlenecks can have the effect of boosting physical capacity," LSP, p. 2-1), those plans and the elimination of those bottlenecks thus become cumulative, connected, related, or similar projects that must be addressed in the DEIR/S. As now presented, the proposed project will create new bottlenecks which are never disclosed, the elimination of which are dependent upon connecting freeway improvements which themselves are ignored by the Lead Agency. 174

5.5 Improper Delegation of Authority

Under CEQA, as stipulated in Friends of La Vina v. County of Los Angeles (1991), the court stated that "CEQA [shall] 'be interpreted in such manner as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language' [Citation]. Implicit in the requirement that the agency exercise independent review, analysis, and judgment when using EIR materials submitted by an applicant's consultant is a heavy demand for independence, objectivity, and thoroughness. Moreover, this standard pursues the prescription that an EIR be 'a document of accountability' [Citation]." "The lead agency must independently participate, review, analyze and discuss the alternatives in good faith" (Kings County Farm Bureau v. City of Hanford [1990]). "So significant is the role of lead agency that CEQA proscribes delegation" (Planning and Conservation League v. Department of Water Resources [2000]).

In addition, NEPA requires that the federal agency verify the accuracy of information supplied by an applicant (40 C.F.R. 1506.5[a]) and respond to substantive issues raised in comments (40 C.F.R. 1503.4[a]). Although the record is clear as to the role played by the OCTA (e.g., project sponsor), absent from the DEIR/S is any evidence of the Department's role in the formulation of project alternatives or the independent validation of information and assumptions presented in the DEIR/S. The record suggests that OCTA independently formulated the identified alternatives, independently rejected other potential build and no build options, performed the environmental analysis, drafted the proposed "measures," and that Caltrans merely rubber-stamped OCTA's documentation and cost estimates (as prepared by or on behalf of the OCTA). 175

As reported in "Suggested Procedures for Evaluating the Effectiveness of Freeway HOV Facilities": "It is important to ensure that the results of the evaluation are not biased intentionally or unintentionally. Thus, it is suggested that evaluations be conducted by neutral, unbiased, third parties. While it is critical that the sponsoring agencies, both transit and highway, are actively involved in conducting the study, there is much to be gained by maintaining an outside perspective during the evaluation" (p. 8).

As specified under Section 21100 of CEQA: "All lead agencies shall prepare, or cause to be prepared by contract, and certify the completion of, an environmental impact report on any

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project which they proposed to carry out or approve that may have a significant effect on the environment" (emphasis added).

As indicated on the OCTA's "List of Existing Awarded Federally Funded Contracts" (May 31, 2012), "Parsons Transportation Group" (Parsons) (previously Parsons Brinckerhoff Quade and Douglas, Inc.) and its subcontractors (i.e., Albert Grover & Associates; Group Delta Consultants; McLean & Schultz; Nossaman, Guther, Knox and Elliott; Paragon Partners; Psomas; Stantec; TEC Management; URS Corporation; and Value Management Strategies) are working directly under contract to the OCTA (Contract No. C80693) rather than under contract to the Lead Agency. As described by the OCTA, the contract includes "[p]roject report and environmental document preparation consultant services for I-405 widening" in the amount of "$13,584,174."

It is not disclosed whether any of those same entities also have contracts or other business relationships with the USDOT, FHWA, and/or Caltrans and what provisions might exist in those federal contracts with regards to dual relationships with both a project sponsor (if different from the NEPA lead agency) and permitting agencies.

As indicated in Title 23, "[a]ny of the lead agencies may select a consultant to assist in the preparation of an EIS in accordance with applicable contracting procedures and with 40 CFR 1506.5(c)" (23 C.F.R. 771.123[d]). However, if Caltrans were to select Parsons, an established vendor of the "project sponsor" and "applicant" to prepare environmental documents for the proposed action, an inherent conflict of interest would be created potentially affecting the objectivity of the resulting analysis.

Under NEPA, "[t]he lead agencies are responsible for managing the environmental review process and the preparation of the appropriate environmental review documents" (23 C.F.R. 771.109[c][1]); "[t]he draft EIS shall be prepared by the lead agencies, in cooperation with the applicant (if not a lead agency)" (23 C.F.R. 771.123[c]). In accordance therewith, as indicated in the NOI, "Caltrans. . .will prepare an environmental impact statement (EIS)" (p. 2). As further indicated in the NOP, "the California Department of Transportation. . .will prepare an environmental impact report [EIR] for the project" (p. 1). 176

In what is substantially more than mere semantics, in this case, the DEIR/S appears to have been prepared directly by the "sponsor" or, more specifically, by a contractor working directly for the OCTA. In what appears to be evidence of "the fox guarding the hen house," with regards to the proposed action, the project "sponsor" rather than the State and federal agencies responsible for environmental oversight appears to have prepared and is presently processing the documentation which: (1) establishes the yardstick against which "feasibility" is measured; (2) determines the "feasibility" of the alternatives to be considered and the "infeasibility" of the alternatives to be rejected; (3) selects from those alternatives the sponsor's "preferred alternative"; (4) identifies the impacts of the sponsor's actions on the human and natural environment; (5) determines the "significance" of those impacts; (6) self-imposes "feasible" conditions in response to those sponsor-identified impacts; and (7) determine to what extent those conditions need to be monitored or enforced.

Since the sponsor has already declared the insufficiency of funds to construct the proposed capital improvements, it would appear unlikely that same sponsor would: (A) acknowledge the existence of "significant" environmental effects; and/or (B) divert finite funds to mitigate those impacts it elects to disclose. If monitoring or compliance activities were to be established, it is likely that the firm preparing the EIR/EIS (with the $13.6 million contract) would be the same firm

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tasked with the monitoring or compliance of its own work efforts, including those construction and operational obligations it elected to self-impose.

5.6 Unsupported Conclusory Statements

In support of the three build alternatives, the Lead Agency alleges that the "[i]ncrease in mobility and operations of the freeway and roadway network would contribute to the increase in property tax base, sale tax revenue, and property values" (CIA, Table S-1, p. S-6). No information or analysis is, however, presented in support of that statement.

As indicated in the USEPA's OBNE: "Communities are also realizing that adding new road capacity no longer generates the same economic benefits it may have at one time. Studies have indicated that new highway development, which was often viewed as necessary to economic development in the past, offers increasingly fewer economic benefits at the state and national levels. As the national road network nears completion, the benefits of additional network construction decrease drastically. New roads may offer fewer benefits on the local level, too; although they may appear to spur growth, they often simply shift economic activity away from other areas" (p. 33).

If a linkage between "mobility" and enhancements to the "property tax base, sale tax revenues, and property values" can be demonstrated, it might be further concluded that further improvements to mobility would lead to further localized economic benefits. Those alternatives presented in the MIS that offered the greatest promise for improving freeway/arterial mobility (e.g., "Alternative 8 is forecast to have the largest increase in transit ridership [9.9%], MIS, p. 83) where, however, eliminated by the Lead Agency analysis notwithstanding any off-setting "property tax base, sale tax revenues, and property value" benefits.

As reported in the USDOT's "NHTS 2001 Highlights Report, BTS03-05" (2003), while job-accessibility weighs heavily in residential location choice and strongly influences regional traffic conditions, more trips are made for retail shopping and personal services than for getting to and from work. In 2001, 44.6 percent of trips nationwide were for "family/personal business" (which includes shopping and other activities) versus 14.8 percent for commuting to work. Most trips can, therefore, be assumed to be shorter distance and duration and not dependent upon freeway conditions.

Without any supportive evidence or documentation, the Lead Agency asserts that "[d]ecreased congestion along the 1-405 corridor has the potential to allow regional motorists, as well as local residents, to reach businesses more efficiently, thereby allowing for increased visitation, faster customer turn-around and, consequently, increased revenues" (CIA, p. 6-3). As evidenced by the projected LOS "F" conditions along the designated segment, other than in the context of vehicle throughput and relative speed, the Lead Agency has not presented evidence supporting the assertion that the proposed action "decreased congestion." 177

In reality, it is more likely that other factors dictate shopping decisions. Since most shopping is discretionary, motorists have the ability to alter trip times to correspond to off-peak periods, select alternative routes, or combine multiple-leg trip destinations (e.g., stopping for groceries on the way home from work). Similarly, an individual's selection of travel destination is based on factors (e.g., attraction and perceived desirability) which may not be dependent upon time or distance. If the Lead Agency seeks to premise its assertion on the project's facilitation of motorists driving to more remote shopping destinations, then: (1) the project is "travel inducing"

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and (2) additional project-induced increases in VMT (and corresponding GHG emissions) must be assumed.

To the extent that increased mobility induces destinations to move further apart from one another, that outward migration ultimately leading to higher travel times and increased incurred costs. As evidence by the historic flight from the central city to suburbia, at least in the near term, transportation infrastructure served to allow for faster speeds and larger geographic catchment (e.g., shoppers purchased homes farther from their workplace). Over the long-term, however, those perceived benefits produced sprawl (suburbanization) and laid the foundation for the congestion that the proposed action now seeks to address (e.g., "Improvement in mobility and trip reliability along the I-405 freeway and roadway network would encourage the residents to continue living in Orange County," CIA, p. 6-6).

The proposed action primarily serves to promote the perpetuation of vehicle-dependent land-use patterns rather than promoting New Urbanism-based changes to those patterns, sustainable life-style choices, transportation and land-use linkages, and expansion of non-vehicle-dependent transportation alternatives, as evidenced, in part, by the increased attraction of "transit-oriented development" (TOD).

Various transportation management studies have demonstrated that "accessibility" is the valid indices and that a focus on "mobility" results in a misguided emphasis on road building to the detriment of social interaction. As indicated in "Congestion and Accessibility: What's the Relationship?", the authors wrote:

> Congestion in U.S. metropolitan areas has increased steadily in recent years [Citation]. While nobody likes to sit in traffic, congestion levels are at best an indirect and imperfect measure of people's and firms' access to opportunities. As such, widely cited measures of the economic costs of congestion that simply tally people's time spent in traffic are conceptually problematic and perhaps misleading. Congestion measures reflect potential mobility, but do not reveal individuals' relative access to jobs and activities, or firms' relative access to suppliers and customers. A growing chorus of transportation planning researchers. . .argue that transportation planning should focus on increasing access to destinations rather than increasing mobility on transportation networks. While conceptually distinct, congestion and accessibility are related. But what is the nature of this relationship? The perception that congestion makes it harder for individuals to access opportunities is rational on its face, yet congestion also arises because an area offers attractive opportunities to large numbers of people and firms. A central tenet of urban economics is that cities form and grow because they foster such agglomeration economies, which increase productivity but also introduce negative externalities such as congestion [Citation]. Furthermore, a traveler's perceived burden of congestion is highly variable, depending on the purpose, timing, and other aspects of the trip [Citation]. As a result, the relationship between congestion and accessibility is complex and far from a simple inverse relationship (p. 1).
>
> The concept and measurement of accessibility contrasts importantly from the concept and measurement of traffic congestion in at least two ways. First, the units of analysis in accessibility measurement are typically individuals, households, firms, or places, while those for congestion are usually transportation networks, links, or vehicles. Second, by emphasizing opportunities and potential, the concept of

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accessibility is necessarily abstract, ephemeral, and, as a result, difficult to measure. Traffic congestion metrics, on the other hand, typically measure the volume and velocity of vehicles on links in networks [Citation]. While conceptually straightforward, such measures make traffic patterns the end themselves, rather than the means to economic transactions and social interactions. The result of this dichotomy may be competing and contradictory definitions of transportation functionality (pp. 2-3).

As noted in "Determining the Effectiveness of HOV Lanes": "There is not enough evidence to state whether HOV lanes increase or decrease accidents when installed on mainline freeways" (p. iii). Without collaborating evidence, the DEIR/S, however, states that "[b]uild alternatives would increase freeway capacity and freeway speeds. They are anticipated to reduce rear-end and sideswipe accidents due to stop-and-go traffic and weaving, respectively" (Table 3.1.1-1, p. 3.1.1-29). To the extent that traffic accidents relate to unforeseen or unexpected roadway conditions (e.g., bottlenecks), as may be attributable to construction activities, road closures, and diversions, the proposed action could contribute to the occurrence of roadway incidents. Similarly, if accidents can be estimated based on total miles driven, the substantial increase in VMT associated with the proposed project, a quantifiable number of accidents could be estimated. **178**

Based on the projected project-induced increase in VMT, it is evident that the proposed project will alter regional traffic patterns, including (as asserted by the Lead Agency) removing those vehicles from local arterials which had previously sought alternative routes to avoid the congested freeway. As noted in the AQR, "diesel engine emissions are responsible for a majority of California's estimated cancer risk attributable to air pollution" (p. 80). Without any supporting analysis, the DEIR/S concludes that: (1) "Alternative 2 would not increase the percentage of DPM [diesel particulate matter] in the fleet mix and would improve vehicle speeds in the project area. As a result, Alternative 2 diesel particulate matter emissions would likely be less than Baseline emissions" (p. 80); and (2) "Alternative 3 would not increase the percentage of trucks in the fleet mix and would improve vehicle speeds in the project area. As a result, Alternative 3 diesel particulate matter emissions would likely be less than Baseline emissions" (p. 81). **179**

To the extent that the Lead Agency seeks to assert a benefit from reducing congestion of local streets, it bears an obligation to examine the fleet mix of any such traffic so diverted. Even to the extent that it can be demonstrated that the "percentage of trucks" would remain unchanged, with the projected increase in freeway traffic and total VMT between 2009, 2020, and 2040, a substantially greater number of trucks will travel the I-405 Freeway corridor and a substantially greater number of truck miles will be driven.

The AQR states that only between 3 and 3.5 percent of vehicles within the corridor are trucks under 2009, 2020, and 2040 conditions (Tables 1-1, 1-2, 1-3, and 1-4, pp. 7-8). Caltrans' own RCR, however, states: "According to the publication '1997 Annual Average Daily Truck Traffic on the California State Highway System,' truck volumes on I-405 in Orange County range from approximately 7,550 to 19,680, 4.9% and 7.1% of the ADT respectively. The low occurs in the vicinity of I-5 (Segment 1) and the high in the vicinity of SR-22 (Segment 5)" (pp. 14-15; see also MIS, p. 15). As further indicated in the MIS: "The current truck and total volumes on I-405 are shown in Table 4.5-2 and 4.5-3 in the 'Corridor Mobility Problem and Purpose and Need Statement.' The truck percentages shown in those tables apply only to the general purpose lanes so the truck percentages were adjusted to reflect all traffic. They range from 4.9% to 5.7% depending upon the time of day and direction of travel" (p. 69).

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Absent from the DEIR/S is any reference to the I-710 Corridor DEIR/S. As described therein: "The California Department of Transportation (Caltrans), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), the Gateway Cities Council of Governments (GCCOG), the Southern California Association of Governments (SCAG), the Ports of Los Angeles (POLA) and Long Beach (POLB) (collectively known as the Ports), and the Interstate 5 Joint Powers Authority (I-5 JPA) (collectively referred to as the I-710 Funding Partners), proposes to improve Interstate 710 (I-710, also known as the Long Beach Freeway) in Los Angeles County between Ocean Blvd. and State Route 60 (SR-60). The proposed project is referred to as the I-710 Corridor Project. I-710 is a major north-south interstate freeway connecting the city of Long Beach to central Los Angeles. Within the I-710 Corridor Project Study Area (Study Area), the I-710 serves as the principal transportation connection for goods movement between POLA and POLB, located at the southern terminus of I-710 and the Burlington Northern Santa Fe (BNSF)/Union Pacific (UP) Railroad rail yards in the cities of Commerce and Vernon" (p. ES-1).

The I-710 (Long Beach) Freeway interconnects with the I-405 north of the Los Angeles/Orange County line. Because the I-710 Corridor Project constitutes a concurrent activity being undertaken by Caltrans, it is both a related project producing cumulative impacts and its accompanying CEQA/NEPA analysis provides a source of relevant information germane to the assessment of the proposed action. One of the alternatives examined therein included a "tolled freight corridor" (e.g., "Although tolling trucks in the freight corridor could be done under either Alternative 6A or 6B, for analytical purposes, tolling has only been evaluated for Alternative 6B, as this alternative provides for higher freight corridor capacity than Alternative 6A due to the automated guidance feature of Alternative 6B", p. ES-11; "Tolls would be collected to help fund the construction and operation of the project. Trucks using the freight corridor would pay a toll in exchange for the travel time savings and trip time reliability offered by the freight corridor as compared to the adjacent general purpose lanes or alternative routes," p. 2-25).

Because various technical studies upon which the information presented in the I-710 Corridor DEIR/S is derived is not readily accessible (e.g., not available on the Caltrans' website), specific information on truck volumes could not be discerned from that document. As indicated in the "I-710 Corridor Project Traffic Operations Analysis Report, Final Report" (URS, January 2012) (TOAR): (1) "heavy duty trucks make up over thirty percent of the traffic stream during the day, as opposed to an average daily truck percentage of 6 to 13 percent on comparable freeways within Los Angeles County" (p. 2-1); (2) "High volumes of both trucks and cars have led to existing traffic congestion throughout most of the day (6:00 a.m. to 7:00 p.m.) on I-710 <u>as well as on the connecting freeways</u>. This is projected to worsen over the next 25 years" (emphasis added) (p. 3-1); and (3) for southbound I-405 Freeway, under the "no build" alternative, "[a]ll basic freeway segments (4 out of 4) are expected to operate at a poor LOS E or F during the evening peak hour" (p. 8-3). Although the amount of truck traffic likely to divert from the I-710 Freeway onto the I-405 Freeway is never disclosed, as indicated in <u>Table 15</u> (I-710 Freeway Corridor Average Daily Traffic Volumes), an inordinately high volume of truck traffic is anticipated along the I-710 Freeway. At a very minimum, by 2035, the projected increase in truck volumes along the I-405 Freeway would be comparable to the increase anticipated along the I-710 Freeway under the "No Build" scenario (i.e., 32.7 percent). **180**

Because the "I-405 is considered a bypass route to the Interstate 5 (I-5) Santa Ana/Golden State Freeway through Orange County (NSR, p. 1), information from the I-5 FEIR/S has potential relevancy to the proposed action. As indicated therein: "The I-5 Corridor is a major local and regional truck route. The percent of trucks currently served by I-5 ranges from 8.1 to

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20 percent, with the highest truck traffic levels occurring within the segment between SR 91 and Beach Boulevard. Midday peak hour truck percentages are typically higher than AM and PM peak hours, and can reach as high as 20 percent or more of the ADT" (p. 15).

Table 15
I-710 Freeway Corridor Average Daily Traffic Volumes

I-710 Segment		Existing (2008)		2035 No Build									
				No Build		Alternative 5A		Alternative 6A		Alternative 6B		Alternative 6C	
From	To	Total	Trucks	Total	Trucks	Total	Trucks	Total	Trucks	Total	Trucks	Total	Trucks
Del Amo	I-405	179,600	42,000	227,600	74,300	288,000	80,600	317,400	93,400	317,400	93,400	317,400	93,400
I-405	Wardlow Road	179,800	41,600	227,500	74,400	291,000	80,900	314,100	89,500	314,100	89,500	314,100	89,500
Percent Trucks		-	23.2	-	32.7	-	27.8	-	28.5	-	28.5		28.5

Source: California Department of Transportation and Los Angeles County Metropolitan Transportation Authority, Draft Environmental Impact Report/Environmental Impact Statement and Section 4(f) Evaluation - I-710 Corridor Project, Los Angeles County, California, District 07-LA-710-PM 4.9/24.9, EA 249900" (California Department of Transportation and Los Angeles County Metropolitan Transportation Authority, June 2012, Tables 3.13-7 and 3-13-8, p. 3.13-21 and 22.

Caltrans' "2010 Annual Average Daily Truck Traffic on the California State Highway System" (undated), which is potentially the source for the Lead Agency's assumptions, notes that, in Orange County, the "trucks percentage of total vehicles" is 4.45 percent at Mile Post (MP) 24.044 (Seal Beach, Jct. Rte. 605)" (p. 367). As indicated in Caltrans' "2009 Annual Average Daily Truck Traffic on the California State Highway System" (December 2010), comparing 2009 and 2010 truck volumes, the percentage of truck traffic at that same MP is 4.29 percent (p. 358), indicating a significant upward trend (3.6 percent/year) in truck traffic which is unaddressed in the DEIR/S. In fact, there does not seem any viable realistic scenario in which truck volumes would remain unchanged over a 31-year period (i.e., 2009-2040).

As a result, it would appear that the assumptions presented in the DEIR/S are not supportable by substantial evidence and have been selected to support a predetermined outcome rather than to foster informed decisionmaking. In addition, that material misrepresentation not only serves to substantially underestimate potential environmental impacts but reduces the range of alternatives available for considerations (e.g., dedicated truck lane). **181**

As indicated in the FHWA's "Integrating Freight into NEPA Analysis" (September 2010), the USDOT states that the "FHWA has adopted the policy of managing the NEPA project development and decision-making process as an "umbrella," under which all applicable environmental laws, executive orders, and regulations are considered and addressed prior to the final project decision and document approval. Freight considerations are a vital component in this process. Conclusion of the NEPA process results in a decision that addresses multiple concerns and requirements, including freight. The FHWA NEPA process enables transportation officials to make project decisions that balance engineering, freight, and transportation needs with social, economic, and natural environmental factors" (p. 26). Despite that policy, freight movement does not appear to have been addressed by the Lead Agency.

If freight-hauling vehicles can increase vehicle speeds and reduce travel time by paying a toll, particularly if carrying perishable cargo and/or time-critical items, why would freight-haulers not elect to utilize HOT lanes over GP lanes (e.g., "Alternative 3 would not increase the percentage

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of trucks in the fleet mix and would improve vehicle speeds in the project area," DEIR/S, p. 3.2.6-51)? If the adage "time is money" bears some applicability to commercial vehicles and, as acknowledged, the I-405 Freeway is a "bypass" to the I-5 Freeway, why would some truck traffic now utilizing (or projected to utilize) the I-5 Freeway not divert to the I-405 Freeway HOT lanes? How could increased truck traffic on the "express lanes" impact travel speeds? **182**

As indicated in the TOAR: "Auto vehicle types are classified by occupancy: drive alone (DA), shared ride with one person (SR2), and shared ride with 2 or more passengers (SR3). Heavy duty trucks are classified as light-heavy, medium-heavy, and heavy-heavy trucks. Light-heavy trucks are 8,500 to 14,000 gross vehicle weight in pounds (GVW), medium-heavy trucks are 14,000 to 33,000 GVW, and heavy-heavy trucks are 33,000 GVW or more. . . these vehicles are reported as trucks with 5 or more axles, trucks with 4 axles, trucks with 3 axles and truck with 2 axles" (p. 4-7). Since trucks are larger than automobiles, a "passenger car equivalent" (PCE) factors is typically applied to trucks. In calculating HOT/HOV/GP-lane capacity, what PCE has been applied for light-heavy, medium-heavy, and heavy-heavy trucks? What percentage of each truck type now exists within the project area and what percentage is anticipated in the future? Is that mix consistent with the mix anticipated along the I-710 Corridor and, if not, why not? Are truck emissions the same as those associated with automobiles? How would increased truck volumes effect emission projections? What is diesel particulate matter (diesel PM) and what are the potential health risks associated with long-term exposure? **183** **184** **185**

The Traffic Study alleges that "[t]he Express Lanes would encourage carpooling by providing discounted tolls for HOVs with 3 or more occupants" (p. 1-12). No evidence is, however, presented to support that claim. Similarly, no information or analysis is presented addressing HOV+2 and HOV+3 and the impacts of congestion pricing on carpool formation. **186**

5.7 Secondary Impacts

The EIS must identify all the indirect effects that are known and make a good faith effort to explain the effects that are not known but are "reasonably foreseeable" (23 C.F.R. 1508.8[b]). As defined in Section 1508.8 of the CEQ Regulations, "'effects' include: (a) Direct effects, which are caused by the action and occur at the same time and place. (b) Indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems."

Similarly, as defined in Section 15358 of the State CEQA Guidelines: "Effects include: (1) Direct or primary effects which are caused by the project and occur at the same time and place. (2) Indirect or secondary effects which are caused by the project and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect or secondary effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems, including ecosystems." As specified in Section 21061 of CEQA, an EIR intended to serve as an "informational document."

As indicated in SCAG's 2012 RTP/SCS: "Transportation projects including new and expanded infrastructure are necessary to improve travel time and can enhance quality of life for those traveling throughout the region. However, these projects also have the potential to induce population growth in certain areas of the region" (p. 80). "SCAG's analysis also indicates that

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every 10 percent decrease in congestion is associated with an employment increase of approximately 132,000 jobs. Congestion relief will be a major contributing factor to our future employment growth" (p. 16).

Although no methodology is presented, the Lead Agency asserts that implementation of Alternative 1 will "result in approximately 32,000 direct/indirect/induced jobs," Alternative 2 will result in "approximately 34,000 direct/indirect/induced jobs," and Alternative 3 will result in "approximately 42,000 direct/indirect/induced jobs" (CIA, p. 6-2). Rather than demonstrating how those estimates were derived, the Lead Agency presents a link to a FHWA website were, it must be assumed, a methodology can be found (requiring stakeholders to independently calculate the number of jobs attributable to each alternative without guidance concerning how those estimates were derived). Since no publication is cited, readers lacking computer access would be prevented from reviewing the Lead Agency's analytical assumptions and challenging or validating the document's conclusions.

As evidenced by these excerpts, the Lead Agency acknowledges that the three build alternatives will produce measureable "direct/indirect/induced" impacts. As further evidence of the DEIR/S' internal inconsistency, the Department concludes that "the proposed project does not have the potential to change land uses or induce growth but instead would provide increased lane capacity along I-405" (emphasis added) (p. 3.1.2-10) and "[t]he build alternatives are not anticipated to induce any other changes in land use and zoning in the project study area" (emphasis added) (p. 3.3.1-33); thus, seeking to avoid any analysis of the indirect and secondary consequences of the 32,000 to 42,000 "direct/indirect/induced jobs" that the Lead Agency purports that the proposed action will generate.

As indicated on FHWA's website (Employment Impacts of Highway Infrastructure Investment), the current economic environment "will exert downward pressure on the highway construction employment relative to the 2007 estimate of 27,800 jobs per $1 billion of Federal-Aid highway capital expenditure. . .The employment impacts of highway infrastructure investment do not remain constant over time. Increases in construction materials prices and wages over time will tend to reduce the number of jobs supported by each $1 billion invested."

Since the Lead Agency asserts that the proposed action is consistent with the 2008 RTP, as reported in SCAG's "The New Economy and Jobs/Housing Balance in Southern California" (April 2001): "The current (1997) regional average ratio of jobs to households is 1.25 jobs per household" (p. 15). Based on that ratio, the proposed action would result in 25,600 to 33,600 "direct/indirect/induced" housing units. The induced impact of not even a single housing unit is, however, examined in the DEIR/S. The Lead Agency's failure to examine the secondary or growth-inducing aspects of the proposed action is further highlighted by the declaration that "[t]he proposed improvements would add additional capacity to the freeway system and reduce commute times. Reduced commute times may facilitate land use planning, especially as it relates to new residential and commercial land uses because residents and shoppers may be attracted to those locations due to increased mobility. This may have a secondary effect of generating economic activity" (emphasis added) (DEIR/S, Table 3.1.1-1, p. 3.1.1-29). Although the DEIR/S acknowledges the project's potential to produce a "secondary effect," that impact is never addressed. **187**

With regards to planned street and overcrossing closures and traffic diversions and detours, the Lead Agency notes that "[a]lternative routes and detours will be used to give motorists the opportunity to avoid the work zone by diverting to other highway[s] or adjacent surface streets"

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(emphasis added) (RCS, p. 24). With regards to ramp closure, at the Fairview Road Northbound Off-Ramp, "24,000 AADT [annual average daily trips]" (RCS, p. 9) will be diverted onto other local streets for up to 30 days. The potential impacts of dumping 24,000 AADT onto other local streets and the potential level of service (LOS) and volume/capacity (V/C) impacts that would likely result from that added daily and peak-hour traffic are not, however, addressed (e.g., "Supplemental traffic analysis along alternate and detour routes may need to be performed during the final design phase to evaluate roadway and intersection performance and mitigation measures in response to added traffic," RCS, p. 24). For example, based on the proposed diversion of traffic to the Fairview Road/South Coast Drive intersection (see "Alternative Route Map – Sheet 2" and "Sheet 4" in the RCS), unaddressed is how that intersection will be impacted (e.g., southbound traffic redirected to require left turns onto Fairview Road rather than right turns). **188**

Similarly, because some motorists will inevitably seek to avoid the construction delays along the I-405 Freeway (lasting up to 4.5 years), some drivers will voluntarily divert to "other highway or adjacent surface streets." Since the "I-405 is considered a bypass route to the Interstate 5 (I-5) Santa Ana/Golden State Freeway through Orange County" (NSR, p. 1), it can be concluded that during the construction period, some of the vehicles that would otherwise travel along the I-405 Freeway will select the I-5 Freeway as an alternative travel route. Absent from the DEIR/S is any effort to identify those alternative routes, quantify the number of vehicle, or analyze the potential short-term and long-term impacts of that added traffic to those "other highways and adjacent surface streets." **189**

As indicated in the State CEQA Guidelines: "Effects analyzed under CEQA must be related to a physical change" (14 CCR 15358[b]). The Lead Agency recognizes that, as a result of the increased traffic resulting from traffic diversion and detours, physical modifications and/or other affirmative actions may be required in response thereto. The Department notes that "[p]otential mitigations that could be made on alternate and detour routes include: [1] Street/intersection improvements (widening, pavement rehabilitation, removal of median, restriping, etc.) to provide added capacity to handle detour traffic; [2] Signal improvements, adjustment of signal timing and/or signal coordination to increase vehicle throughput, improve traffic flow and optimize intersection capacity; [3] Turn restrictions at intersections and roadways necessary to reduce congestion and improve safety; [4] Parking restrictions on alternate and detour routes during work hours to increase capacity, reduce traffic conflicts and improve access" (RCS, p. 24). Nowhere in the DEIR/S are the environmental effects of those anticipated physical changes examined. **190**

5.8 Lack of Measurable Analytical Criteria

With regards to construction-term impacts, as indicated in the DEIR/S: (1) "Based on the short-term and temporary nature of the closures (10 to 30 days), the increased travel times and distances would not result in either a substantial economic effect on businesses or substantial delays or travels cost for residents or business patrons" (emphasis added) (CIA, p. 6-7); (2) "Detour routes represent a short term inconvenience to both the traveling public but do not represent a substantial burden to either businesses (limited access) or the traveling public (substantially longer or indirect travel)" (RCS, p. 18); and (3) "No temporary long-term closures have been identified that would result in any substantial effect on emergency access or response times" (RCS, p. 20). A "temporary long-term closure" would appear to be an oxymoron.

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In contrast, the Lead Agency also states that construction activities "would necessitate the closures of various facilities, such as the I-405 mainline, branch connectors, interchange ramps, and local arterials. Closures of these facilities may be overnight, short-term, during an extended weekend, or long-term. . Long-term closure of arterial overcrossings may be employed during construction to expedite construction and shorten the duration that the overcrossing is out of service" (emphasis added) (DEIR/S, p. 2-26). Additionally, the RCS identifies a number of freeway ramps which will be closed for "up to 30 days" (Table 1, pp. 4 thru 6) (e.g., "These ramps will require complete closure for a period up to 30 days during ramp reconstruction because the new ramp alignments will occupy the current ramp locations, and construction access and right-of-way requirements preclude use while under construction," p. 6).

In reality, for each of the three build alternatives, it is the Lead Agency intent that "[l]ong-term closure of arterial overcrossing[s] lasting up to 12 months may be employed during construction to expedite construction and shorten the duration that the overcrossing is out of service. The potential locations for temporary long-term closures include the following: [1] Ward Street OC - 8 to 12 months; [2] Talbert Avenue OC - 8 to 12 months; [3] Slater Avenue OC - 8 to 12 months; [4] Bushard Street OC - 8 to 12 months; [5] Newland Street OC - 8 to 12 months; [6] Edinger Avenue OC - 8 to 12 months; [7] McFadden Avenue OC - 8 to 12 months; [8] Edwards Street OC - 8 to 12 month" (DEIR/S, Table 2-1, p. 2-35). Since no prohibitions have been identified, it is conceivable that other overcrossings may also be closed for extended periods. No plans are presented in the RCS or elsewhere in the DEIR/S addressing planned detours or anticipated impacts attributable to those long-term closures and no analysis is presented concerning how such closures could affect residents and businesses, rather the Lead Agency merely states that "[c]onstruction of the proposed project would result in some temporary and intermittent inconvenience for some current land use operations due to temporary traffic lane and ramp closures and temporary construction easements" (p. 3.1.1-32). **191**

There are sufficient inferences in the DEIR/S to suggest that the potential for additional street closures is substantially greater than now indicated by the Department. For example, the Lead Agency anticipates "[c]losure of secondary streets during construction to allow quick construction and reopening" (RCS, p. 23). Those "secondary streets," however, are never identified. With specific focus on the College Park East neighborhood in Seal Beach, how would residents and motorists traveling along Almond Avenue be "inconvenienced" and what is the "temporary and intermittent" nature and extent of that "inconvenience"? **192**

Absent both some definition of "substantial economic effect" and the identification of affected uses, the Department lacks any objective basis to ascertain the nature of potential effects on affected properties. For example, a large chain-store may be able to weather a restriction on access or a reduction in drive-past customers to a greater degree than either a single mom-and-pop or drive-through establishment dependent upon daily proceeds and drive-by customers (e.g., "Alternate routes and detours will be used to give motorists the opportunity to avoid the work zone by diverting to other highway or adjacent surface streets," RCS, p. 24). To the extent that the Lead Agency asserts that certain businesses may benefit from traffic diversions (e.g., "it should be noted that during the temporary long-term closures for the Magnolia Street SB off-ramp and the Westminster Ave SB on-ramp, the Bella Terra and Westminster Malls could experience increased economic activity due to the detour related drive-by traffic," RCS, p. 20), then the converse must also be true (i.e., some businesses could experience temporary or permanent loss of customers and decreased economic activities due to traffic diversions). Other than unsupported conclusions, no analysis of adverse economic impacts has been presented. **193** **194**

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From "Alternative Route Map – Sheet 1" through "Sheet 9" in the TDM, it can be surmised that the long-term closure of identified arterials will, at least for the term of the closures, substantially reduce traffic volumes on those arterial segments between the nearest paralleling arterial and the point of closure. In addition, assuming that the intervening segments of those arterials remain open for access to those properties abutting those roadways (and located between the paralleling arterial and point of closure), there may be conditions where raised medians prevent motorists from exiting residents and/or commercial establishments, making U-turns, and returning in the opposition travel direction to those paralleling arterials. No discussion of those potential conditions has been presented in the DEIR/S, rather the Department merely states that "[a]ccess during construction would be maintained but may require reconfiguration during construction" (p. 3.1.1-32). **195**

With regards to anticipated long-term arterial closures, as indicated in the TDM: "Although impacts to local commuters, residents and local businesses would be more severe during the closure, the impacts would end sooner because the improvements would be completed quicker allowing the roadway to re-open to public faster" (emphasis added) (p. 10). No definition of "severity" is, however, provided. The terms "sooner," "quicker," and "faster" neither allow for any assessment of the "severity" of the resulting impact nor allow for a determination of the potential significance of that effect. **196**

From the above excerpt, the Lead Agency appears to equate the severity of potential impacts to the length of time the impact exists. There exists nothing in either CEQA or NEPA that includes time variability with regards to the assessment of the level of significance of an identified impact. Under the Lead Agency's rationale, there exists some unspecified universality with regards to the date/time/duration below which an impact is less-than-significant and above which that same impact becomes significant. To the extent that the Lead Agency seeks to establish duration as a component to impact assessment, with regards to each such determination, additional documentation supporting that position needs to be presented.

Although "Caltrans is the Lead Agency for the proposed project and has full discretion to establish the criteria for determining significance under CEQA" (AQR, p. 54), that criteria needs to be explicitly identified so that stakeholders can judge where the bar is being set. **197**

For example, with regards to air quality, the DEIR/S' analysis (Section 3.2.6) fails to include a discussion of the South Coast Air Quality Management District's (SCAQMD) CEQA daily threshold values for the construction or operation of a proposed project. In addition, the analysis fails to use these threshold values in determining potentially significant air quality impacts. As an example, the SCAQMD daily threshold for oxides of nitrogen (NOx) during construction is 100 pounds per day. The analysis shows that construction activities would result in as much as 106 pounds per day (Table 3.2.6-8, p. 3.2.6-29); however, those emissions are never compares to the SCAQMD threshold. Since no threshold standard is present, the DEIR/S does not consider the resulting construction-term impact to be significant and no mitigation is proposed. In Orange County, SCAQMD's threshold standards are routinely used by those local agencies traversed by the I-405 Freeway in fulfillment of their CEQA compliance obligations. **198**

5.9 Deferred Analysis and Mitigation

Under NEPA, the EIS must ensure that environmental information is available to the project's decision makers and to the public "before decisions are made and before actions are taken" (40 C.F.R. 1500.1[b]). It is critical that "[i]mportant environmental consequences will not be

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'overlooked or underestimated only to be discovered after resources have been committed or the die otherwise cast.' In short, NEPA requires that the evaluation of a project's environmental consequences take place early in the project's planning process" (North Buckhead Civic Association v. Skinner [1990]).

Under CEQA, the Lead Agency is precluded from deferring the preparation of a reasonable analysis of project-related and cumulative environmental effects to later stages in the development process. This deferral of environmental assessment until after project approval violates CEQA's policy that impacts be identified before project momentum reduces or eliminates the agency's flexibility to subsequently change its course of action. More importantly, a deferred analysis and a deferred assessment of mitigation measures fails to provide evidence that the direct, indirect, and cumulative impacts of the proposed action can and have been effectively mitigated either to below a level of significance or to the maximum extent feasible. 199

With regards to mitigation, in Communities for a Better Environment v. City of Richmond (2010), the court ruled that "[f]ormulation of mitigation measures should not be deferred until some future time" ([Citation]). An EIR is inadequate if '[t]he success or failure of mitigation efforts may largely depend upon management plans that have not yet been formulated, and have not been subject to analysis and review within the EIR' ([Citation]). 'A study conducted after approval of a project will inevitably have a diminished influence on decisionmaking. . .Numerous cases illustrate that reliance on tentative plans for future mitigation after completion of the CEQA process significantly undermines CEQA's goals of full disclosure and informed decision making; and consequently, these mitigation plans have been overturned on judicial review as constituting improper deferral of environmental assessment ([Citation]). . .Fundamentally, the development of mitigation measures, as envisioned by CEQA, is not meant to be a bilateral negotiation between a project proponent and the lead agency after project approval; but rather, an open process that also involves other interested agencies and the public."

Cited below are a number of examples of deferred analysis.

- **Emergency response time impacts**. As indicated in the TDM: "Full freeway lane, ramp and arterial street closures would also be required during night times and on weekends (55-hour closure) during various roadway and structure construction activities. Complete ramp closure up to 30 days is also necessary for some of the interchange ramps and prolonged closure ranging from 3 to 12 months is anticipated to facilitate construction of certain arterials and overcrossing structures" (p. 8).

  As indicated in the FHWA's "Advanced Metropolitan Planning and Operations – An Objective-Driven Performance-Based Approach, A Guidebook" (February 2010): "'With homeland security concerns as well as natural disasters, efficient emergency response and evacuations are critical, and rely upon effective coordination and communication between transportation agencies and law enforcement' (p. 1-1). Rather than initiating that coordination early in the planning and environmental review process, the Lead Agency seeks to relegate "homeland security concerns" to an unspecified later date (e.g., "coordination with local jurisdictions and emergency service providers will be required during the final design," RCS, p. 20).

  The Department alleges that "[n]o temporary long-term closures have been identified that would result in any substantial effect on emergency access or response times" (RCS, p. 20); however, as a goal toward which it strives, Caltrans hopes to "[l]imit delay

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to less than 30 minutes above normal recurring traffic delay on existing facilities" (TDM, p. 8). It is unclear whether emergency service providers were made aware of either the planned "long-term closure of arterial overcrossings lasting up to 12 months" (DEIR/S, Table 2-1, p. 2-35) or the potential for 30-minute traffic delays. Since no response time analysis has been presented in the DEIR/S, it is not possible to determine how and to what extent those closures will impact emergency response. Contrary to CEQA, it appears that the Lead Agency has sought to defer that analysis until a later date, following the completion of the environmental compliance process. 200

Planned "[l]ong-term closure of arterial overcrossing[s] lasting up to 12 months" include "Talbert Avenue" (DEIR/S, Table 2-1, p. 2-35). The Department notes that "Orange Coast Memorial Medical Center: 9920 Talbert Avenue, Fountain Valley, CA 92708" (RCS, p. 20) is one of four hospitals located within the study area. Although the Talbert Avenue overcrossing may be closed for one year, absent either any supporting analysis or coordination with emergency service providers, the DEIR/S concludes that "[n]o temporary long-term closures have been identified that would result in any substantial effect on access to or response times to/from these hospitals" (Ibid.). 201

- **Unspecified arterial street improvements**. During freeway, individual ramps, select overcrossings, specified arterials, and unspecified secondary street closure activities, at least in certain instances, the Department has identified alternative routes and detours designed to route motorists around construction zones. With the exception of freeway ramps, the number of vehicles (as measured in annual average daily trips [AADTs]) has not been specified. However, in at least one case (i.e., Fairview Road Northbound Off-Ramp), during such closures, "24,000 AADT" (RCS, p. 9) will need to be ushered along existing roadways already operating at undesirable LOS conditions (e.g., LOS "D" or worse). Rather than analyzing the impacts of those planned diversions on both arterials and secondary streets, the Department seeks to defer that analysis to after the environmental process has been completed. As indicated in the DEIR/S: "Supplemental traffic analysis along alternate and detour routes may need to be performed during the final design phase to evaluate roadway and intersection performance and mitigation measures in response to added traffic. Potential mitigations that could be made on alternate and detour routes include: [1] Street/intersection improvements (widening, pavement rehabilitation, removal of median, restriping, etc.) to provide added capacity to handle detour traffic; [2] Signal improvements, adjustment of signal timing and/or signal coordination to increase vehicle throughput, improve traffic flow and optimize intersection capacity; [3] Turn restrictions at intersections and roadways necessary to reduce congestion and improve safety; [4] Parking restrictions on alternate and detour routes during work hours to increase capacity, reduce traffic conflicts and improve access" (emphasis added) (RCS, p. 24). 202

  Under CEQA, words like "should" indicate guidance and words like "could" or "may" indicate a permissive element which is left to the agency's discretion (14 CCR 15005[b]-[c]) and do not constitute enforceable requirements. As such, there exist no assurances that any of the statements whose action words include "could," "should" or "may" will actually be performed and, if implemented, will produce their intended results.

  As defined, in part, in the State CEQA Guidelines, "'[p]roject' means the whole of the action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment"

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(14 CCR 15378[a]). The State CEQA Guidelines further specify that "[i]f a mitigation measure would cause one or more significant effects in addition to those that would be caused by the project as proposed, the effects of the mitigation measures shall be discussed but in less detail than the significant effects of the project as proposed" (14 CCR 15126.4[a][1][D]). The above excerpt states that "potential mitigation" may include unspecified street/intersection improvements, signal improvements, turn restrictions, and/or parking restrictions. These improvements (whether identified as project facilities or mitigation measures) constitute "physical changes" attributable to the proposed action and are subject to CEQA. Instead of including an analysis of those physical changes in the DEIR/S, the Lead Agency has sought to defer both their identification and investigation to an unspecified later date. **203**

It is assumed that the "final design stage" occurs immediately prior to the commencement of construction, at a time when stakeholders lack the ability to comment and when both further change and additional mitigation becomes impractical.

5.10 Reliance upon Outdated Plans and Policies

It is apparent the DEIR/S has either been sitting on the shelf too long (and passed its expiration date) or the document's authors have relied upon trite and generic analyses extracted from other documents (as if one-size fits all). In either case, on too many occasions, the Lead Agency seeks to utilized out-dated and superseded documents as the basis for its conclusions. What results is an incomplete and potentially erroneous assessment of the proposed action's consistency with relevant agency plans and policies.

For example, the DEIR/S misrepresents the applicable regional transportation plan (e.g., "The 2008 RTP presents the transportation vision for the SCAG region through the year 2035 and provides a long-term investment framework for addressing the region's transportation and related challenges," emphasis added, p. 3.1.1-19). Reliance upon a now defunct 2008 document prevents the Lead Agency from presenting a defensible analysis the proposed action's consistency or inconsistency with the current regional plan. Absent from the DEIR/S is any reference to SCAG's 2012 RTP/SCS (adopted on April 4, 2012) or its corresponding 2012 RTP/SCS PEIR (certified on April 4, 2012). The 2012 RTP/SCS was adopted and the 2012 RTP/SCS PEIR was certified prior to the release of the DEIR/S; however, no discussion of those documents is presented therein. Similarly, the DEIR/S cites the OCTA's "2006 Long-Range Transportation Plan (LRTP)" (emphasis added) (pp. 3.1.1-17 and 18) (i.e., "'New Directions' is an LRTP developed by OCTA and is designed to address the County's transportation services," p. 3.1.1-17), as the basis for determining consistency with regional transportation plans; however, in 2010, the OCTA adopted "Destination 2035 – Moving Toward a Green Tomorrow," thus relegating "New Directions" to its archives. **204**

The project's air quality analysis is based on the EMFAC2007 emissions model (e.g., "EMFAC2007 was used to calculate operational emissions, DEIR/S, p. 3.2.6-22). The EMFAC2007 model has now been updated and replaced with EMFAC2011. As a result, the air quality analysis does not reflect the current analytical methodology, thus potentially leading to inaccurate emission calculations.

Absent from the DEIR/S is any "bibliography" or "list of references" allowing stakeholders to independently review the information contained in cited studies and referenced documents. If

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included, the Lead Agency's over-reliance upon antiquated information (e.g, "2006 Long-Ranch Transportation Plan" and "2008 Regional Transportation Plan") would become readily apparent.

5.11 Lack of Clearly Defined Threshold of Significance Criteria

The primary roles of CEQA are to inform lead, responsible, and trustee agencies about the effects of their actions, to create a formal mechanism to receive public input, to explore ways to mitigate adverse effects, and to determine whether there are alternatives to the proposed action that could reduce or avoid identified effects. Under CEQA, agencies are asked to drawing a "line in the sand' beyond which any impact would be deemed to be "significant." Section 15382 of the State CEQA Guidelines defines "significant effect on the environment" as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change related to a physical change may be considered in determining whether the physical change is significant."

Referencing Section 21000(d) of CEQA, the Legislature declared that "[t]he capacity of the environment is limited, and it is the intent of the Legislature that the government of the State take immediate steps to identify any critical thresholds for the health and safety of the people of the State and take all coordinated actions necessary to prevent such thresholds being reached." As required under Section 21001(f) therein, it is the policy of the State to "[r]equire governmental agencies at all levels to develop standards and procedures to protect environmental quality." At a minimum, a lead agency's standards cannot impose lower thresholds than established under applicable State and federal statutes and regulations. As long as they are factually based, fairly applied, and clearly articulated, lead agencies have the authority to impose there own threshold of significance criteria. No information is presented in the DEIR/S to suggest that the Lead Agency has formulated any independent threshold of significance criteria. **205**

Absent from the DEIR/S is any clear description of the Lead Agency's threshold of significance criteria. Because a "CEQA checklist" is presented in Appendix A (CEQA Checklist) of the DEIR/S, by inference, it is assumed that the threshold of significance standards presented herein constitute the criteria that the Lead Agency seeks to apply to the proposed action. Beyond mere reliance upon the checklist, a number of sections of the State CEQA Guidelines are directly relevant to the assessment of an impact's significance (14 CCR 15064, 15064.4, 15064.5, 15064.7, 15065, and 15382). As stipulated therein, "[a] threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant" (14 CCR 15064.7[a]). "The determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data" (14 CCR 15064[b]). Where in the DEIR are the quantitative, qualitative, and/or performance-based thresholds of significance presented? **206**

Although the CEQA checklist provides broad guidance, its purpose is to be used early in the environmental review process to facilitate scoping activities, not after the completion of the DEIR/S as a summation of the preliminary findings presented therein. Referencing Section 15063(d)(3) of the State CEQA Guidelines: "An Initial Study shall contain in brief form. . .An identification of environmental effects by use of a checklist, matrix, or other method, provided

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that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries."

As noted in Appendix A of the DEIR/S, the "CEQA checklist" was prepared on March 18, 2010. Both the NOP and NOI were released on August 26, 2009. As such, it is evident that the referenced checklist was not a part of any public outreach effort and, up to the release of the DEIR/S, was strictly an internal document. **207**

The insufficiency of the checklist can be demonstrated by the precise working of that document. For example, with regards to the assessment of air quality impacts, the checklist queries whether the project would "[v]iolate <u>any</u> air quality standard or contribute substantially to an existing or projected air quality violation" (emphasis added) (Appendix A, p. 2). In order to support any conclusion, the Lead Agency, therefore, needs to disclose the existence of "all" air quality standards. Since the standards of the local air quality management district (i.e., South Coast Air Quality Management District) have neither been presented nor cited, the Lead Agency draws (erroneous) conclusions without presenting the substantial evidence (e.g., quantitative thresholds) upon which that conclusion is based. **208**

5.12 Lack of Efficacy of Mitigation Measures

For a reader unfamiliar with the DEIR/S, Table S-1 (Project Impact Summary Table), containing the proposed "avoidance and minimization measures" and "mitigation measures," is surprisingly absent from the document's table of contents (p. vi). Similarly, with regards to each of the three building alternatives, no distinction is made therein relative to which of those "effects" and/or "measures" are applicable to which alternatives. As such, to the extent that specific actions are unique to individual alternatives, readers are required to conduct a detail review of the text of the DEIR/S in order to determine the relevancy of each "effort" and "measure."

Although represented as separate items (e.g., "Table S-1 summarizes project impacts by alternative and identifies avoidance and minimization measures. Where applicable, these measures are sometimes also mitigation measures, as discussed in Chapter 4 of this Draft EIR/EIS," p. S-12), as indicated above, it is not possible to clearly distinguish between "avoidance and minimization efforts" and "mitigation measures" and how those distinct "efforts" and/or "measures" differ in terms of their application and enforceability. Because that distinction is made intentionally obtuse, no differentiation between "avoidance and minimization measures" and "mitigation measures" can be made herein. **209**

Pursuant to Section 21081.6(b) of CEQA and Section 15126.4(a)(2) of the State CEQA Guidelines, "[m]itigation measures must be fully enforceable through permit conditions, agreements, or other legally-binding instruments." The purpose of this requirement is to "ensure that feasible mitigation measures will actually be implemented as a condition of development, and not merely adopted and then neglected or disregarded" (Federation of Hillside & Canyon Associations v. City of Los Angeles [2000]). As indicated by the Governor's Office of Planning and Research's (OPR) "Tracking CEQA Mitigation Measures under AB 3180" (March 1996): "A measure that did not mitigate the impact could not be the basis for a finding that impacts were mitigated."

Although the following analysis cites specific "efforts" and/or "measures" presented in the DEIR/S without differentiation between "avoidance and minimization measures" and "mitigation measures" (as those terms are used by the Lead Agency), the issues raised should not be

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considered unique to only those "efforts" and/or "measures" so cited but should be interpreted as having relevancy or potential relevancy beyond the specific actions cited.

5.12.1 Measures which are not Mitigation

- **LU-1**. If a build alternative is selected for implementation, OCTA shall request the County of Orange and the cities along the project corridor to amend their respective General Plans to reflect the selected build alternative and the modification of land use designations for properties that would be acquired for the project that are not currently designated for transportation uses (pp. S-13 and 3.1.1-33).

  As stipulated in the State CEQA Guidelines: "'Mitigation' includes: (a) Avoiding the impact altogether by not taking a certain action or parts of an action. (b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation. (c) Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment. (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action. (e) Compensating for the impact by replacing or providing substitute resources or environments" (14 CCR 15370). Under NEPA, mitigation includes avoiding an impact by not taking a certain action, or parts of an action; minimizing an impact by limiting the degree or magnitude of the action and its implementation; rectifying an impact by repairing, rehabilitating, or restoring the affected environment; reducing or eliminating an impact over time, through preservation and maintenance operations during the life of the action; and compensating for an impact by replacing or providing substitute resources or environments (40 C.F.R. 1508.20).

  Mitigation measures must satisfy the constitutional test of "substantially advancing legitimate governmental interests." The California Supreme Court has ruled that this requirement consists of two elements. First, the courts (Nollan v. California Coastal Commission [1987]) have delineated the "essential nexus" that must exist between the legitimate public interest being protected and the mitigation which is imposed. A basis link between the imposed mitigation measures and the identified environmental effect is needed in order to satisfy this test. Second, the courts (Dolan v. City of Tigard [1994]) have stated that the imposed mitigation measure must substantially advance legitimate governmental interests and be "roughly proportional" to the project's individualized environmental effects.

  With regards to the above referenced action, the Lead Agency's strategy only includes a commitment by the OCTA to submit a "request" to each affected agency. The submittal of a "request" (whether written or oral) bears no "nexus" or "rough proportionality" (14 CCR 15041[a]) with the identified impact (e.g., loss of property and forfeiture of any right of use), offset or compensate for the environmental effect, or offer reasonable assurance that any further actions will result from the Lead Agency's actions. **210**

  No factual basis is provided supporting any asserting by the Lead Agency that this and other similar measures (e.g., COM-5, COM-7, COM-8, COM-9, COM-11, UT-1, UT-2) will serve to reduce, avoid, eliminate, rectify, or compensate for any of the environmental effect identified in the DEIR/S. **211**

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5.12.2 Measures which are not Measureable

- **LU-2**. Caltrans shall implement a TMP throughout the duration of the construction activities and make this document available to the public. The TMP shall seek to minimize project-related construction disruptions and would include traffic strategies designed in coordination with local jurisdictions (pp. S-13 and 3.1.1-33).

Words like "minimize" or "maximize" and their derivatives are meaningless because no actual performance is promised or specified and no yardsticks are presented against which each measures efficacy can be judged. For example, with regards to impacts on residents and businesses attributable to street closures and access restrictions, "LU-2" states that "Caltrans shall implement a TMP [traffic management plan] throughout the duration of the construction activities and make this document available to the public. The TMP shall seek to minimize project-related construction disruptions and would include traffic strategies designed in coordination with local jurisdictions" (emphasis added) (p. 3.1.1.33). The term "seek to minimize" is never defined, no performance standards are established against which attainment can be measures, and no remedial actions are proposed should the proposed measure fall short of its intended (but unmeasureable) results. 212

Similar language is presented in the CIA. As indicated therein: (1) "Implementation of the TMP as outlined in Section 4.6 would minimize impact to the use of community services and facilities" (emphasis added) (p. 5-20); (2) "The Draft TMP (Appendix C), describes the action plan for minimizing impacts to community facilities during construction" (emphasis added) (p. 5-21); (3) "Implementation of the TMP would minimize impacts related to circulation and access during the construction period" (emphasis added) (p. 5-27); and (4) "The Transportation Management Plan (TMP) is a specialized program designed to minimize the impacts of a construction project by applying a variety of techniques including Public Information, Motorist Information, Incident Management, Construction Strategies, Demand Management and Alternate Route Strategies" (emphasis added) (RCS, p. 21). As a result, neither the DEIR/S nor its accompanying technical studies offer further clues as to how "minimize" will be quantified, evaluated, and/or monitored. 213

In addition, although there is no indication that construction would conceivably take less than the time period specified (e.g., 54 months), the Department is "considering" the establishment of economic motivations to push the contractor into greater performance (e.g., "A supplemental construction strategy under consideration for this project is the use of an incentive/disincentive program to motivate the contractor to achieve the overall construction schedule and minimize impacts to traveling public and local communities," RCS, p. 24). As a result, the contractor may have agency-sanctioned disincentives to take any actions that could potential delay performance (e.g., facilitate private property accessibility to the detriment of movement of construction equipment). If the contractor has to choice between his paycheck and what the Department categorizes merely as a "short-term inconvenience" (RCS, p. 18) or "intermittent inconvenience" (DEIR/S, p. 3.1.1-32), the affected property owners will be the parties that suffer. 214

As indicated in Appendix D (Draft Traffic Management Plan) of the CIA, the following "TMP goals" are presented "[1] Maintain travel lanes on I-405 mainline except as allowed per approved lane closure charts; [2] Limit delay to less than 30 minutes above normal

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recurring traffic delay on existing facilities; [3] Maintain traffic flow throughout the corridor and surrounding areas; [4] Provide a safe environment to the work force and traveling public" (CIA, Appendix D, p. 7). With the single possible exception of the 30-minute delay limitation, the purported goals neither impose/stipulate any meaningful actions nor respond to the TMP's stated purpose (e.g., minimize project-related construction disruptions," p. 3.1.1.33). In light of the planned closure of the mainline freeway (e.g., "During construction, there will be numerous different closures of the freeway mainline, branch connectors, interchange ramps and local arterials required to accommodate various construction activities," TMP, p. 10), the goal to "maintain travel lanes on I-405 except as allowed [by Caltrans]" serves no apparent purpose. With the plethora of freeway mainline, ramp, overcrossing, arterial, and secondary street closures, Caltrans' proposal merely directs motorists to use other streets over which it has not jurisdiction and whose capacity (to accommodate those added vehicles) is undemonstrated. The provision of a "safe environment" is both a legal requirement and a liability risk if such an environment were not to be maintained.

Given the opportunity to avoid a 30-minute delay by selecting an alternative destination, if comparable services are available elsewhere, most motorists would seek to avoid the delay. As a result, the Lead Agency cannot demonstrate that the TMP will effectively mitigation "project-related construction disruptions" (Measure LU-2). No factual basis is provided supporting any asserting by the Lead Agency that this and other similar measures (e.g., COM-6, COM-8, COM-9, T-1, VIS-1, VIS-6, VIS-16) will serve to reduce, avoid, eliminate, rectify, or compensate for any potential environmental effect. 215

5.12.3 Measures that Constitute only Restatements of Existing Requirements

- **COM-13**: Where acquisition and relocation are unavoidable, the provisions of the Uniform Act and the 1987 Amendments, as implemented by the Uniform Relocation Assistance and Real Property Acquisition Regulations for Federal and Federally Assisted Programs adopted by the United States Department of Transportation (March 2, 1989) and, where applicable, the California Public Park Preservation Act of 1971 will be followed. An appraisal of the affected property will be obtained, and an offer for the full appraisal will be made (pp. S-13 and 3.1.4-40).

With regards to "COM-13," there is no corresponding text reference in the DEIR/S allowing stakeholders to understand the environmental impact that this measure seeks to address. The DEIR/S does, however, note that "the property owners would be entitled to compensation to the extent provided by law in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act, as amended" (p. 3.1.4-33). Similarly, the AQR states that "[a]ll construction vehicles and equipment would be required to be equipped with the State-mandated emission control devices pursuant to State emission regulations and standard construction practices" (emphasis added) (p. 1). If "State-mandated," since it is prohibited from non-compliance, the stated measure imposes no additional obligation upon the Lead Agency other than to build the project in the manner in which it is already required by law.

Compliance with existing laws and regulations does not constitute mitigation under either CEQA or NEPA because it imposes no additional obligations upon the Lead Agency beyond those the agency is already bound. As such, this and other actions merely specifying compliance (e.g., COM-2, COM-10, WQ-1, WQ-3, WQ-4, WQ-6, GEO-1,

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GEO-2, GEO-6, HAZ-4, HAZ-5, HAZ-10, HAZ-11, AQ-1, AQ-2, AQ-11, AQ-12, NOI-2, NOI-3, BIO-2, BIO-4, BIO-5, BIO-9) cannot be cited as the factual basis for reducing the impact for these this and those related measures have been formulated.

5.12.4 Measures that do not Specify any Actual Action 216

- **COM-4**. Provision of motorist information (i.e., existing changeable message signs, portable changeable message signs, stationary groundmounted signs, traffic radio announcements, and the Caltrans Highway Information Network [CHIN]) (pp. S-14 and 3.1.4-30).

  Measures intended to reduce, avoid, or eliminate an identified environmental effect must actually include some specified action that the Lead Agency or another entity will perform. This and similar measures (e.g., COM-5, COM-6, COM-8, COM-9, T-1, VIS-1, VIS-6) are drafted in a fashion that do not obligate any party to any actual action. If there exists no action-causing behavior or other corrective actions, no factual basis exists for asserting that imposition and/or compliance will reduce any corresponding environmental impact.

5.12.5 Delegation to Non-Governmental Entities Responsibility for Mitigation 217

- **UT-2**. During construction, emergency service providers will be alerted in advance of any temporary road closures and delays so that they have adequate time to make appropriate accommodations to ensure prompt emergency response times that fulfill their responsibilities and defined service objectives (pp. S-18 and 3.1.5-18).

  As specified under CEQA: "Each public agency is responsible for complying with CEQA and these Guidelines. A public agency must meet its own responsibilities under CEQA and shall not rely on comments from other pubic agencies or private citizens as a substitute for work CEQA requires the lead agency to accomplish" (14 CCR 15020). Here, the Lead Agency's obligation is only to "alert" emergency service providers of pending construction activities and street closures. The Department is self-imposing no obligations to ensure that timely emergency response can and will be provided. It is up to private providers (not the agency creating the impediments) to "make appropriate accommodations," including any incurrence of associated added costs. Because there is no assurance that similar levels of emergency response can be provided (e.g., "Limit delay to less than 30 minutes above normal recurring traffic delay on existing facilities," TDM, p. 8) and because the term "appropriate" is left undefined, it is potentially the victim or patient that predicated the emergency response action that bears the ultimate risk and compensatory obligation. 218 219

5.12.6 Deferred Mitigation

- **VIS-14**. Design all visible concrete structures and surfaces to adhere to the Aesthetic and Landscape Master Plan when developed (pp. S-23 and 3.1.7-86; VIA, p. 1).

  Although the above "measure" is included in Chapter 3.1.7 (Visual/Aesthetics) in the DEIR/S, no reference to or discussion of the "Aesthetic and Landscape Master Plan" is presented in Chapter 2 (Project Alternatives) or in Chapter 3.1.7 (Visual/Aesthetics). Only an indirect reference is provided in the VIA (i.e., "In addition, the aesthetics and 220

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appearance of the measures will need to use the corridor master plan as a guiding document," emphasis added, p. 115). As a result, unless intentionally withheld, it appears that the "Aesthetic and Landscape Master Plan" and "corridor master plan" constitute project-related documents which do not yet exist but will be developed at an unspecified later date.

In addition, measures that stipulate performance "prior to completion of the final EIR/S" (e.g., HAZ-1, HAZ-3, HAZ-4, HAZ-5, HAZ-7, HAZ-8) only serve to: (1) impede informed decisionmaking by denying decision makers the opportunity to consider those plans and/or analyses in the context of additional information only obtainable through peer review; and (2) limit the affected public's opportunity to review, consider, and submit comments relating to the merits of those plans and the adequacy of those analyses.

Since they have yet to be developed, "measures" specifying compliance with non-existent documents and absence any measureable performance standards cannot be cited as demonstrating any potential off-setting environmental benefits. As such, this and other actions merely specifying compliance (e.g., VIS-5, VIS-11, HYD-4, HYD-6, WQ-2, WQ-6, PAL-1, AQ-7, BIO-2) cannot be cited as the factual basis for reducing the impact for these this and those related measures have been formulated.

5.12.7 Non-Enforceable Mitigation

- **GEO-2**. Selection of earth-retaining system types should be based on consideration of foundation bearing capacity, anticipated settlement and ability of the system to tolerate settlements, overall slope stability, constructability, and cost (pp. S-27 and 3.2.3-9).

  Section 21081.6(b) of CEQA requires that mitigation measures be "fully enforceable through permit conditions, agreements, or other measures." Measures that stipulate that the Lead Agency or another party "should" or "may" do something does not actually obligate the Lead Agency or that party to do anything. If no inherent requirements are established, compliance cannot be enforced.

  This and other similar measures (e.g., GEO-3, GEO-4, GEO-6) containing only recommendations cannot be cited as the factual basis for reducing, avoiding, eliminating, rectifying, or compensating for the impact that the measure was formulated to address.

When each of the above avoidance, minimization, and mitigation measures are eliminated, some topical issues addressed in the DEIR/S have few if any measures left. Since the Lead Agency states that each of the identified measures have been integrated into the proposed action and, therefore, constitutes a part of the project description then, with the exception of the narrow consideration among the three build alternatives, nothing (in terms of actual mitigation) is actually being provided for the purpose of mitigating the potential direct, indirect, and cumulative environmental effects of the proposed action.

5.13 Non-Disclosure of Critical Information

Although the administrative record is replete with references to OCTA's intent to authorize use (for a toll payment) of the "express lanes" established under Alternative 3 by SOVs, with the exception of reference to rejected alternatives presented in the MIS, only a single reference to

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"single-occupant vehicles," "single-occupancy vehicles," and/or "SOVs" can be found therein (i.e., The Express Lane Facility would be continuously monitored. During peak periods of congestion, monitoring would be used to adjust toll amounts to ensure that all user groups [i.e., HOVs, buses, and single-occupancy vehicles] of the Express Lanes experience free-flow conditions with less congestion and more throughput per lane than the GP lanes. The Express Lanes provide an option to users to obtain increased reliability in travel time," p. 2-11). The term "SOV" is not even defined in Appendix G (Acronyms) in the DEIR/S. Because of its potentially broad reaching ramifications to not only the environmental analysis but to public perception, this lack of reference appears more than an oversight but disingenuous (e.g., an intentional withholding of critical information) and obfuscate the precise nature of the proposed action and OCTA's intent.

Numerous documents critical to an understanding of the proposed action and upon which the Lead Agency's analysis and preliminary conclusion (in the DEIR/S) appears to have been derived have not been included therein and, in some instances, their existence not acknowledged or, if acknowledged, referenced in such a way as to derive the affected public of the ability to review and consider those documents. For example, the DEIR/S table of contents identifies 18 "appendices" (p. iii); however, the following key documents are not included therein: (1) "Traffic Study – San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties" (Caltrans, May 2011); (2) (2) "Community Impact Assessment – San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties" (Caltrans, August 2011) (CIA); (3) "Noise Study Report – San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties" (Caltrans, June 2011) (NSR); (4) "Noise Abatement Decision Report – San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties" (Caltrans, September 2011) (NADR); (5) "Initial Site Assessment I-605, Orange and Los Angeles Counties" (Caltrans, March 2011) (ISA); (6) "Relocation Impact Memorandum – San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties" (Caltrans, February 2011) (RIM); (7) "Air Quality Report – San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties" (Caltrans, May 2011) (AQR); and (8) "Visual Impact Assessment – San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties" (Caltrans, May 2011) (VIA). Much of the information presented in the DEIR/S, including its listed "appendices," appears to be based on the more thorough analyses presented in these "missing" documents. It is the City's belief that the above referenced documents were not widely disseminated and where not included in the information packets that were provided to local libraries. **221**

One of the City's expressed concerns relates to the anticipated relocation of the existing soundwall in the vicinity of Almond Avenue in Seal Beach. The DEIR/S is so vague in detail, although its relocation can be deciphered through a close examination of utility drawings (differentiating between "Existing R/W" and "Proposed R/W," Appendix K, Utility U-24 and 2-25), with regards to each alternative, there is no explicit declaration of the Department's intent. Leaving its details to speculation, the Lead Agency states: "Numerous soundwalls within the corridor would be replaced to accommodate the widened paving. In some instances, retaining walls would be placed below these walls, although these retaining walls are anticipated to be less than 5 ft in height. A new wall would then be constructed on top of the retaining wall section. [1] Alternative 1: 17 new soundwalls, 6 existing soundwalls would be replaced at a greater height, 14 existing soundwalls would be replaced in-kind, and 6 soundwalls would be provided for gap closure (i.e., to account for removal of embankment). [2] Alternative 2: 15 new soundwalls, 5 existing soundwalls would be replaced at a greater height, 20 existing soundwalls

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would be replaced in-kind, and 7 soundwalls would be provided for gap closure (i.e., to account for removal of embankment). [3] Alternative 3: 16 new soundwalls, 6 existing soundwalls would be replaced at a greater height, 23 existing soundwalls would be replaced in-kind, and 7 soundwalls would be provided for gap closure (i.e., to account for removal of embankment)" (DEIR/S, p. 3.1.7-31). As a result of this lack of reasonable disclosure, City residents and businesses are unable to clearly ascertain the precise nature of the proposed improvements and formulate meaningful comments on the DEIR/S.

The DEIR/S notes that "[v]isual impacts related to utility relocations would be minor, and in some areas would improve because some utilities would be relocated within bridge structures or underground; however, relocation of utility lines would have little impact on visual quality because existing views would, for the most part, remain unchanged" (emphasis added) (p. 3.1.7-32). The terms "little impact" (in the context of a defined quantitative or qualitative threshold) and "for the most part" (in the context of those locations where visual quality is anticipated to change) are left undefined but suggest that impacts will, in fact, occur and, in some instances, the resulting changes would be considered adverse.

Unless underground at the full and complete expense of the Department, it is further the City's believe that relocation of the existing soundwall near Almond Avenue will predicate the need to relocate the existing overhead utility lines now situated between the northern edge of the existing soundwall and the southern edge of pavement along Almond Avenue. The potential relocation of those utilities is not, however, addressed in the DEIR/S. Similarly, the Department does not indicate the party or parties that would be responsible for that relocation and whether any costs would be passed along to the utility's ratepayers, would be incurred by individual property owners, or would be borne by the Lead Agency as a project-related cost. **222**

In addition, evidence suggests that other information that may be critical to assessing "feasibility" and evaluating the comparative merits of project alternatives has not been included in the DEIR/S and/or is being withheld by the OCTA so as to prevent affected stakeholders from submitting comments thereupon. For example, as indicated in correspondence from William Kempton, OCTA's CEO to OCTA's Highway Committee (Subject: Report on Phase II Feasibility Study – Traffic and Revenue Analysis for the San Diego Freeway [Interstate 405] Improvement Project Between Costa Mesa Freeway [State Route 55] and San Gabriel River Freeway [Interstate 605]), dated April 18, 2011, the CEO stated that OCTA "Staff is recommending further study to look at a more thorough representation and distribution of the value of time on traffic, a more detailed representation of travel time savings than what is calculated using the OCTAM travel demand model, effects of a dynamic tolling structure, and financial mechanisms to leverage additional funding, including private funding, to advance the project" (emphasis added) (p. 3). **223**

Because the DEIR/S contains no information concerning the "value of time on traffic" and/or "travel time savings," it is not possible to comment on any analysis, conclusions, or methodology used in the derivation of that information. Although the City would generally support plans to reduce the time that motorists spend in congested traffic (whether on the freeway or other arterials), available scientific information suggests that those indices do not have merit in assessing transportation investment. As indicated in the World Bank's "Beyond Travel Time Savings: An Expanded Framework for Evaluating Urban Transport Projects" (2011) (see Attachment E), Robert Cervero notes that "[i]n congested, fast-growing cities with a pent-up demand for mobility, unchecked sprawl, and correspondingly high induced-demand elasticities, **224**

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travel-time savings is likely a poor measure of welfare benefits from transport interventions, policy changes, and capital investments" (p. 28).

In addition, although a detailed "Expression of Interest in Tolling Authority was submitted to FHWA [by OCTA] in July 2010" (p. 1-19), a copy of that document is neither included in the DEIR/S nor available for review on OCTA's website. It is likely that the information contained therein has substantive bearing on the public's understanding of important physical and operational characteristics of Alternative 3. Because it sets in motion certain legislative or regulatory actions, its omission only serves to reinforce public suspicions of intentional misdirection and non-disclosure, the likely presence of inconsistencies between that application and the project's environmental documentation, and possible evidence of a pre-determination concerning the Lead Agency's identification of the "preferred project." 225

Similarly, with respect to "approval for modified access report to the Interstate system," the DEIR/S states that "[t]he Draft modified access report has been submitted to FHWA for review and comment" (Table 2-2, p. 2-51). As with the "Expression of Interest," it is likely that the information contained therein has substantial bearing on the public's understanding of the proposed action. Public review (during the CEQA/NEPA process) is critical to ensure consistency between that application and the project's environmental documentation, demonstrate objectivity with regards to the manner in which the three build alternatives have been examined, and to demonstrate the absence of any predetermination. 226

5.14 Lack of Objectivity

CEQA requires that decisions be informed and balanced (14 CCR 15003[j]). The court has noted that "the ultimate decision of whether to approve a project, be that decision right or wrong, is a nullity if based upon an EIR that does not provide the decision-makers, and the public, with the information about the project that is required by CEQA" (Santiago County Water District v. County of Orange, 1981) and "only through an accurate view of the project may the public and interested parties and public agencies balance the proposed project's benefits against its environmental cost, consider appropriate mitigation measures, assess the advantages of terminating the proposal and properly weigh other alternatives" (City of Santee v. County of San Diego, 1989). "If a final EIR does not 'adequately apprise all interested parties of the true scope of the project for intelligent weighing of the environmental consequences of the project,' informed decisionmaking cannot occur under CEQA and the final EIR is inadequate as a matter of law" (City of San Diego v. Board of Trustees of the California State University, 2011, quoting City of Santee v. County of San Diego).

In Sierra Club v. Froehlke (1987), the federal court noted that because "NEPA is concerned with accurate and informed decisionmaking as a general matter[, a]n environmental report that erroneously depicts positive environmental consequences poses as significant an obstacle to informed decisionmakingas one that inadequately assesses adverse circumstances."

The DEIR/S fails to meet the standard of a "balanced" assessment. For example, for the apparent purpose of promoting the proposed action, with regards to the No Build Alternative, the Lead Agency alleges that "[t]his alternative would be inconsistent with many regional and local planning goals and policies. The No Build Alternative, therefore, could result in adverse impacts related to land use" (DEIR/S, p. 3.1.1-20). Conversely, the Lead Agency fails to acknowledge that the No Build Alternative, as least to the degree that it does not promote new lane-miles over

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other transportation options and does not incentivize SOV trips, might also be consistent with other "regional and local planning goals and policies.

The DEIR/S further notes that "[d]uring construction of the build alternatives, motorists and emergency service providers can expect to experience typical construction-related temporary changes in access, with intermittent delays on I-405 and adjacent local roadways" (p. 3.1.5-13). Although no "construction-related" impacts are associated with the No Build Alternative.

The Lead Agency seeks to assert that, under the No Build Alternative, "congestion" will remain a problem but, under any of the build alternatives, "congestion" will be eliminated or substantially reduced. The DEIR/S, however, notes that none of the build alternatives "will totally alleviate congestion" (Traffic Study, p. ES-4). In what only appears to be an attempt to instill fear in readers toward a build option, the Lead Agency alleges that "[e]mergency response times may increase under the No Build Alternative due to a projected increase in future traffic volumes and a corresponding increase in traffic congestion" (p. 3.1.5-11) but, absent any supporting analysis, "any of the three build alternatives. . .could result in improved response times" (emphasis added) (Ibid.).

As indicated in Appendix A (CEQA Checklist), with regards to whether the proposed action would "[i]mpair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan" (p. 6), the Lead Agency concludes that the resulting impact is "less than significant with mitigation." Since no comparative analysis of emergency response impacts is presented in Table S-1 (Project Impact Summary Table) (p. S-18), the CEQA checklist, summary table, and corresponding DEIR/S text appear internally inconsistent.

The most glaring example of the document's lack of objectivity is the allegation that "[r]egional operational emissions would result in a beneficial impact under the build alternatives" (AQR, p. 1). Although information presented by the City refutes that conclusion, this statement is presented as if it was an uncontested fact. While required under the State CEQA Guidelines, the Lead Agency fails to identify this assertion as either an "area of controversy" or an "issue to be resolved" (14 CCR 15123[b). 227

5.15 Evidence of Predetermination

As indicated in Section 15003 of the State CEQA Guidelines: "The purpose of CEQA is not to generate paper, but to compel government at all levels to make decisions with environmental consequences in mind." The California Supreme Court, in Laurel Heights Improvement Association v. Regents of the Univ. of California (1988), ruled that "[a] fundamental purpose of an EIR is to provide decision-makers with information they can use in deciding whether to approve a proposed project, not to inform them of the environmental effects of projects that they have already approved. If post approval environmental review were allowed, EIRs would likely become nothing more than post hoc rationalizations to support action already taken. We have expressly condemned this use of EIRs." That same "post hoc rationalization" is apparent herein.

In Concerned Citizens of Costa Mesa v. 32nd District Agricultural Association (1986), the court emphasized the critical role of linking government decisionmaking with public participation. "CEQA compels an interactive process of assessment of environmental impacts and responsive project modifications which must be genuine. It must be open to the public, premised upon a full and meaningful disclosure of the scope, purposes and effect of a consistently described project, with flexibility to respond to unforeseen insights that emerge from the process [Citation]. In

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short, a project must be open for public discussion and subject to agency modification during the CEQA process [Citation]. This process helps demonstrate to the public that the agency has in fact analyzed and considered the environmental implications of its action."

Under NEPA, "[a]fter publication of the Notice of Intent, the lead agencies, in cooperation with the applicant (if not a lead agency), will begin a scoping process which may take into account any planning work already accomplished, in accordance with 23 CFR 450.212 or 450.318. The scoping process will be used to identify the purpose and need, the range of alternatives and impacts, and the significant issues to be addressed in the EIS and to achieve the other objectives of 40 CFR 1501.7" (23 C.F.R. 771.123[b]) (see also 23 C.F.R. 771.111[h][2][vii]). Alternatives considered in the NEPA process for an EIS (23 U.S.C. 139) must arise from a process where the public and agencies have an opportunity for input in the identification of the range of alternatives considered. As specified, publication of the NOI is intended to initiate a scoping process through which alternatives are identified. In addition, as indicated in "SAFETEA-LU Environmental Review Process, Final Guidance" (Public Law 109-59 [November 15, 2006]): "As early as practicable, the lead agencies must give participating agencies and the public the chance to become involved in defining the range of alternatives" (Question 37).

Although the NOI was released on August 26, 2009, the range of alternatives which were to be examined in the DEIR/S had already been determined. As indicated in correspondence from William Kempton, OCTA's CEO to OCTA's Highway Committee (Subject: Update on Project Alternatives for the San Diego Freeway [Interstate 405] Improvement Project), dated August 26, 2009, "[o]n January 26, 2009, the Orange County Transportation Authority (OCTA) Board of Directors (Board) approved staff's recommendation to consider four alternatives. Alternative 1 proposes to add one general purpose lane in each direction, and Alternative 2 proposes to add two general purpose lanes in each direction. Alternative 3, the high-occupancy toll (HOT) lanes alternative, would add one general purpose lane and one HOT lane in each direction; converting the existing high-occupancy vehicle lane to a HOT lane would result in a total of two HOT lanes in each direction of Interstate 405. From here forward, this alternative will be referred to as the Express Lanes alternative. Alternative 4 would identify improvements related to adding one general purpose lane in each direction that match the currently available funding" (p. 1). With the exclusion of Alternative 4 (designed to "match the currently available funding"), none of the alternatives have changed and no additional alternatives have been included in the Lead Agency's analysis. As a result, even before the DEIR/S was released, it is evident that critical decisions (e.g., exclusion of any subsequently identified alternatives from meaningful consideration) and key determinations had already been made about the proposed action. **228**

As specified in the FHWA's "Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU); Opportunities for State and Other Qualifying Agencies to Gain Authority to Toll Facilities Constructed Using Federal Funds," as issued on January 6, 2006, "[a] public authority that wants to request tolling or pricing authority, or funding, is asked to submit an Expression of Interest to the Tolling and Pricing Team in care of the FHWA Office of Operations in Washington, D.C." The DEIR/S states that "an Expression of Interest in Tolling Authority was submitted to FHWA in July 2010, which is currently being reviewed" (emphasis added) (p. 1-19). Since that document has not be included in the DEIR/S, it is not possible to determine what statements are contained therein, to what extend such submittal constitutes a pre-determination on the part of any public agency, or the relevancy of that document to the proposed action. The OCTA's submission of an "Expression of Interest" does, however, constitutes a formal request for tolling or pricing authority for the I-405 Freeway and constitutes evidence of a possible pre-determination (prior to the completion of the CEAQ/NEPA process) **229**

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of a particular course of action. The City, therefore, requests that a copy of that document be included in the Lead Agency's written response to these comments. **230**

As further specified in the FHWA's "Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU); Opportunities for State and Other Qualifying Agencies to Gain Authority to Toll Facilities Constructed Using Federal Funds," an application for tolling authority shall include "[a] description of how, if at all, any private entities are involved either in the up-front costs to enact tolling, or the cost sharing or debt retirement associated with revenues." Although the application was submitted prior to the release of the DEIR/S, absent from the DEIR/S are any statements concerning "how, if any all, any private entities are involved" or are likely to be involved "in the up-front costs to enact tolling, or the cost sharing or debt retirement associated with revenues." Since it might result in additional undisclosed impacts, the planned or potential implementation of a "public-private partnership" (P3), including consideration of a "design-build" agreement, likely constitutes a critical (but undisclosed) component of the proposed action. **231**

In addition, as indicated in the RIM, included in the CIA, in a memorandum from Caltrans' Robert Enriquez (Branch Chief, Right of Way Utilities, Local Programs) to Smita Deshpande (Environmental Branch Chief), Ahmad Hindiyeh (Project Manager), and Matthew Cugini (Engineering Manager), as published on State letterhead and dated February 14, 2011, the Department stated: "It has been determined there is no significant impact to owners, tenants, businesses, or persons in possession of real property to be acquired who would qualify for relocation assistance benefits or entitlements under the Uniform Relocation Assistance and Real Property Act of 1970, as amended" (emphasis added)

6.0 CEQA/NEPA COMPLIANCE

6.1 CEQA Compliance

As stipulated under CEQA: "An EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant" (14 CCR 15125[a]).

In Communities for a Better Environment v. South Coast Air Quality Management District (2010), the court states that "[n]either CEQA nor the CEQA Guidelines mandates a uniform, inflexible rule for determination of the existing conditions baseline. Rather, an agency enjoys the discretion to decide, in the first instance, exactly how the existing physical conditions without the project can most realistically be measured, subject to review, as with all CEQA factual determinations, for support by substantial evidence." In Madera Oversight Coalition v. County of Madera (2011), the court added that "a baseline. . .must reflect existing physical conditions" and "lead agencies do not have the discretion to adopt a baseline that uses conditions predicted to occur on a date subsequent to the certification of the EIR." However, in Pfeiffer v. City of Sunnyvale City Council (2011), the court found that "appellants contention that a traffic baseline is limited to existing conditions lacks merit because. . .the California Supreme Court has instructed that predicted conditions may serve as an adequate baseline where environmental conditions vary." Based on these somewhat contradictory rulings, a clear understanding of what

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constitutes the project's "baseline" is important since it serves as the basis for assessing the physical changes to the environment predicated by the proposed action.

The Lead Agency states that the "existing condition" (i.e., baseline) includes "Project EA 0J440K, which would provide continuous ingress and egress from the HOV lanes on the entire length of I-405 in Orange County" (S-10). However, a wide range of other "baseline" conditions are also represented in the DEIR/S. As evidence of an inconsistent "baseline" condition:

(1) "The existing condition is the 'CEQA Baseline' condition" (p. 4-28).
(2) The Traffic Study defines the "baseline" as the "No Project Alternative," inclusive of the WCC (i.e., "No Build (Baseline) Alternative Analysis. The No Build Alternative assumes that no improvements have been made to I-405 with the exception of improvements related to the West County Connectors Project, as described in Section 1 of this report. The following analysis is based on the assumption that I-405 general purpose lanes, HOV lanes, ramps, and collector-distributor geometrics are identical to the Existing Condition geometrics," p. 2-41).
(3) The traffic section defines the "baseline" as Year 2009 traffic conditions (i.e., "Existing (CEQA Baseline) Traffic Conditions – Year 2009," 3.1.6-2).
(4) The air quality analysis defines the "baseline" as "no additional lanes or interchange improvements" (i.e., "The Project Baseline conditions under the No Build Alternative would provide no additional lanes or interchange improvements to the I-405 corridor," p. 3.2.6-50).
(5) The CIA defines the "baseline" as "no additional lane or interchange improvements," except for the WCC and the "Costa Mesa Freeway Improvements" (i.e., The No Build Alternative provides a "baseline" for comparing impacts associated with the build alternatives. The baseline conditions under the No Build Alternative would provide no additional lanes or interchange improvements to the I-405 corridor. The project area would continue to operate with no additional improvements with the exception that the two earlier committed projects (SR-22 West County Connectors [WCC] Project and the Costa Mesa Freeway [SR-55] Improvements would be implemented)," p. S-2).

As a result, it is not possible to know what the "baseline" conditions are, in fact, purported to be. Absence a clear and consistent description of the environmental baseline, it is not possible to accurately characterize the potential impacts attributable to the analyzed alternatives.

In addition, throughout these comments, the City has sought to raise numerous CEQA compliance issues. For brevity, those issues are not again presented herein. There non-inclusion under this heading is not, however, intended to suggest that no CEQA compliance issues have been identified as a result of the City's independent review of the DEIR/S.

6.2 NEPA Compliance

As indicated in the I-710 Corridor DEIR/S: "Per Federal statute, unless otherwise excepted, all Interstate highways must be toll-free. However, current exceptions relating to tolling of Interstate highways include Value Pricing Pilot Program; Express Lanes Demonstration Project; the Interstate System Reconstruction and Rehabilitation Pilot Program; and the Interstate System Construction Toll Pilot Program. Should Alternative 6C [tolling alternative] be selected as the preferred alternative, tolling would be implemented pursuant to one of these exceptions" (pp. ES-11 and 12). Assuming "federal statute" applies equally to the I-405 and I-705 Freeways and that both roadways are part of the same "Interstate highway" system," it can be assumed that

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the same prohibitions and exceptions apply equally to both projects. Absent from the DEIR/S is any discussion of those four options. If so prohibited, the Lead Agency needs to inform stakeholders how federal authorization will be obtains so that the accompanying statute and regulations can be independently examined to determine both relevancy and eligibility.

As indicated in the FHWA's "Congestion Pricing and NEPA: Environmental Benefits and Considerations" (November 2008): "A major challenge of congestion pricing is determining the level of public involvement. Public opposition poses a significant risk to the implementation of congestion pricing, so it is important that the public and elected officials, who may have their own reservations about congestion pricing, discuss the potential for pricing early in the NEPA process." The FHWA further notes that "transportation agencies should consider pricing during the planning stage of project development, before projects begin to go through the NEPA process. If this is not possible, it would be prudent to introduce pricing when determining the project's purpose and need, to help identify any appropriate pricing and managed-lane techniques. Since pricing and managed-lane techniques often encourage higher occupancy in vehicles, framing the purpose of a project in terms of passenger volume as opposed to vehicle volume can also open the discussion for pricing mechanisms. Alternatively, the project's purpose could be identified as reducing passenger delay or variability of travel times" (emphasis added).

As indicated in the American Association of State Highway and Transportation Officials' (AASHTO) "Practitioner's Handbook: Managing the NEPA Process for Toll Lanes and Toll Roads" (July 2006): "The fundamental NEPA requirements for a toll road project are no different from those applicable to any other project. But the introduction of tolling concepts into a NEPA study creates a series of new issues that give rise to new challenges for project teams. Many of these issues relate to the interplay between the NEPA process and other decision-making arenas, such as the transportation planning process, which precedes NEPA, and the financing and procurement process, which may overlap with or follow NEPA" (p. 2). As further indicated by the AASHTO: "The evaluation of tolled alternatives requires consideration of the effect of tolling on low income users of the transportation network. This analysis is needed in order to satisfy the requirements of the Environmental Justice executive order (E.O. 12898), which requires consideration of a federal action's potential for 'disproportionately high and adverse' effects on minority and low-income populations. Methodologies for considering a project's potential effects on low-income users are continuing to evolve, and should be considered on a project-by-project basis. Depending on the results of the impacts analysis, it may also be appropriate to consider potential measures for mitigating the effects of tolling on low-income users" (emphasis added) (p. 6).

Environmental justice considerations were not addressed in the DEIR/S (i.e., "Build alternatives would not result in environmental justice impacts," p. 3.1.1-30). With regards to potential environmental justice impacts associated with the proposed action, the Lead Agency states that there are "none" (CIA, Table S-1, p. S-4). **232**

Tolling has the potential to affect traffic volumes and, thus, has the potential to affect impacts that are directly dependent on traffic volumes. These types of impacts generally include air quality, noise, and traffic congestion on existing roads. For example, an important issue when considering a tolled alternative is the potential for the toll to divert traffic to alternative routes. One possible approach is to present data (level of service, traffic volumes, etc.) at selected points on the local road network, in addition to presenting traffic data showing operations on the

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toll road itself. If toll-related diversions would necessitate improvements to other roads, those issues also should be considered" (Ibid.).

In addition, throughout these comments, the City has sought to raise numerous NEPA compliance issues. For brevity, those issues are not again presented herein. There non-inclusion under this heading is not, however, intended to suggest that no NEPA compliance issues have been identified as a result of the City's independent review of the DEIR/S.

7.0 ADDITIONAL ALTERNATIVES

Under the mandate of Measures M/M2, OCTA shall seek to "make best use of available freeway property" (Measure M2). Any discussion of a reasonable range of alternatives, therefore, needs to be premised on defining "best use." The City posits that "vehicle throughput" and "relative speed" are neither the appropriate nor only yardsticks against which "best use" can be defined. 233

Absent from the project's declared P&N and Lead Agency established objective is any reference to Measures M/M2. As such, the Lead Agency cannot limit and the DEIR/S cannot be bound to only those alternatives that can be argued as furthering the advancement of those actions identified by the voters of Orange County. CEQA and NEPA requires that the State and federal lead agencies act independently and select a range of alternatives that further the objectives of CEQA and NEPA and not solely the self-formulated objectives of the project proponent.

Even if the funding for the proposed action is linked, in whole or in part, to Measures M/M2, at the June 25, 2012 of the OCTA Board of Directors, "OCTA attorney Ken Smart said that Measure M can be amended as long as the entire OCTA board, as well as the tax payer committee, has a two thirds vote" (Molina, Alejandra, Orange County Register, Streetcars, 405 Widening: Adjusting Measure M, July 3, 2012). As such, "best use" and not available funding constitutes the factual bases for the formulation of a reasonable range of project alternatives.

It is not the City's intent to discourage the investment of public funds benefitting the residents and business community within Seal Beach, Orange County, or the SCAG region. These, however, are fugal times where both individual households and government alike need to diligently consider discretionary spending and optimize the public's returns on expended funds. In defining the project's "objectives" only in terms of investment in new lane-miles on the I-405 Freeway, the Lead Agency never presents the more significant and more varied goals of optimizing public investment in transportation facilities and optimization of system performance, thus leading to a broader examination of a wider range of alternatives. 234

As indicated in the CTC Needs Assessment, "California's transportation system is in jeopardy. Our aging infrastructure includes roads, highways, bridges, public transit vehicles and facilities, passenger and freight rail, airports, harbors, and international ports of entry. Streets and highways carry huge amounts of traffic, and they absorb continual wear from heavy trucks and other vehicles. Other transportation infrastructure is called upon to satisfy increasing demands for public transit and to move people and goods by air and sea, along rail lines, and across borders at United States ports of entry. At the same time, the costs to preserve the infrastructure that serves these needs are soaring, even though construction bids are lower than they have been in years. Ongoing budget shortfalls have forced agencies to defer maintenance, leading to roads and bridges that are in worse shape by the time they are rehabilitated. Investments to preserve transportation systems simply have not kept pace with the demands on them, and this underfunding has led to the decay of one of California's greatest assets. As the

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transportation system grows increasingly unreliable, the state will become less attractive to businesses, residents, and tourists, exacerbating our revenue problems at a time when we can least afford it. Preserving these systems is an essential investment" (p. 3-4). "Every piece of transportation infrastructure has an expected service life, but these components only will achieve their expected life span when they are properly maintained. By failing to invest in preserving these expensive assets, we fail to fully benefit from the initial investment that taxpayers make. . .Unfortunately, deferred maintenance because of funding shortfalls has caused many elements of the transportation system to fall into poor condition, and they now require expensive reconstruction to bring them back to acceptable operating conditions" (p. 3-8).

The CTC Needs Assessment demonstrates that the State does not have sufficient resources or revenues to fund all its transportation needs. As a result, prudent fiscal management would suggest that prioritization of funding allocation is needed. Arguably, the preservation and maintenance (i.e., preventive maintenance, rehabilitation and reconstruction, and regulatory mandates) of existing transportation infrastructure and investments in public transit (including transportation demand management) should receive a higher priority that non-critical new project development (system expansion). Since the manner in which a question is posited both leads to and limits the range of answers presented, the question that should be asked with regards to the proposed action is not "how many and what type of new lanes should be added to the I-405 freeway" but "how should up to $5.8 billion in public funds be expended to maximize transportation-related and other societal benefits?" 235

Additionally, it is noted that the proposed action is neither included in Caltrans' "2010 Interregional Transportation Improvement Program" (February 12, 2010) (2010 ITIP) nor does it respond to the objectives and system priorities outlined in Caltrans' "Interregional Transportation Strategic Plan: A Plan to Guide Development of the Interregional Transportation System" (June 1998) (1998 ITSP). That document serves to consolidate and communicate key elements of the State's ongoing short-range and long-range planning and serves as a counterpart to the "Regional Transportation Plans" prepared by the State's 43 regional transportation planning agencies. The six key objectives of the 2008 ITSP include: (1) Complete a trunk system of higher standard (usually expressway/freeway); (2) Connect all urbanized areas, major metropolitan centers, and gateways to the freeway and expressway system to ensure a complete Statewide system for the highest volume and most critical trip movements; (3) Ensure a dependable level of service for movement into and through major gateways of Statewide significance and ensure connectivity to key intermodal transfer facilities, seaports, air cargo terminals, and freight distribution facilities; (4) Connect urbanizing centers and high growth areas to the trunk system to ensure future connectivity, mobility, and access for the State's expanding population; (5) Link rural and smaller urban centers to the trunk system; and (6) Implement an intercity passenger rail program (including interregional commuter rail) that complies with federal and State laws, improves service reliability, decreases running times, and reduces the per passenger operating subsidy.

That segment of the I-405 Freeway examined in the DEIR/S has neither been identified as a "high emphasis route" nor a "focused route" in the 1998 ITSP. In addition, the proposed action has not been included on the "2010 ITIP Highway Project List" in the 2010 ITIP.

With regards to transit, the Lead Agency seeks to employ a "demand management" strategy during construction in order to reduce construction-term impacts. As described in the RCS: "This strategy involves promoting the use of public transit, ride sharing and variable work hours to reduce the amount of traffic using the freeway and roadways in and around construction

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zone. Through the public awareness campaign, large employers will be urged to consider staggered working hours and encourage their employees to use the OCTA transit system and rideshare resources which includes six park-and-ride lots along the I-405 corridor. Incentive programs such as free transit tickets and free/discounted merchant coupons for rideshare participants could be used to attract participants" (RCS, p. 24; TDM, p. 14).

Unless merely a token effort presented solely to give stakeholders the impression that such a "strategy" could produce tangible results, without any realistic expectations on the part of either the Department or OCTA that such activities could reduce traffic, it is regrettably that this program is not presented as part of a long-term, multi-faceted effort to reduce congestion. If "demand management" actually works, then it must be part of the Lead Agency's arsenal to address not only temporary but also on-going congestion issues. As a result, the Department should document to what extend a "demand management strategy" may aid in reducing congestion during construction and more broadly apply that or a expanded strategy as an alternative to the proposed action. **236**

7.1 System Management Alternative

As perceived by the City, one of the major short-coming of the proposed action is its singular focus on freeway widening (to the detriment of all other transportation system and management alternatives). As outlined in a memorandum from Joan Sollenberger, Chief, Division of Transportation Planning and Cindy McKim, Chief Financial Officer to Chair and Commissioners (Subject: Report on Corridor System Management Plans), dated February 19, 2009, Caltrans' emphasizes "the importance of CSMPs [corridor system management plans] in restoring mobility to California and sustaining mobility gains" (p. 1) As specified therein:

> Corridor System Management Plans (CSMPs) are plans to comprehensively manage and operate urban transportation corridors across jurisdictions and modes. The plans include all major transportation elements in the corridor, such as freeways, major parallel local arterials, and transit and rail. The goal is to maximize total corridor productivity and performance by providing the highest sustained throughput of people and freight, while considering all corridor elements. . . The plans are supportive and complementary to meeting the goals and objectives of the California Regional Blueprint efforts, compliance with Assembly Bill (AB) 32 and Senate Bill (SB) 375 to reduce greenhouse gas emissions, and of the Smart Mobility Framework. The plans will restore and sustain mobility while improving the environment by encouraging smart land use development, compact housing, and increased modal trips (Attachment, p. 1).
>
> The importance of CSMPs to improve and sustain California's mobility can not be overstated. The plans are the way the California Department of Transportation (Department), with regional and local partners, must plan for corridor system management and operations now and in the future. The plans are based upon the concepts presented in the Department's Transportation Management System (TMS) Master Plan that was required by the California State Legislature in 2004. These concepts and this approach are the foundation of the transportation component of the Governor's Strategic Growth Plan (SGP). This approach will restore productivity to the State's transportation system, improve corridor throughput, improve travel time reliability across all corridor elements and ensure economic growth. The SGP is performance-based and outcome-driven. It targets a significant decrease in traffic

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> congestion below today's levels. This will occur even while accommodating growth in population and the economy over the decade with comprehensive system management.
>
> The Department and its regional and local partners recognize that addressing congestion requires a multi-pronged approach, referred to as system management. The approach includes: adding new capacity, maintaining its infrastructure, investing in and encouraging the use of alternative modes (such as transit and rail), encouraging smart land use, transportation management systems, incident management, and other strategies. . . System management can significantly improve productivity of all elements of the transportation corridor, improving travel times and reliability for all travelers" (emphasis added) (Attachment, pp. 2 and 3).

It is evident that a CSMP would allow for the attainment of the P&N and project objective, while concurrently focusing on the transportation system as a whole rather than as disconnected and unrelated parts. While the proposed action could become a component of a broader system management strategy, it cannot be presented as the only available solution to reduce congestion.

7.2 Other Corridor Alternatives

As described in the FHWA's "Guidance on Using Corridor and Subarea Planning to Inform NEPA" (April 5, 2011):

> States, metropolitan planning organizations (MPOs), and local governments have primary responsibility for transportation planning. The transportation planning process required by 23 U.S.C. §§ 134 and 135 and 49 U.S.C. §§ 5303-5306 sets the stage for future development of transportation projects. Federally-funded highway and transit projects originate in the statewide and metropolitan transportation planning processes. Corridor and subarea plans are conceptual level planning studies, which focus on a particular corridor or region and can help determine where there is a transportation need. The transportation regulations governing the use of corridor and subarea studies identify products from this type of planning that may be used to inform NEPA, including, the purpose and need or goals and objectives statement(s); the general travel corridor and/or general mode(s) definitions; the preliminary screening of alternatives and elimination of unreasonable alternatives; the basic description of the environmental setting; and/or the preliminary identification of environmental impacts and environmental mitigation. A State, MPO, or public transportation operator may undertake a multimodal, systems-level corridor or subarea planning study as part of the statewide and metropolitan transportation planning process. The results or decisions of this study may be used as part of the overall project development process consistent with NEPA and FHWA regulations. Often, since it happens later in the project development process, the environmental analysis done to meet NEPA requirements for transportation projects is largely disconnected from the planning process. This may result in planning decisions being overlooked or disregarded under NEPA. When decisions are revisited, it can lead to misapprehension, duplication of work, added expense, or confusion for stakeholders.
>
> Corridor and subarea plans are conceptual level planning studies, which focus on a particular corridor or region and can help determine where there is a transportation

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need. . .more detail than area-wide or regional plans. Subarea studies are similar to corridor studies, with the distinction that a subarea study generally addresses more of the total planning context and the broader transportation network for the area (emphasis added) (pp. i and 8).

As indicated in Caltrans' RCR for the I-405 Freeway, the "I-405 serves several purposes in Orange/Los Angeles Counties. It is a bypass route to I-5. It is also an inter-county and intra-regional route which intersects two Interstate Routes (I-5 and I-605) and five State Routes (SR-133, SR-55, SR-73, SR-39, and SR-22) in Orange County. It is a major goods movement facility into and out of Orange and Los Angeles Counties along with significant amount of recreational and commuter trips" (p. 7). Under the heading "Federal/State Functional Classification," the RCR further states that the:

I-405 is classified as an Interstate Facility (P1P) throughout Orange County. Following are other designations which may affect planning and/or operations on I-405.

Designation	Limits
National Highway System (NHS)	Entire length of I-405
Subsystem of Highway for the Movement of Extra Legal Loads (SHELL)	Entire length of I-405
National Network for STAA Trucks	Entire length of I-405
12 Foot Wide Arterial System	Entire Length of I-405
Lifeline Route	8.74/24.18 (SR-55 to L.A. Co. Line)

Although never represented as such, the only segment of the I-405 Freeway examined in the DEIR/S relates to the "lifeline route." Other corridor alternatives relate to: (1) that segment identified as a "Interstate Facility (P1P) (i.e., the entire length of the I-405 Freeway); (2) that segment included in the "National Highway System" (i.e., the entire length of the I-405 Freeway); (3) that segment included in the SHELL (i.e., the entire length of the I-405 Freeway); and/or (4) that segment included in the "12 Foot Wide Arterial System" (i.e., the entire length of the I-405 Freeway).

As has occurred elsewhere in the State, Caltrans should examine the I-405 Freeway, including that segment extending through Los Angeles County, as an entire corridor and should ascertain the full extend of improvements required throughout that corridor in order to assess future year conditions, improvement needs, and funding priorities. It would appear impossible to successfully accomplish long-range transportation planning "14-miles" (p. 2-20) or "15-miles" (AQR, p. 51) or "16 miles" (p. 1-12) at a time with self-imposed blinders concerning what is occurring or what should occur on the opposite ends of that short-length section. Similarly, it is difficult to envision how transportation planning can occur in the absence of a broader discussion of other interrelated planning elements (e.g., land use). **237**

In addition, as indicated in the FHWA's "Federal-Aid Highway Program Guidance on High Occupancy Vehicle (HOV) Lanes" (August 2008), "degradation" was defined as the following: "The minimum average operating speed is defined at Section 166(d)(2)(A) as 45 miles per hour (mph), for an HOV facility with a speed limit of 50 mph or greater, and not more than 10 mph below the speed limit for a facility with a speed limit of less than 50 mph. Section 166(d)(2)(B) provides that an HOV facility is considered degraded if it fails to maintain a minimum average operating speed 90 percent of the time over a consecutive 180-day period during morning or evening weekday peak hour periods (or both for a reversible facility)" (Chapter IV).

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As indicated in Caltrans' "California HOV/Express Lane Business Plan 2009" (May 15, 2009), "nearly 50% of the HOV lanes in the state experience periods of degradation in the peak hour according to the federal definition – meaning that average speeds of 45 mph speed or lower have been measured more than 10% of the time" (p. 9). As of July 2008, the existing HOV lane system had 1,424 existing lane-miles and 124 lane-miles under construction. Future expansion of the network includes 269 programmed lane-miles and 974 proposed lane-miles planned by State and local agencies (p. 5). More than 700 lane-miles of HOV facilities in California are now "degraded." By focusing solely on a 16-mile freeway segment, the Lead Agency ignores the broader problem the proposed action purports to address. **238**

In addition, OCTA/LACMTA's "Orange and Los Angeles Intercounty Transportation Study – Conceptual Alternatives Report" (July 16, 2008) (OC/LA Intercounty Study) noted that "[a] majority of the freeway segments in the OC/LA study area are forecast to operate at a poor level of service during the AM and PM peak periods in the Year 2030. . .Traffic congestion is already a substantial constraint on mobility for all freeways in the OC/LA study area. Forecasted increases in traffic volumes, delay, and travel demand for the Year 2030 condition will only further exacerbate the pressure on the freeway network serving Los Angeles and Orange counties. In 2030, the majority of freeway segments in the OC/LA study area are forecast to operate at poor levels of service (LOS E or F). A range of improvements for the freeway network needs to be explored to meet forecast travel demand. Improving the operating efficiency of the existing freeway infrastructure will be important in order to maximize traffic flow. However, operational improvements alone will not be able to serve forecasted Year 2030 traffic volumes. Additional freeway capacity is necessary to serve anticipated traffic volumes and to ensure the continued economic growth of Southern California" (pp. 6-7).

Freeway system improvements identified in the OC/LA Intercounty Study (p. 13) include:

- I-405 Freeway. I-405 freeway improvements consist of adding one general purpose lane in each direction and auxiliary lanes in several locations in Orange County from Brookhurst Street to the I-605 freeway and adding a second HOV lane in each direction from the SR-22 freeway to the I-605 freeway.
- SR-22 Freeway. Improvements on the SR-22 freeway include constructing HOV direct connectors to the I-405 freeway as part of the West Orange County Connectors project.
- I-605 Freeway. Improvements on the I-605 freeway include improving freeway access and arterial connection in the communities of Cypress and Los Alamitos. New freeway-to-freeway direct connector HOV ramps to I-405 are also planned as part of the West Orange County Connectors project.
- I-5 Freeway. Improvements on this freeway include adding one general purpose lane and one high occupancy vehicle (HOV) lane in each direction in Los Angeles County from Rosemead Boulevard to the OC/LA county line, as well as adding one general purpose lane and one HOV lane in each direction in Orange County from SR-91 to the OC/LA county line. The section between SR-57 and SR-91 in Orange County is also scheduled to be improved through a restriping and minor capacity enhancement that would result in the addition of one more lane in each direction. This additional lane would widen the freeway to a total of 12 lanes (six in each direction) and could be either an additional general purpose lane or an additional HOV lane.

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- SR-57 Freeway. Improvements on the SR-57 freeway including the addition of a new northbound truck climbing lane from Lambert Road to Tonner Canyon Road and adding a new northbound general purpose lane from Orangewood Avenue to Lambert Road. Both projects would occur in Orange County. The 2030 Baseline projects also include reconfiguring the existing interchange at Lambert Road and adding a southbound off-ramp lane at that location. The construction of HOV drop ramps to Cerritos Avenue is also included.

- SR-91 Freeway. Baseline improvements on SR-91 include the addition of one westbound general purpose lane in Orange County from I-5 to SR-57.

- SR-60 Freeway. Baseline improvements for SR-60 include the addition of one HOV lane in each direction in Los Angeles County from I-605 to Brea Canyon Road.

One of the "key issues" identified in the OC/LA Intercounty Study is the need for interagency coordination. The study states that "[i]ncreased coordination between agencies is essential for the successful implementation of transportation improvements. There are also significant opportunities for cities located along the county line to use this study effort to increase coordination and cooperation on local transportation issues" (p. 7). Although published in 2008, it is noted that the OC/LA Intercounty Study is neither referenced in nor is its needs assessment and/or alternatives analysis addressed in the DEIR/S. Similarly, no evidence of "interagency coordination" between OCTA and LACMTA is presented in the DEIR/S. **239**

Caltrans' "Corridor System Management Plan (CSMP) – Orange County SR-22 Comprehensive Performance Assessment and Causality Analysis, Final Draft" (May 4, 2009) was prepared as part of the "Orange County State Route 22 Corridor System Management Plan" (CSMP) development process, as required by the California Transportation Commission (CTC) for corridors that have received funding from the Corridor Mobility Improvement Account (CMIA) approved by the voters in 2006. The CMIA will partially fund the construction of HOV connectors between the SR-22 and I-405 Freeways, as well as the I-405 and I-605 Freeways. Since it has already been delineated as part of a previous planning process, those freeway segments comprising the CSMP constitutes a logical "corridor" (including the roadway facility, major interchanges and relative demands at these interchanges, rail and transit services along the freeway facility, major Intermodal facilities around the corridor, and special event facilities/trip generators) for the purpose of the environmental assessment for the proposed action.

As described therein, "[t]he study corridor includes portions of three state routes, SR-22, I-405, and I-605 in Orange County. The corridor begins at an interchange involving all three freeways at the Los Angeles County border. From there, the corridor runs east along SR-22 (Garden Grove Freeway) to SR-55. The corridor also runs southeast along I-405 (San Diego Freeway) unit it reaches I-5 (Golden State Freeway) just outside Irvine. The corridor includes a short, one-mile section of I-605 (San Gabriel River Freeway) as it heads north from the Los Alamitos Curve (SR-22/I-405/I-605) interchange to the Los Angeles County border" (p. 18).

Alternatively, if the OCTA has only "$500 million" dollars available and the estimated cost of the proposed 16-mile improvements are projected at "$1.7 billion," to the extent that the Lead Agency seeks to define the project as containing "independent utility," then a logical corridor-based alternative is to define the project not as an "approximately 16-mile" (p. 1-23) corridor but as a 4.7-mile corridor ($500 million/$1.7 billion x 16 miles = 4.7 miles) constructible with the funding now available. **240**

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7.3 Performance-Based Investment Strategies

As indicated in Caltrans' RCR, with regards to the formulation of improvement plans for the I-405 Freeway, the Department notes that the proposed route "concept calls for a new strategy emphasizing system management and operational improvements of our existing freeway system in a way that optimizes the carrying capacity referred to as Traffic Operations Strategies (TOPS). It is an operational strategy that will maximize the utilization of the existing urban freeway system through performance-based investment strategies. Currently, the district with the cooperation of the other southern California districts is developing a system wide concept report for Southern California. If fully implemented, the concept for this route could improve to a Level of Service (LOS) of 'E' which will reduce delay to motorists and the trucking industry" (Summary). As indicated therein: "The RCR contains the Department's goals for the development of each route in terms of Level of Service (LOS). One of the Department's goals is the proposed concept of Traffic Operations Strategies (TOPS). The RCR broadly identifies the nature and extent of improvements needed to reach those goals" (p. 2).

Under the proposed action, the Department's approach appears to be based on a planning concept that starts with "what can we squeeze in" or "what does not appear to cost too much" (although the "preferred project" presently exceeds available funds by 340 percent) and then determining what the level of service become (in this case continuance of primarily LOS "F" conditions). A performance-based approach would start with a specific performance goal (e.g., LOS "E" conditions in all GP lanes) and determining what freeway-improvement and other actions are needed for its attainment. As indicated in the RCR:

> TOPS was proposed by Caltrans Districts 7, 8, 11 and 12 to maximize utilization of the existing urban freeway system through performance-based investment strategies. TOPS recommends improvements for this route, including programming, funding and comprehensive system management. A system wide concept report for Southern California is being developed. Full implementation of TOPS will take place over a 5-10 year span depending on the level of improvement required and available funding. As a result of TOPS, the concept for this route anticipates Level of Service (LOS) of "E" or better with minimal delay to motorists and the trucking industry.
>
> In the past, Caltrans Route Concept Reports focused on adding mixed flow or high occupancy vehicles lanes (HOV) in locations were the existing/projected traffic shows LOS "F" (stop and go condition). <u>Widening alone is no longer the best solution to meet the existing and projected demand on the system</u>.
>
> Transportation professionals, looking for better ways to improve the overall performance of the system, believe the most cost effective and efficient solution is to maximize capacity on the existing facility and maintain a steady flow of traffic by implementing a series of traffic operations strategies. For example, freeway capacity for a 4-lane freeway is 9,200 vehicles per hour (2,300 vehicles per lane). During peak congestion with stop and go conditions, freeway capacity is reduced to about 6,000 vehicles per hour (1,500 vehicles per lane). If smooth, free flowing operational conditions could be maintained throughout the system, a freeway would carry about 30% more vehicles than a congested facility (emphasis added) (pp. 20-21)

Are freeways and arterial streets designed for peak or non-peak-hour periods? What are the specified corresponding "level of service standards" (Ordinance No. 2)? What freeway and non- **241**

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freeway improvements and other actions would be necessary to generally achieve LOS "E" conditions along the designated "corridor," based not on a 100 percent frequency but based on a reasonable and specified percentile? **241**

7.4 VMT Reduction Alternatives

As indicated in Table 7 (Induced Travel Demand in Increased Vehicle Miles Traveled) herein, the Lead Agency acknowledges that the proposed freeway improvements will increase VMT by 1,013,000 miles/year. Increasing VMT adds both to congestion and mobile source emissions. As a result, other alternative strategies could include those that decrease existing or diminish the projected growth of VMT over the planning period.

7.5 Operational Alternatives

A wide range of operational alternatives should be considered by the Lead Agency. A number of distinct operational strategies are identified below.

- **TMS master plan**. As indicated in "California Interregional State Highways – Major Planning Considerations, Trends, and Implications" (Caltrans, January 2010):

  > Caltrans, in collaboration with regional and local partners, relies on the development of the CSMPs to manage corridor mobility and operations now and in the future. The CSMPs are based upon the concepts in Caltrans' Transportation Management System (TMS) Master Plan that was required by the California State Legislature in 2004. The TMS Master Plan is the foundation of the transportation component of the Governor's Strategic Growth Plan (SGP). This system management approach will restore productivity to the State's transportation system, improve corridor throughput, enhance travel time reliability across all corridor elements, and support economic growth. The TMS Master Plan identifies three principal elements that will help restore productivity. These are: traffic control (such as ramp meters and improved signal timing on local arterials), incident management, and traveler information. These elements must be built on a strong foundation of detection in order to measure freeway performance. Aggressive deployment of these TMS elements could, on the freeway system alone, increase productivity by 20 percent, reduce projected congestion by 20 percent, and improve travel time reliability by 10 percent (p. 3).

  Absent from the DEIR/S is any reference to either Caltrans' TMS Master Plan or to its "three principal elements" (i.e., traffic control, incident management, and traveler information). Since those elements have the potential to increase productivity and reduce congestion (by 20 percent) and improve travel time reliability (by 10 percent), their implementation would appear to allow for the cost-effective attainment of the Lead Agency's P&N and project objective.

- **Conversion of existing GP lanes to HOV lanes**. Section 21655.5 of the California Vehicle Code states that Caltrans and local authorities may "authorize or permit exclusive or preferential use of highway lanes for high-occupancy vehicles" provided that engineering studies are completed on safety, capacity, and delay. Similarly, Section 149 of the California Streets and Highways Code states that "designated lanes on existing

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highways" may be authorized for bus only or bus and HOV use. Despite that authorization, unaddressed is the relatively inexpensive option of converting existing general purpose (mixed-flow) lanes to HOV lanes.

- **Dual HOV lanes**. In addition, the DEIR/S states that "[a] 'build' option that has been considered is provision of dual HOV lanes in each direction. This option was considered during the MIS phase of project development and eliminated from further consideration as described in Section 2.2.5, Eliminated Alternative Developed after PSR/PDS" (p. 3.1.6-82). There is no "Section 2.2.5" with that title or subject content in the DEIR/S. Section 2.27 (Alternatives Considered but Eliminated from Future Discussion) (p. 2-27) does not appear to includes a discussion of a "dual HOV lane" alternative.

  The Lead Agency asserts that the proposed action is consistent with the (outdated) RTP. However, as indicated in the "Congestion Management Strategy" component of the 2012 RTP/SCS, the following item is included in the "CMP Toolbox": "An HOV lane is a dedicated lane(s) along a freeway or arterial dedicated to vehicles with more than one or two occupants. Increases corridor capacity while at the same time provides an incentive for single-occupied drivers to rideshare. On average, a HOV lane in Los Angeles County accommodates 1,300 vehicles or 3,300 people per hour during peak periods, and the county HOV system serves approximately 331,000 vehicle trips or 780,000 person trips per day" (emphasis added) (p. 27). In furtherance of that strategy, both a "dual HOV lanes in each direction" alternative and prohibition on use of HOT lanes by SOVs considered potentially viable alternatives that warrant the subsequent analysis by the Lead Agency.

- **Truck only toll lanes**. As reported in the Georgia State Road and Tollway Authority's "Truck Only Toll Facilities: Potential for Implementation in the Atlantic Region, Final Report" (July 18, 2005):

  > TOT [truck only toll] lanes offer a variety of potential benefits for commercial vehicles, other travelers and for transportation agencies. Such lanes can: [1] Enhance transportation options. Shippers and service providers will have the option of traveling more reliable routes in the Atlanta region, especially during peak periods. [2] Improve safety and efficiency in the road corridor. By encouraging commercial vehicles to use the TOT lanes, the mix of vehicles remaining in the freeway becomes more uniform. Thus, not as many trucks and personal vehicles will be sharing the same roadway as previously. This should improve the efficiency of travel on the road, as well as reduce the risk of truck/automobile crashes. [3] Improve freight productivity. The efficiency of freight movement in and around major metropolitan areas will likely be even more of a concern to the business community in the future. In addition, for logistics centers like Atlanta, freight mobility and productivity could become an important factor in the competitiveness of Atlanta versus other comparable regions. TOT lanes can greatly improve commercial vehicle productivity. [4] Manage congestion levels for truck travel and improve general purpose highway congestion. By imposing fees when demand levels reach capacity on TOT facilities, the level of congestion on TOT facilities is controlled. If a large number of trucks are removed from the general purpose lanes and the local road network, congestion levels might be reduced for other traffic as well. [5] Generate revenue for TOT lane operation. In order to manage traffic levels on

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the TOT lanes, fees may need to be imposed on facility users. Fees can provide an additional source of revenue to pay for transportation improvements, especially the operations and maintenance of the TOT lanes themselves (pp. v and 1-2).

While the above report is specific to the Atlanta area, it is likely that the reported benefits of TOT lanes would equally apply to the southern California area (particularly in light of the project's proximity to the Ports of Los Angeles and Long Beach, Los Angeles International Airport, and John Wayne Airport). A TOT alternative should, therefore, be considered in combination with any other toll-based options being considered by the Lead Agency.

- **Reversal lanes**. Because peak-hour traffic along the I-405 Freeway is primarily unidirectional (from Orange County toward Los Angeles County in the morning and reversed in the evening), the Lead Agency should also explored a reversible lane design which would allow for adjustments in directionality based on changing demands.

- **Use of shoulder lane**. As indicated in the FWHA's "Efficient Use of Highway Capacity Summary – Report to Congress" (November 2010), in California, "[t]ransit vehicles may use the shoulder when general purpose lane traffic slows to 30 mph or lower. They may travel no more than 10 mph faster than traffic in general traffic lanes. The cross-section of the shoulder is at least 10-ft wide throughout the deployment area. Pavement markings to indicate the operational strategy include text indicating 'Transit Lane Authorized Buses Only'" (p. 23). As further indicated therein, "in response to rising levels of congestion and a lack of right-of-way for contemporary expansion of capacity, many States adopted the use of dedicated shoulder lanes, sometimes in conjunction with or instead of narrowed lane widths" (p. 25).

  As a cost-efficient alternative to the construction of new HOV and GP lanes, the Lead Agency should examine the temporary and/or permanent conversion of existing interior and exterior shoulders to travel lanes.

7.6 Design Alternatives

A wide range of design alternatives should be considered by the Lead Agency. A number of distinct operational strategies are identified below.

- **Design exceptions**. The DEIR/S notes that the existing "HOV lanes on I-405 currently do not meet either FHWA or Caltrans operating criteria" (p. 2-19). Those facilities, however, continue to be operated with relative safety notwithstanding their lack of consistency.

  As indicated in the WCC FEIR/S: "Under the (Enhanced) Reduced Build Alternative, the freeway within the SR-22/WOCC project would be improved to full geometric design standards with the exception of the following: [1] Non-standard inside shoulder on I-605 and I-405 transition areas to join to an existing non-standard shoulder. Also on I-405 and SR-22 at spot locations where California Highway Patrol (CHP) enforcement areas are recommended. [2] Non-standard lane widths 10.8 to 11.8 ft. (3.3 to 3.6 meters) on I-605 and southbound north of the HOV connector, and on Brookhurst Street dual left turn and lanes No. 1 and 2 at eastbound SR-22 ramp. [3] Non-standard median widths on I-

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605 north of the HOV connector, on I-405 at I-605, and on I-405 at SR-22" (p. 2-7). In addition, as indicated in the DEIR/S, "the existing lane width" along the I-405 Freeway "varies between 11 and 12 ft." (p. 2-1). Based on those excerpts, it is evident that Caltrans supports and has approved projects involving "non-standard" lane widths and other design deviations.

As reported in the Metropolitan Transportation Commission's and Caltrans' "Regional HOT Lanes Network Feasibility Study" (September 2007): "HOV lanes currently exhibit a wide range of design practices statewide. Lane widths vary from 12 feet to 11 feet in restricted settings. Buffer widths are typically 4 feet, but may be reduced to 1 to 2 feet in restricted settings. Median shoulder widths vary from nominally 10 feet to 4 feet, but outside (right) shoulders on most freeways are 8 to 10 feet even in restricted settings. General purpose lane widths may be reduced to 11 feet, but the rightmost lane(s) are typically 12 feet in restricted settings. The Caltrans HOV Guide offers guidance for design reductions in such settings" (p. 21).

As noted in the DEIR/S: "Design exceptions are necessary when the proposed design deviates from the standard design features presented in the Caltrans Highway Design Manual. For example, the design standard for a freeway left-side shoulder is 10 ft; design exceptions are sought for locations where the columns supporting overcrossing bridges encroach into the shoulder and narrow the shoulder to approximately 7.5 ft beneath the bridge. Nine mandatory and 18 advisory design standards would require design exceptions at one or more locations along the corridor" (p. 2-5). As such, substantial precedence exists to support the introduction of design exceptions where such exceptions can be supported.

- **Active traffic management and restriping**. As noted in FHWA's "Public Roads" (March/April 2009, Vol. 72, No. 5), in an article titled "Congestion Pricing with Lane Reconfigurations to Add Highway Capacity," where statutorily authorized, "[i]f pricing is to become a more widely used tool to reduce congestion or provide reliable travel times in major metropolitan areas, new approaches to implementation must be developed. One potential solution involves the creation of networks of free-flowing express lanes by (1) using active traffic management (AcTM) strategies to dynamically manage freeways with flexible use of shoulders as travel lanes, and (2) restriping of existing pavement into narrower lanes in order to accommodate a new lane within the existing facility footprint. Agencies would operate the left lane as a priced lane, with the right-side shoulder serving as a general-purpose lane either permanently or when needed to accommodate high demand. This approach avoids the need to take away an existing lane to create the new priced lane." Under a restriping option, the FHWA indicates that: (1) no change would occur to the left shoulder; (2) one or more fee lanes could be established on the far left, reduced from a width of 3.7 meters (12 feet) to 3.4 meters (11 feet) to accommodate buffer separation between express and general-purpose lanes, with a 0.6 meter (2 foot) wide buffer; (3) general purpose lanes, reduced in width from 3.7 meters (12 feet) to 3.4 meters (11 feet), if needed to accommodate the buffer and the dynamic shoulder lane; and (4) a 4 meter (13 foot) wide dynamic shoulder lane on the far right. If extra pavement width is needed, pavement could be added or taken from the left shoulder where excess shoulder width exists. On a freeway in which the far left lane is already an HOV lane, the adjacent lane could be modified to create a two-lane fee section. If the shoulder where converted to a general-purpose lane, the number of toll-free, general-purpose lanes would remain the same as before the conversion (Ibid.).

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7.7 Transit Alternatives

Under Measure M2, 25 percent of the net revenue are to be dedicated to Countywide transit programs. As a result, the DEIR/S is remiss by failing to consider possible transit alternatives.

As indicated in "Congestion and Accessibility: What's the Relationship?" (Mondschein, Andrew, Taylor, Brian D., and Brumbaugh, Stephen, March 2011), published by the University of California Transportation Center (UCTC), the authors concluded that "public transit likely provides residents of a congested region with alternatives to traveling on clogged roadways; alternatives that facilitate increased activity in the face of ongoing congestion" (p. 38). Although the FHWA's "Technical Advisory T 6640.8A" states that mass transit and transportation system management alternatives should be considered when identifying reasonable alternatives, no transit-based alternatives have been examined in the DEIR/S.

As defined in Caltrans' "California HOV/Express Lane Business Plan 2009" (May 15, 2009), "the term express lanes [is used] synonymously with High Occupancy Tolling (HOT) lanes, where preferential access is provided for high occupancy vehicles or toll payments" (p. 2). The term "corridor" means "a segment of highway that includes all highway lanes and any parallel arterials" (Ibid.). As noted therein: "Currently all express lane facilities in California have a transit component either as part of the customer base or as recipients of annual revenues. These opportunities to integrate and coordinate all modes of travel should continue to be sought. In some cases transit service is being directly increased and transit stops are being revised or redesigned to encourage a shift to transit and thus increase person throughput in the corridor" (emphasis added) (p. 26). In what best appears to an example of agency short-sightedness, notwithstanding that declaration, no "transit component" has been included as part of any of the three build alternatives presented in the DEIR/S and no project-related plans have been formulated to increase or promote transit ridership or to add or expand transit facilities as a component of the proposed action.

At the community meeting conducted in the City on June 26, 2012, the OCTA's representative stated that the proposed "express lanes" (under Alternative 3) would "promote bus rapid transit." In addition, at that same meeting, OCTA's representative stated that bus services were being "cut" based on budgetary considerations. The two statements appear inconsistent.

Absent from the DEIR/S is any discuss concerning how or commitment by the OCTA to utilize the HOV/HOT lanes for "bus rapid transit" purposes. In light of those same budgetary considerations, what concurrent commitments (presented as mitigation measures or integral project features) is the OCTA's Board of Directors making with regards to the provision of expanded bus services? What new transit facilities are being proposed in combination with each of the three build alternatives? Is a reduction in existing bus service a component of the No Build Alternative? How would the implementation of the No Build Alternative and the three build alternatives affect existing bus routes and transit facilities and/or result in the establishment of new or modified routes and/or facilities? 242

7.8 Impact-Avoidance Alternatives

In order to demonstrate the feasibility of retaining the existing soundwall along Almond Avenue in Seal Beach, the City, working with a highly respected professional traffic engineering firm (W.G. Zimmerman Engineering, Inc.), has developed a number of design alternatives that would not substantially impede the ability of the Department to undertake lane improvements to the I-

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405 Freeway. Those design alternatives, prepared specifically to avoid project-related impacts upon the College Park East neighborhood, are presented in Attachment A (Alternative Design Configurations). The City believes that implementation of one or more of those impact-avoidance alternatives, in conjunction with the incorporation of those supplemental mitigation measures presented in Section 2.3 (City-Nominated Mitigation Measures) herein, would substantially lessen the impacts of the proposed action on Seal Beach and its residents.

7.9 Financing Alternatives

The City is concerned about the potential impacts to its residents resulting from the proposed conveyance of management obligations and all future toll revenue to a private for-profit entity. If, as the Lead Agency purports, the entire region benefits from an expansion of freeway capacity, to the extent that project financing will play a part in the Lead Agency's determination, then more equitable financing options need to be explored.

7.10 Other Alternatives

Referencing SCAG's "LAX/South (Orange County) High-Speed Ground Access Study, Final Report" (October 2004) (HSGA Study):

> Transportation planners throughout the Southern California region have long been concerned about mobility and ground access impacts to regional airports given the area's enormous growth in population and jobs. For example, in 1980 Southern California had a population of slightly less than 13 million; it is now anticipated that by the year 2020 the regional population will exceed 22 million. In addition, between now and 2020, the number of people using Los Angeles International Airport (LAX) will grow from 65 million a year to 86 million. That magnitude of growth will affect every Southern California resident and visitor as they attempt to move around the region on the ground or move into and out of the area by air. To help deal with mobility issues associated with that type of growth, the Southern California Association of Governments (SCAG) has adopted a Regional Transportation Plan that includes a strategy for managing airport demand through maximizing the use of all existing airports and airfields in the region. The successful implementation of that strategy requires the development and deployment of one or more high-speed transportation systems connecting regional airports to substantially reduce airport ground access by single-occupant vehicles (SOVs).
>
> In 1999, SCAG secured funding from the Federal Railroad Administration (FRA) and the Federal Aviation Administration (FAA) to begin planning high-speed ground access projects in three of the region's most heavily congested corridors to link many of the area's major airports. Those three corridors are: [1] LAX to March AFB: [2] LAX to Palmdale; and [3] LAX to Orange County [extending between Los Angeles International Airport and the Irvine Ground Transportation Center]. . .A regional multi-modal high-speed ground access (HSGA) system has been identified as a principal means of connecting major regional activity and transportation centers and supporting passenger and cargo demands associated with anticipated growth in Los Angeles, Orange, Riverside, and San Bernardino Counties. The development of regional multi-modal HSGA system alignment alternatives for this study will focus on the LAX/South (Orange County) Corridor, with a potential terminal station at John Wayne Airport (JWA), Long Beach Airport (LBA), the Irvine Ground Transportation

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Center (ITC), as well as other possible intermediary stations. This project is a key component of the 1998 Regional Transportation Plan (RTP) strategy for managing airport demand through maximizing use of existing airports via high-speed transportation system connections (emphasis added) (pp. 1-1 and 1-2).

SCAG's HSGA Study identified "three final recommended alignment alternatives" connecting LAX and the ITC. As described therein: "The Southern Alignment fulfills the primary system role of Airport Connector and Feeder by providing the quickest, most direct connections to all airports in the study area. From LAX, it stays almost entirely within the I-4-05 corridor from I-105 to the Irvine Transportation Center, with a stub track north from the John Wayne Airport area to Anaheim. One alternative alignment uses SR-22 to serve Anaheim directly. The primary alignment using I-405 (and including the stub line to Anaheim) is approximately 58 miles long" (pp. 5-1 and 5-2). Proposed station locations included, but were not limited to, "Seal Beach West" and "Seal Beach East" (p. 4-18). In a separate SCAG-issued "LAX/South (Orange County) High Speed Ground Access Study Status Report" (SCAG, February 2007), with regards to the Southern Alignment, SCAG concluded that the I-405 Freeway alignment produced the: "(1) Best overall performance with least competition (from Orange Line, Metrolink, and others); (2) High number of stations with development potential; (3) Fewer environmental impacts; (4) Best fulfills role of airport connector."

As a result, there already exists extensive SCAG-sponsored analysis identifying the feasibility and traffic and transportation-related benefits associated with the use of the I-405 Freeway ROW for utilization as a light-rail or fixed-rail HSGA system. In recognition of the existence of alternative uses for that ROW, based on SCAG's own acknowledgement that a HSGA system is a "key component" of the 2008 RTP, and the Lead Agency's representation that the proposed action is consistent with the 2008 RTP, a high-speed rail alternative needs to be examined in the DEIR/S. **243**

In addition, in "The Day that People Filled the Freeway: Re-Envisioning the Arroyo Seco Parkway and the Urban Environment in Los Angeles" (Loukaitou-Sideris, Anastasia, UCTC, Spring 2005), the author wrote:

> More than any other city in the world, Los Angeles has come to be symbolized by its freeways. As the most monumental human-made structure in the Los Angeles basin the freeway network has determined a particular spatial order and organization of the city's urban form. Freeways have managed to transport people and goods and link points of origin with points of destination. But when they were superimposed on the smaller, finer grain of residential neighborhoods they tended to split and destroy them. In outlying city areas, the superimposition of the freeway grid on the landscape has epitomized the complete domination of the 'urban' over nature. In a process of urbanization, expansion, and unfettered growth, city fathers have often treated nature as threatening 'other' to be contained, diminished, and built upon. Thus, the city has been associated with the loss of natural habitats and open space and the laying of asphalt and concrete in an ever-expanding process of urbanization and sprawl (p. 3).

The perpetuation and expansion of that freeway network is the only vision espoused in the DEIR/S. Clearly, there are other long-ranging, innovative, and non-auto-centric visions of how best to utilize this and other transportation corridors that would serve to "reduce congestion," "increase mobility," and "minimize environmental impacts." Nowhere in the DEIR/S, however, is anything presented other than the same single-minded transformation of increasingly more

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space devoted to increasingly more automobile traffic. Reducing vehicle travel by providing individuals and firms with attractive alternative access choices (such as the telecommunting or walking) may serve to reduce traffic delays while increasing productivity.

In addition, as indicated in the FHWA's "Advanced Metropolitan Planning and Operations – An Objective-Driven Performance-Based Approach, A Guidebook" (February 2010): "It is estimated that more than half of congestion experienced by travelers is caused by non-recurring events, such as weather conditions (e.g., snow, ice, rain); work zones; special events; and major incidents and emergencies that are not typically taken into account in the traditional metropolitan transportation planning process" (p. 1-1). Major "sources of congestion" identified by the FHWA include bottlenecks (40%), traffic incidents (25%), work zones (10%), bad weather (15%), poor signal timing (5%), and special events/other (5%) (Figure 2, p. 1-1). Although the Lead Agency purports that the project's P&N is to "reduce congestion," "more than half" on the causes of congestion are never even considered in the DEIR/S.

Since the Lead Agency's P&N includes increasing travel time reliability (for a limited number of motorists), possible capacity-enhancing alternatives relate to both increased enforcement (e.g., vehicle occupancy requirements) and drivers' education (e.g., slower traffic impeding traffic flow). As reported in "HOV Facility Development: A Review of National Trends, Paper No. 02-392," "[e]nforcement continues to be a challenging issue with all HOV systems. Without the proper enforcement of the HOV lane occupancy requirements, the operational effectiveness and efficiency, along with public acceptance suffer" (p. 15). Presently, an unspecified number of SOVs utilize the HOV lane in violation of the California Vehicle Code. Increased enforcement activities of violators (removing SOVs from the HOV) would serve to increase capacity of HOV lanes. As reported in "Out for the Count" (Goodin, Ginger and Wikander, John, Tcltrans 2009):

> It is essentially impossible to consistently verify the correct number of occupants in vehicles with very high accuracy using visual inspection. Many factors, such as high speeds, window tint, poor lighting conditions caused by bad weather or dawn/dusk conditions significantly impair an officer's ability to 'eyeball' occupants. Rear-occupant detection is especially problematic. Anecdotal reports on accuracy suggest that half the time the officer fails to see rear occupants. In addition to the reliability issue is the concern for law enforcement safety. The need for officers to position themselves at the roadside next to moving traffic creates a potentially dangerous enforcement environment. To reduce the exposure of officers to injury, expensive barriers must be built to protect them while observing and apprehending violators (p. 48).

Absent from the DEIR/S is any discussion of HOV/HOT occupancy enforcement, projections concerning lane violators and how that conduct can impact capacity, the role that design plays in enhancing enforcement and protecting the safety of law enforcement personnel, and where that design is manifest in the proposed project. **244**

As a variation of Alternative 3, no explanation is provided why a two-HOV lane (non-toll) alternative, rather than two "express lanes," was neither identified nor evaluated by the Lead Agency. If, as asserted by the Lead Agency, the existing HOV lane is operating over capacity, a second HOV lane (either inclusive or exclusive of other operational modifications) would appear to allow for an increase in HOV ridership while preserving the fundamental benefits of providing an HOV travel option (e.g., "HOV lanes have the potential to move more people in fewer vehicles, improve the person moving capability and reliability, and efficiently utilize the available roadway infrastructure and transit fleet"). **245**

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8.0 ADDITIONAL ENVIRONMENTAL CONSIDERATIONS

8.1 Land Use

The Lead Agency errors in asserting that land-use impacts relate only to a project's compliance with existing local plans and policies (e.g., "Land use impacts would occur if the proposed project effects would conflict either with General Plan land use designations or zoning, or with applicable environmental plans and policies," p. 3.1.1-20). As specified in the State CEQA Guidelines, "[e]ffects analyzed under CEQA must relate to a physical change" (14 CCR 15358). As such, in the context of CEQA, land use relates to: (1) the existing and potential future physical use of the project site; and (2) the policies, plans, and regulations of both the Lead Agency and other governmental entities governing and defining those uses; and (3) the potential physical changes to existing and reasonably foreseeable future land uses resulting, either directly or indirectly, from the project's implementation.

Although the Lead Agency discusses the proposed action's compliance with the Seal Beach General Plan (deriving conclusions that differ from those of the City), absent from the DEIR/S is a detailed assessment of the proposed action's physical land-use impacts within Seal Beach, focusing specifically upon the following neighborhoods: (1) Leisure World; (2) College Park West; and (3) College Park East. **246**

8.2 Air Quality

Motor vehicles emit large quantities of carbon dioxide (CO_2), carbon monoxide (CO), hydrocarbons (HC), nitrogen oxides (NOx), particulate matter (PM), and substances known as mobile source air toxics (MSATs) or toxic air contaminants (TACs), such as benzene, formaldehyde, acetaldehyde, and 1,3-butadiene. Resuspended road dust, tire wear, and brake wear are sources of noncombustion PM emissions. Each of these, along with secondary by-products, such as ozone (O_3) and secondary aerosols (e.g., nitrates and inorganic and organic acids), can cause adverse effects on human health and the environment.

The EIR must describe, in detail, all the significant effects on the environment of the project. (Sunnyvale West Neighborhood Association v. City of Sunnyvale City Council, 2010). "CEQA compels government first to identify the environmental effects of projects, and then to mitigate those adverse effects through the imposition of feasible mitigation measures or through the selection of feasible alternatives. It permits government agencies to approve projects that have an environmentally deleterious effect, but also requires them to justify those choices in light of specific social or economic conditions [Citation]" (Sierra Club v. State Board of Forestry, 1994).

As previously noted, implementation of the three build alternatives will increase VMT over the No Build Alternative by between 318,000 and 605,000 miles by 2020 and by between 525,000 and 1,013,000 miles by 2040. As a result, it is immediately evident that the proposed action has both an adverse and significant impact relative to GHG emissions. In order to avoid the obvious, the Lead Agency shirks its statutory and regulatory obligations to both "identify and focus on the significant environmental effects" (14 CCR 15126.2[a]) and to "[d]escribe any significant impacts, including those which can be mitigated but not reduced to a level of insignificance" (14 CCR 15126.2[b]). As indicated in the DEIR/S: **247**

> An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document. While Caltrans has included this good faith

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> effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the body of the environmental document (emphasis added) (DEIR/S, Appendix A, p. 5).

Such declaration is only an attempt at subterfuge both with regards to disclosure and the formulation of project alternatives (e.g., mobility options not involving the construction of additional lane-miles). The City believes that such non-disclosure and avoidance strategy is: (1) inconsistent with CEQA (14 CCR 15064.4), resulting in an inadequate environmental analysis; and (2) inconsistent with Statewide efforts to reduce GHG emissions (e.g., reducing carbon footprint below BAU levels). **248**

To the extent that the Lead Agency seeks to assert its consistency with the 2012 RTP/SCS, then it should be equally bound by the mitigation measures contained in the 2012 RTP/SCS PEIR. As indicated herein, relevant GHG-related measures include: (1) "Local jurisdictions can and should reduce GHG emissions by reducing vehicle miles traveled and by increasing or encouraging the use of alternative fuels and transportation technologies" (MM-TR51); (2) "Local jurisdictions can and should reduce VMT-related emissions by encouraging the use of public transit through adoption of new development standards that would require improvements to the transit system and infrastructure, increase safety and accessibility, and provide other incentives" (MM-TR52); and (3) "Local jurisdictions can and should give priority to transportation projects that would contribute to a reduction in vehicle miles traveled per capita, while maintaining economic vitality and sustainability" (MM-TR53) (pp. ES-68 and 69).

As reported in CARB's "Climate Change Proposed Scoping Plan, A Framework for Change" (October 2008), prepared pursuant to Assembly Bill 32 (The California Global Warming Solutions Act of 2006), "California is the fifteenth largest emitter of greenhouse gases on the planet, representing about two percent of the worldwide emissions" (p. 11). By enacting Senate Bill (SB) 97 in 2007, California's lawmakers expressly recognized the need to analyze greenhouse gas (GHG) emissions as a part of the CEQA process and required the Governor's Office of Planning and Research (OPR) and the Natural Resources Agency to adopt guidelines addressing the analysis and mitigation of GHG emissions. In accordance therewith, effective in 2010, lead agencies must analyze: (1) the GHG emissions of proposed projects and must reach a conclusion regarding the significance of those emissions (14 CCR 15064.4.); and (2) the potentially significant impacts associated with placing projects in hazardous locations, including locations potentially affected by climate change (14 CCR 15126.2[a]). In addition, when a project's GHG emissions may be significant, lead agencies must consider a range of potential mitigation measures to reduce those emissions (14 CCR 15126.4[(c)]). CEQA mandates analysis of a proposed project's potential energy use (including transportation-related energy), sources of energy supply, and ways to reduce energy demand, including through the use of efficient transportation alternatives (Appendix F, State CEQA Guidelines); however, as noted in the DEIR/S, the "quantification of the impacts from induced fuel consumption as a result of traffic congestion is beyond the scope of this CIA" (CIA, p. 6-8).

As indicated in the CEQ's "Draft NEPA Guidelines on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions" (February 18, 2010) (Draft NEPA GHG Guidelines),

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citing Calvert Cliffs Coordinating Commission, Inc. v. United States Atomic Energy Commission (1971), the CEQ notes:

> Alternatives analysis is an essential element of the NEPA process, both under section 102(2) (C) and in the EA of 'conflicts concerning alternative uses of available resources' under Section 102(2) (E). The requirement of consideration of alternatives is meant to ensure that the agency consider approaches whose adverse environmental effects will be insignificant or at least less significant than those of the proposal. This requirement, like the 'detailed statement' requirement, seeks to ensure that each agency decision maker has before him and takes into proper account all possible approaches to a particular project (including total abandonment of the project) which would alter the environmental impact and the cost-benefit balance. Only in that fashion is it likely that the most intelligent, optimally beneficial decision will ultimately be made' (emphasis added).

As required under Section 21002.1(a) of CEQA: "The purpose of an environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided" (emphasis added). Section 21100(b) of CEQA states, in part, when an EIR is required, "[t]he environmental impact report shall include a detailed statement setting forth all of the following: (1) All significant effects on the environment of the proposed project. (2) In a separate section: (A) Any significant effects on the environment that cannot be avoided if the project is implemented. (B) Any significant effect on the environment that would be irreversible if the project is implemented" (emphasis added). Section 21100(c) goes on to add: "The report shall also contain a statement briefly indicating the reasons for determining that various effects of the environment of a project are not significant" (emphasis added).

As further required under Section 21081 of CEQA, "no public agency shall approve or carry out a project for which an environmental impact report has been certified which identifies one or more significant effects on the environment that would occur if the project is approved or carried out" unless the agency makes specific findings and finds that the project's specific overriding economic, legal, social, technological, or other benefits outweigh its significant environmental effects. In order to comply with those requirements, the Lead Agency must determine whether the potential direct, indirect, and cumulative impacts of the proposed action will, in fact, produce significant environmental effects and, if so, whether those impacts can be mitigated to a less-than-significant level and present the rationale for those finding (14 CCR 15091[a]). 249

As indicated in the AQR: "Future greenhouse gas emissions (2020 and 2040) would be greater than existing emissions" (p. 2); however, in what appears directly contrary to both CEQA and NEPA requirements, the DEIR/S states: "It is Caltrans' determination that, in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a determination regarding the significance [or insignificance] of the project's direct impact and its contribution on the cumulative scale to climate change." (p. 4-57). Although the courts have already found that approach to be inconsistent with CEQA requirements, the Lead Agency seeks to perpetuate the myth that it bears no obligation to identify project-related and cumulative thresholds for the projects it undertakes or to reduce those emissions to the maximum extent feasible. In Environmental Council of Sacramento v. California Department of Transportation, in evaluating the adequacy of Caltrans' GHG emissions analysis, the court rejected the argument that absence of a significance threshold

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made it impossible to quantify GHG emissions or determine their significance and set aside the EIR's certification, ruling:

> Caltrans should have analyzed and discussed whether the Project may have a significant impact on such emissions notwithstanding the Project's compliance with the federal Clean Air Act conformity standards. . .The EIR recognizes the concern that GHG emissions raise for climate change, but concludes that because there is no accepted federal, state, or regional methodology for GHG emission and climate change impact analysis, analyzing the impacts associated with an increase in GHG emissions at the project level is not currently possible [Citation]. However, as Petitioners point out, nothing in the administrative record supports Caltrans' conclusion that it is not possible to quantify the Project's GHG emissions, at which point, Caltrans could make its own evaluation of their significance. While CEQA does not require an agency to foresee the unforeseeable, CEQA does require an agency to use its best efforts to find put and disclose all that it reasonably can [Citation]. Only after thorough investigation may an agency find that a particular impact is too speculative to evaluation and terminate its discussion of the impact [Citation]. Here, there is no evidence in the record that Caltrans performed any investigation whatsoever. This fell short of Caltrans' duty to make a good faith effort to investigate and disclose all that it reasonably can. Caltrans must meaningfully attempt to quantify the Project's potential impacts on GHG emissions and determine their significance, or at the very least explain what steps it has taken that show such impacts are too speculative for evaluation (Minute Order, pp. 8, 10, and 11). 250

Similarly, in Center for Biological Diversity v. City of Desert Hot Springs, Riverside County Case No. RIC 464585 (August 6, 2008), the court hold that an environmental impact report (EIR) for a proposed residential and commercial development was insufficient because it failed to make a "meaningful attempt" to analyze the project's effects on global warming. The court rejected the lead agency's argument that the absence of Statewide CEQA significance thresholds or guidelines for GHG emissions exonerated the agency of its duty to analyze such emissions in CEQA documents. Quoting from the Ninth Circuit's statement in Center for Biological Diversity v. National Highway Traffic Safety Administration (2007), the federal court stated that "[t]he impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct." The court emphasized that even though it could be true that projects' effects on global warming are too speculative in the absence of guidance from the CARB or USEPA, the agency could not simply assert this speculation without first making some attempt to determine whether the project would have a significant effect on climate change. Drawing from those cases, Caltrans' failure to determine the significance of GHG emissions has rendered the DEIR/S analysis inadequate.

The Lead Agency alleges that "NEPA does not require that a determination of significant impacts be stated in the environmental documents" (p. 4-1). However, as indicated under the CEQ Regulations, the significance of an identified effect must be determined based on both context and intensity. As indicated in Section 1508.27(a) of the CEQ Regulations, "the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action." Under NEPA, intensity is evaluated by considering the degree to which: (1) a proposed action will affect public health or safety; (2) the effects on the environment are likely to be highly controversial; (3) the possible effects on the human environment are highly uncertain or pose unique or unknown risks; (4) the action may 251

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establish a precedent for future actions with significant effects, or represent a decision in principle about a future consideration; (5) the action is related to other actions with individually insignificant but cumulatively significant impacts; and (6) the action may adversely affect an endangered or threatened species or its habitat (Center for Biological Diversity v. National Highway Traffic Safety Administration). In recognition of those factors (e.g., health and safety affects, level of controversy, and unknown risk), potential impacts attributable to project-related and cumulative GHG emissions would be deemed significant under NEPA. **252**

Despite substantial evidence to the contrary, this same failing also holds true with regards to the assessment of potential health risks. As indicated in the AQR, "it is not possible to make a determination of whether any of the alternatives would have 'significant adverse impacts on the human environment'" (p. 77). Based only upon a "qualitative analysis, ignoring the existence of abutting single-family properties within Seal Beach, the Lead Agency asserts that "[a] A qualitative diesel particulate matter was completed for the proposed project. It was determined that while diesel exhaust may pose potential cancer risks to receptors spending time on or near high risk diesel particulate matter facilities, most receptors' short term exposure would only cause minimal harm" (AQR, p. 2).

Health risks are not examined on a "majority rules" basis. Regulations promulgated by the California Health and Welfare Agency, under Proposition 65, define a significant cancer risk as any risk exceeding ten in one million (10×10^{-6}). As stipulated in the SCAQMD's "CEQA Air Quality Handbook" (April 1993), a project would normally be deemed to be significant if it were to emit carcinogenic or toxic air contaminants (TACs) that individually or cumulatively exceed the maximum individual cancer risk of 10 in 1 million (pp. 6-2 and 6-3). **253**

The AQR notes that "[t]he SCAQMD has jurisdiction over an area of 10,743 square miles, consisting of Orange County; the non-desert portions of Los Angeles, Riverside, and San Bernardino counties; and the Riverside County portion of the Salton Sea Air Basin and Mojave Desert Air Basin" (emphasis added) (p. 44). As indicated in separate correspondence submitted to Seal Beach in response to the City's release of a "Notice of Preparation of a CEQA Document for the Department of Water and Power Specific Plan Amendment" (SCH No. 2011061018), in correspondence dated June 29, 2011, the SCAQMD make the following declaration: "The SCAQMD adopted its California Environmental Quality Act (CEQA) Handbook in 1993 to assist other public agencies with the preparation of air quality analyses. The SCAQMD recommends that the Lead Agency use this Handbook as guidance when preparing its air quality analysis" (p. 1). It has to be assumed that the SCAQMD has presented the Department with a similar declaration. **254**

In April 2005, the CARB published the "Air Quality and Land Use Handbook" (CARB Handbook) which included recommended minimum separation distances serving as a general guide for considering health effects associated with siting sensitive receptors in proximity to facilities emitting TACs. The CARB's recommended minimum separation distance between potentially incompatible land uses is presented, in part, in Table 16 California Air Resources Board Recommendations on Siting Sensitive Land Uses).

To characterize health risks posed by TACs in the SCAB, the SCAQMD conducted the "Multiple Air Toxics Exposure Study, Final Report" (March 2000) (MATES-II). The MATES-II study concluded that the Basinwide average cancer risk was about 1,400 in one million ($1,400 \times 10^{-6}$) (assuming continuous exposure 24-hours per day for a 70-year lifetime) (Source: SCAQMD, Final 2007 Air Quality Management Plan, June 1, 2007). Mobile sources (e.g., automobiles,

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trucks, trains, ships, aircraft) were reported to be the largest contributors and about 70 percent of the cancer risk was attributed to diesel PM; another 20 percent was attributed to other TACs associated with mobile sources (including benzene, 1,3-butadiene, and formaldehyde). The remaining 10 percent was attributed to stationary sources (e.g., industry, certain businesses such as dry cleaners and chrome plating operations). In the MATES-II study, the SCAQMD found that cancer risk across the SCAB ranged from about 1,120 ($1,120 \times 10^{-6}$) to 1,740 in one million ($1,740 \times 10^{-6}$) among eight fixed sites. In 2008, the SCAQMD's "Multiple Air Toxics Exposure Study" (MATES-III) found that the Basinwide cancer risk was about 1,200 in one million ($1,200 \times 10^{-6}$), with TACs from mobile sources accounting for 94 percent of this risk on average.

Table 16
California Air Resources Board Recommendations on Siting Sensitive Land Uses

Source Category	Advisory Recommendations	Range of Cancer Risks[1,2]	Summary of Basis for Advisory Recommendations
Freeway and High-Traffic Roads	Avoid siting new sensitive land uses within 500 feet of a freeway, urban roadway with 100,000 vehicles/day, or rural roadway with 50,000 vehicles/day.	300-1,700	The additional non-cancer health risk attributable to proximity was seen within 1,000 feet and was strongest within 300 feet. Studies show about 70% drop off in PM pollution levels at 500 feet.

Notes:
1. For cancer health effects, risk is expressed as an estimate of the increased chances of getting cancer due to facility emissions over a 70-year lifetime. This increase in risk is expressed as chances in a million.
2. The estimated cancer risks are a function of proximity to the specific category and were calculated independent of the regional health risk for air pollution. For example, the estimated regional cancer risk from air toxics in the Los Angeles Region (SCAB) is approximately 1,000 in one million ($1,000 \times 10^{-6}$).

Source: California Air Resources Board, Air Quality and Land Use Handbook: A Community Health Perspective, April 2005, Tables 1-1 and 1-2, pp. 4, 6 and 7.

As indicated in Appendix A (CEQA Checklist) in the DEIR/S, the proposed action would be deemed to produce a significant environmental effect if the project where to "[e]mit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school" (p. 5); and/or (2) "cause substantial adverse effects on human beings, either directly or indirectly" (p. 10). Although the "CEQA Checklist" concludes that "effects on human beings" would constitute a "potentially significant impact," neither air quality nor human health effects were explicitly identified as a basis for that conclusion. Instead of assessing potential project-related and cumulative health risks relative to identified threshold of significant standards, the Department states:

> In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action. . . Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, **255**

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> such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis. . . Because of the uncertainties outlined above, a reliable quantitative assessment of the effects of air toxic emissions impacts on human health cannot be made at the project level. While available tools do allow us to reasonably predict relative emissions changes between alternatives for larger projects, the amount of MSAT emissions from each of the project alternatives and MSAT concentrations or exposures created by each of the project alternatives cannot be predicted with enough accuracy to be useful in estimating health impacts. As noted above, the current emissions model is not capable of serving as a meaningful emissions analysis tool for smaller projects. Therefore, the relevance of the unavailable or incomplete information is that it is not possible to make a determination of whether any of the alternatives would have "significant adverse impacts on the human environment." (pp. 74, 76, and 77).

By failing to determine significance and asserting, as its rational, "unavailable or incomplete information," the Lead Agency is violating the CEQ Regulations. Citing Section 1502.22 therein:

> When an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always made clear that such information is lacking. (a) If the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement. (b) If the information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known, the agency shall include within the environmental impact statement: (1) a statement that such information is incomplete or unavailable; (2) a statement of the relevance of the incomplete or unavailable information to evaluate reasonably foreseeable significant adverse impacts on the human environment; (3) a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment; (4) the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community. For the purpose of this section, "reasonably foreseeable" includes impacts which have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason.

As reported in the National Research Council's "Surface Transportation Environmental Research: A Long-Term Strategy, Special Report 268" (2002): "Fuel burning due to transportation activities, whether under congested or uncongested conditions, has the potential to increase the risk of death from respiratory and cardiovascular disease; raise the risk of developing certain chronic diseases [including cancer; chronic bronchitis; and, according to very recent evidence, asthma]; aggravate various existing chronic conditions; and lead to acute cardiopulmonary symptoms, such as cough, a runny nose, and other signs of a cold. Burning gasoline still leads to significant emissions of volatile organic compounds (VOCs) (some of which are carcinogenic), CO, nitrogen oxide (NOx), and particulate matter" (p. 34).

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Heavily-travelled roadways are a key contributor to diesel particulate matter (diesel PM) MATES-III concluded that 84 percent of the total cancer risk from TACs within the region comes from diesel PM. High volume roadway emissions are also associated with higher levels of ultrafine particles which are associated with adverse health impacts. Although there is no federal or State ambient air quality standard for ultrafine particles, based on the growing knowledge of their potential health risks, critical assessment of projects that increase exposure of those pollutants by sensitive receptors needs to be conducted. **256**

The following relevant studies, included in Attachment F herein, address the health risks attributable to ultrafine particles are included herein and made a part of the City's comments: (1) Grahame, Thomas J. and Schlesinger, Richard B, Cardiovascular Health and Particulate Vehicular Emissions: A Critical Evaluation of the Evidence, Air Quality, Atmosphere and Health, 3:3-27, 2010; (2) Knibbs, Luke D., Cole-Hunter, Tom, and Morawska, Lidia, A Review of Commuter Exposure to Ultrafine Particles and its Health Effects, Atmospheric Environment 25:2611-2622, 2011; (3) Zhu, Yifang et al., Study of Ultrafine Particles Near a Major Highway with Heavy-Duty Diesel Traffic, Atmospheric Environment 36:4323-4335, 2002; (4) Hu, Shishan et al., A Wide Area of Air Pollutant Impact Downwind of a Freeway during Pre-Sunrise Hours, Atmospheric Environment 43:2541-2549, 2009; (5) Araujo, Jesus A. et al., Ambient Particulate Pollutants in the Ultrafine Range Promote Early Atherosclerosis and Systemic Oxidative Stress, Circulation Research, March 14, 2008, p. 589; (6) Li, Ning et al., Ultrafine Particulate Pollutants Induce Oxidative Stress and Mitochondrial Damage, Environmental Health Perspectives, Vol. 111, No. 4, April 2003, p. 455; (7) Delfino, Ralph J. et al., Association of Biomarkers of Systemic Inflammation with Organic Components and Source in Quasi-Ultrafine Particles, Environmental Health Perspectives, Vol. 118, No.. 6, June 2010, p. 756; and (8) Hankey, Steve, Marshall, Julian D., and Brauer, Michael, Health Impacts of the Build Environment: Within-Urban Variability in Physical Inactivity, Air Pollution, and Ischemic Heart Disease Mortality, Environmental Health Perspectives, Vol. 120, No. 2, February 2012, p. 247.

As indicated in "Near Highway Pollutants in Motor Vehicle Exhaust: A Review of Epidemiologic Evidence of Cardiac and Pulmonary Health Risks" Brugge, Doug, et al, Environmental Health 6:23, 2007), included in Attachment G herein:

> There is growing evidence of a distinct set of freshly-emitted air pollutants downwind from major highways, motorways, and freeways that include elevated levels of ultrafine particulates (UFP), black carbon (BC), oxides of nitrogen (NOx), and carbon monoxide (CO). People living or otherwise spending substantial time within about 200 m of highways are exposed to these pollutants more so than persons living at a greater distance, even compared to living on busy urban streets. Evidence of the health hazards of these pollutants arises from studies that assess proximity to highways, actual exposure to the pollutants, or both. Taken as a whole, the health studies show elevated risk for development of asthma and reduced lung function in children who live near major highways. Studies of particulate matter (PM) that show associations with cardiac and pulmonary mortality also appear to indicate increasing risk as smaller geographic areas are studied, suggesting localized sources that likely include major highways. Although less work has tested the association between lung cancer and highways, the existing studies suggest an association as well. While the evidence is substantial for a link between near-highway exposures and adverse health outcomes, considerable work remains to understand the exact nature and magnitude of the risks. . .The plausibility of near-highway pollution causing lung cancer is bolstered by the presence of known carcinogens in diesel PM. The US EPA

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has concluded after reviewing the literature that diesel exhaust is 'likely to be carcinogenic to humans by inhalation.'

As further indicated in "Effects of Exposure to Traffic on Lung Development from 10 to 18 Years of Age: A Cohort Study" (Gauderman, James W., et al, Lancet, 2006), included in Attachment H herein: "Reduced lung-function growth was independently associated with both freeway distance and with regional air pollution. Statistically significant joint models of regional pollution with distance to freeway were seen for nitrogen dioxide , acid vapour, elemental carbon, and particulate matter with aerodynamic diameter less than 10 µm and less than 2·5 µm. . .This study shows that residential proximity to freeway traffic is associated with substantial deficits in lung-function development in children."

As indicated in the I-710 Corridor DEIR/S, in summarizing written correspondence submitted by the USEPA to Caltrans, the document states, in part:

Executive Order 13045 on Children's Health and Safety directs that each Federal agency shall make it a high priority to identify and assess environmental health and safety risks that may disproportionately affect children, and shall ensure that its policies, programs, activities, and standards address these risks. Analysis and disclosure of these potential effects under NEPA is necessary because some physiological and behavioral traits of children render them more susceptible and vulnerable than adults to health and safety risks. Children may be more highly exposed to contaminants because they generally eat more food, drink more water, and have higher inhalation rates relative to their size. Also, children's normal activities, such as putting their hands in their mouths or playing on the ground, can result in higher exposures to contaminants as compared with adults. Children may be more vulnerable to the toxic effects of contaminants because their bodies and systems are not fully developed and their growing organs are more easily harmed. Based on current EPA policy and guidance, an analysis of impacts to children should be included in a NEPA analysis if there is a possibility of disproportionate impact on children related to the proposed action. EPA views childhood as a sequence of life stages, from conception through fetal development, infancy, and adolescence. Therefore, exposures to children at each life stage, as well as pregnant and nursing women, are relevant and should be considered when addressing health and safety risks for children. Because children can be more susceptible to mobile source air pollution and generally experience higher exposures to air pollution than adults, we [USEPA] recommend that the Draft EIR/EIS further address the potential direct, indirect, and cumulative impacts of the proposed project on children's health, including consideration of prenatal exposures (exposures that may be experienced by pregnant women) (Appendix J, pp. 21-22). **257**

Assess the project's impact to children's environmental health by incorporating child-specific exposure factors using EPA's Child Specific Exposure Factors Handbook, 2008, or an equivalent source recommended by the State of California, in the analysis of exposures at schools, daycares, and parks. In addition, we recommend using the recommended age groupings provided in EPA's Guidance on Selecting Age Groups for Monitoring and Assessing Childhood Exposures to Environmental Contaminants, 2005. The document describes a set of age groupings that can be used, and when necessary adapted, for purposes of designing monitoring studies and conducting risk assessments focused on children (Appendix J, p. 24).

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Research has demonstrated that traffic-related air pollution can exacerbate asthma and may be associated with the onset of childhood asthma. In the EPA Region 9 letter sent to the California Department of Transportation District 7 on August 20, 2010, EPA recommended that the air quality and health risk assessment protocol consider existing asthma rates and asthma severity among children and the general community within the project area. EPA recommended that the Risk Characterization, Cumulative Impacts Analysis, and EJ Analysis identify impacts of the proposed project on asthma rates and severity in children near the project site and should quantify the costs associated with these impacts, to the extent feasible (Appendix J, p. 25).

The Seal Beach Tennis Center, Blue Bell Park and Almond Park are all located in close proximity to the I-405 Freeway ROW, as well as the College Park East and College Park West residential neighborhoods. Although large concentrations of children exist in each of those areas, absent from the DEIR/S is any analysis of the proposed project's impacts on either children's health, including prenatal exposure. **258**

The DEIR/S indicates that, with regards to the proposed action, written correspondence was received from the USEPA (i.e., "EPA commented on water and air quality, environmental justice issues, and suggested a refinement of the project's scope, purpose and need, and explanation of the range of alternatives," p. 5-13); however, neither a copy of nor further information concerning the USEPA's correspondence submitted in response to the NOP/NOI is presented therein. The City requests that a copy of both the USEPA's correspondence addressing the proposed action and separately addressing the I-710 Corridor DEIR/S be included in the Lead Agency's written response to these comments and, with regards to the proposed action, that the Department specifically respond to each of the items and recommendations presented therein. In addition, the Department should explain why the USEPA's comments on the I-705 Corridor Project would not have equal relevancy to the CEQA and NEPA assessment of the I-405 Freeway improvement project? Why was the level of analyses (e.g., health risk assessment) included in the DEIR/S and in the I-705 Corridor DEIR/S not reasonably consistent? **259**

If, as the Lead Agency asserts, due to higher vehicle speeds under the build alternatives, "[r]egional emissions would be less than baseline conditions in years 2020 and 2040" (AQR, p. 1), then the converse must also be true (i.e., reductions in speed due to bottlenecks would effectively increase the concentration of air pollutants and the exposure of near source receptors). Because the Lead Agency ignores the reality of what happens directly to the north of the identified corridor, absent from the DEIR/S is any discussion of the merging of northbound traffic from a widened freeway to a link with fewer HOV and GP lanes and the bottleneck that will most certainly result therefrom. **260**

As illustrated in Figures ES-1 and 1.3-1 (pp. ES-2 and 1-9) in the Traffic Study, travelling northbound on the I-405 Freeway, north of Seal Beach Boulevard, there are seven GP lanes and one HOV lane (total of seven lanes). As proposed, under Alternative 3, there will be seven GP lanes, one auxiliary lane, and two HOV/HOT lanes (total of ten lanes). As a result of that bottleneck, the diminishment of travel lanes will add to congestion in that area and cause northbound traffic to slow in proximity to College Park East. Under the Lead Agency's own set of assumptions, mobile source emissions adjacent to that residential area will increase. Since post-project congestion will likely be worse in the vicinity of Seal Beach Boulevard, localized air quality impacts will be greater under the build scenarios than under the No Build Alternative.

GL14 Continued

Independent of the Lead Agency's assertion that increased vehicle speeds reduce idling emissions (e.g., "Regional emissions would be less than baseline conditions in years 2020 and 2040. This decrease is due to higher vehicle speeds under the build alternatives," AQR, p. 1), the projected increase in both traffic volumes along the I-405 Freeway and project-related VMT results, directly and/or indirectly, in increased exposure to sensitive near-freeway receptors to additional mobile source emissions. For example, by manipulating vehicle throughput to maintain travel speeds, trucks and other commercial vehicles transporting perishable items and/or otherwise dependent on time are being induced to utilize the proposed HOT lanes. Because "[d]iesel trucks contribute more than half of the total diesel combustion sources" (DEIR/S, p. 3.2.6-50), unaccounted for increases in toxic air contaminants (TACs) will likely be the consequence. **261**

8.3 Noise and Vibration

Absent from the DEIR/S is any discussion of noise vibration, both as it may relate to construction impacts and freeway operations. A number of City residents located in proximity to the I-405 Freeway have indicated that vibration is an on-going problem which is likely only to be further exacerbated as a result of the proposed action.

As indicated in DEIR/S, with regards to "exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels" (Appendix A, p. 7), the Lead Agency states that the proposed action would generate a "less than significant impact" (ibid.). No analysis (including the identification of reasonable threshold of significance criteria) is, however, to support that conclusion. **262**

8.4 Environmental Justice

As reported in the Los Angeles Times on July 1, 2012 ("O.C. Tollways to Stop Taking Cash"), in an article about toll roads in Orange County, the author (Mike Reicher) notes:

> [A] rate hike takes effect Sunday. Cash tolls will increase 25 to 50 cents at most toll plazas and FasTrak tolls will increase 5% to 10%. Rate hikes depend on the time of day. The changes, which will eliminate about 100 tollbooth jobs, comes about a year after the 73 toll road project restructured its roughly $2.1 billion in debt. An agreement with bondholders requires the agency to raise tolls whenever feasible. As ridership continues to fall below projections, leaders are looking for long-term money-saving measures. Without tollbooths, even casual users will have to register beforehand or else pay a fine for using the public road. Cameras will capture license plate numbers, and motorists who have set up pre-paid accounts registered to the photographed number will be billed. . .Drivers who use the toll roads but have not registered their license plate numbers will receive a violation unless they pay the toll online within 48 hours. . .The fine is currently $57.50, plus the toll amount. . .The San Joaquin Hills agency has increased toll rates 12 times since fiscal year 1997 (emphasis added) (p. A-27).

As indicated in FHWA's "Income-Based Equity Impacts of Congestion Pricing, A Primer" (December 2008): "Equity concerns with regard to income have often been raised about congestion pricing. The benefits of congestion pricing may not be distributed equally among all users. High-income users are more likely to remain on the highway, pay the congestion fee, and benefit from a faster trip. Low-income users may be worse off if they choose other less-

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expensive times, routes, or modes. When public use of infrastructure assets is deliberately made more expensive at certain times, low-income people and those concerned about their welfare may raise legitimate concerns about equity" (p. 4). **263**

SCAG notes that "[b]ecause congestion pricing imposes a cost on something that was previously considered 'free,' it can raise issues of equity. Some say that those with lower incomes would pay a higher percentage of their income or be priced out of driving" (Express Travel Choices Study, Frequently Asked Questions, January 13, 2011, p. 5). As further indicated therein: "A paper by the Rand Corporation and Volpe National Transportation Systems Center (2007) indicated that household surveys suggest that rush-hour travelers who travel in the busier direction - and thus are more likely to pay congestion charges - are the most affluent group within the larger category of street and highway users" (p. 7). **264**

Referencing FHWA's "Environmental Justice Emerging Trends and Best Practices Guidebook" (November 1, 2011): "While road pricing has the potential to meet the needs of disadvantaged communities, pricing strategies also have the potential to violate environmental justice principles if not implemented with thorough consideration of equity impacts. The perceived "cost" of a toll or congestion charge in proportion to income is higher for a low-income traveler. In the absence of alternative free routes that could be used by these travelers, concerns regarding monetary egalitarianism could arise because low-income people may continue to be stuck in traffic while the wealthy are able to pay for and use the priced roads or lanes. For this reason, high-occupancy toll (HOT) lanes, implemented in several regions by introducing pricing on former high-occupancy vehicle (HOV) lanes, sometimes encounter criticism as 'Lexus Lanes' that cater to the wealthy and impose unfair burdens on the poor. . .In addition to the charge itself, low-income populations can sometimes be excluded from accessing the technology required to use priced roads. This occurs because of the need for drivers to own transponders that are typically purchased in advance. Transponders must also be linked to reliable bank or credit card accounts that can be used to deduct charges; at least 20 percent of U.S. households do not have credit cards and 10 percent do not have bank accounts" (pp. 56-57).

As further indicated therein: "A region that is considering implementation of road pricing should undertake studies to measure and assess potential impacts on disadvantaged communities at an early stage in the planning process. Not only must this information be shared during communications with decision makers and the public, but it is also important for purposes of NEPA documentation during planning and environmental review. Also, lessons regarding the acceptability of road pricing strategies show that it is important to reference data on equity impacts of successful road pricing programs during public outreach" (p. 61). "There are some reports from San Diego and Minneapolis that high-income travelers are more likely to own transponders, use HOT lanes, and benefit from faster trips than low-income travelers. However, with reinvestment of revenues in significantly improved transit services and other travel alternatives, those effects have been mitigated to some extent" (p. 69).

As indicated in the "California HOV/Express Lane Business Plan," "[t]here is an impression by the general public, as experienced by regional transportation agencies that have been planning and designing express lanes within existing capacity, that express lanes reinforce social inequities for users. Express lanes are perceived as 'Lexus lanes' that are only affordable to motorists with high incomes. . .It is important to address perception and engage in public communication (including surveys) consistently and on a large scale in order to enable future development of express lanes in California" (pp. 20-21).

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Although the DEIR/S itself makes reference to the "California HOV/Express Lane Business Plan" (p. S-38), absent from the DEIS/R is any discussion or analysis of environmental justice, including "studies to measure and assess potential impacts on disadvantaged communities." **265**

Presidential Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) (59 Fed. Reg. 7629 [1994]) provides that "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." In the memorandum to heads of departments and agencies that accompanied Executive Order 12898 (EO 12898), the President specifically recognized the importance of procedures under NEPA for identifying and addressing environmental justice concerns. The memorandum states that "each Federal agency shall analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities and low-income communities, when such analysis is required by [NEPA]."

EO 12898: (1) requires the development of agency-specific environmental justice strategies; (2) recognizes the importance of research, data collection, and analysis, particularly with respect to multiple and cumulative exposures to environmental hazards for low-income populations, minority populations, and Indian tribes; (3) provides for agencies to collect, maintain, and analyze information on patterns of subsistence consumption of fish, vegetation, or wildlife; and (4) requires agencies to work to ensure effective public participation and access to information. In addition, the memorandum accompanying the EO 12898 identifies the following four important ways to consider environmental justice under NEPA: (1) each Federal agency should analyze the environmental effects, including human health, economic, and social effects of Federal actions, including effects on minority populations, low-income populations, and Indian tribes, when such analysis is required by NEPA; (2) mitigation measures identified as part of an environmental assessment (EA), a finding of no significant impact (FONSI), an environmental impact statement (EIS), or a record of decision (ROD), should, whenever feasible, address significant and adverse environmental effects of proposed Federal actions on minority populations, low-income populations, and Indian tribes; (3) each Federal agency must provide opportunities for effective community participation in the NEPA process, including identifying potential effects and mitigation measures in consultation with affected communities and improving the accessibility of public meetings, crucial documents, and notices; and (4) review of NEPA compliance must ensure that the lead agency preparing NEPA analyses and documentation has appropriately analyzed environmental effects on minority populations, low-income populations, or Indian tribes, including human health, social, and economic effects.

In April 1997, the DOT issued "DOT Order on Environmental Justice to Address Environmental Justice in Minority Populations and Low-Income Populations" (DOT Order 5610.2) to summarize and expand upon the requirements of EO 12898. As specified therein: "It is the policy of DOT to promote the principles of environmental justice (as embodied in the Executive Order) through the incorporation of those principles in all DOT programs, policies, and activities. This will be done by fully considering environmental justice principles throughout planning and decision-making processes in the development of programs, policies, and activities, using the principles of the National Environmental Policy Act of 1969 (NEPA), Title VI of the Civil Rights Act of 1964 (Title VI), the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (URA), the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and other DOT statutes, regulations and guidance that address or affect infrastructure planning and

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decisionmaking; social, economic, or environmental matters; public health; and public involvement." As further indicated therein: "Statutes governing DOT operations will be administered so as to identify and avoid discrimination and avoid disproportionately high and adverse effects on minority populations and low-income populations by: (1) identifying and evaluating environmental, public health, and interrelated social and economic effects of DOT programs, policies and activities, (2) proposing measures to avoid, minimize and/or mitigate disproportionately high and adverse environmental and public health effects and interrelated social and economic effects, and providing offsetting benefits and opportunities to enhance communities, neighborhoods, and individuals affected by DOT programs, policies and activities, where permitted by law and consistent with the Executive Order, (3) considering alternatives to proposed programs, policies, and activities, where such alternatives would result in avoiding and/or minimizing disproportionately high and adverse human health or environmental impacts, consistent with the Executive Order, and (4) eliciting public involvement opportunities and considering the results thereof, including soliciting input from affected minority and low-income populations in considering alternatives."

In December 1998, the FHWA issued "FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" (DOT Order 6640.23) requiring the FHWA to implement the principles of the DOT Order 5610.2 and EO 12898 by incorporating environmental justice principles in all FHWA programs, policies and activities. The following definitions are provided therein: (1) "low-Income" means a household income at or below the Department of Health and Human Services poverty guidelines; (2) "low-income population" means any readily identifiable group of low-income persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed/transient persons who would be similarly affected by a proposed FHWA program, policy, or activity; (3) "adverse effects" means the totality of significant individual or cumulative human health or environmental effects, including interrelated social and economic effects, which may include, but are not limited to: bodily impairment, infirmity, illness or death; air, noise, and water pollution and soil contamination; destruction or disruption of man-made or natural resources; destruction or diminution of aesthetic values; destruction or disruption of community cohesion or a community's economic vitality; destruction or disruption of the availability of public and private facilities and services; vibration; adverse employment effects; displacement of persons, businesses, farms, or nonprofit organizations; increased traffic congestion, isolation, exclusion or separation of minority or low-income individuals within a given community or from the broader community; and the denial of, reduction in, or significant delay in the receipt of, benefits of FHWA programs, policies, or activities; (4) "disproportionately high and adverse effect on minority and low-Income populations" means an adverse effect that: (a) is predominately borne by a minority population and/or a low-income population; or (b) will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the nonminority population and/or non low-income population; and (5) "programs, policies, and/or activities" means all projects, programs, policies, and activities that affect human health or the environment, and that are undertaken, funded, or approved by FHWA. DOT and FHWA orders identify NEPA as an existing requirement, through which environmental justice should be considered for transportation projects with federal involvement.

As reported in the USEPA's "Opportunities to Improve Air Quality through Transportation Pricing Programs" (September 1997): "Minority groups are often disproportionately affected by the inequity of the current transportation system because they tend to represent a relatively large percentage of the lower income population. . .Tolls, fees and taxes will affect different income

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groups in different ways. Under a pricing scheme, those with high-income enjoy the benefits of less congested roads (e.g., shorter commutes) and may only need to eliminate 'discretionary' driving. . .While lower-income individuals tend to drive (and park) less than higher-income individuals, transportation pricing measures such as tolls, fees, and taxes have a greater impact for low-income groups if they do have to pay them. Low-income people may be forced to forgo 'necessary' trips. Those most likely to be hurt are those who are employed in 9-to-5 jobs with inflexible schedules" (pp. 83-85).

The Urban Land Institute, in "Moving Cooler: An Analysis of Transportation Strategies for Reducing Greenhouse Gas Emissions" (July 2009) notes that "'[l]ower income groups spend as much as four times more than higher income groups of their income on transportation" (Executive Summary, p. 8).

As indicated in Caltrans' "California Transportation Plan 2025," in relationship to transportation, "social equity" is defined as "ensuring that no group receives disproportionate burdens or benefits from transportation investment decisions" (pp. 4 and A-50). However, as noted in the DEIR/S, "Alternative 3 would allow motorists to choose between congestion in the GP lanes and high-speed travel with reliable trip time in the Express Lanes in exchange for payment of a toll" (Table 3.1.1-1, p. 3.1.1-30). As a result, under Alternative 3 a disparity is created. "High-speed travel" and "reliable trip time" shall only be available to those "groups" (e.g., economically advantaged) able to pay the toll. Conversely, those groups (e.g., economically disadvantaged) unable to pay the toll shall only receive "congestion." 266

In acknowledging the potentially significant environmental justice impacts resulting from the implementation of "I-10 and I-110 High Occupancy Toll lanes for the LA County Congestion Reduction Demonstration Project," the LACMTA, as a responsible agency under CEQA, deemed the mitigation measures contained in "Final Environmental Impact Report/Environmental Assessment with Finding of No Significant Impact – The Interstate 10 (San Bernardino Freeway/El Monte Busway) High Occupancy Toll Lanes Project, SCH No. 2009061060" (April 2010) and "Final Environmental Impact Report/Environmental Assessment with Finding of No Significant Impact – The Interstate 110 (Harbor Freeway/Transitway) High Occupancy Toll Lanes Project, SCH No. 2009061059" (April 2010) to be inadequate and adopted the following additional "mitigation measures": (1) "All revenue generated as a result of collecting tolls from SOV will be reinvested into the corridor where generated. This includes transit services and operations and maintenance of the facility"; (2) "As a part of the project's operational plan, LACMTA will offer a toll credit in the form of a Low-Income Commuter Discount that will credit the accounts of qualifying low-income households $25 for account set-up/establishment fees that can be applied to the transponder deposit or pre-paid toll balance, and waive the monthly non-use fee for qualifying low income households"; and (3) "Throughout project construction, coordination will occur with local emergency providers to keep them informed of the project construction schedule and any detour routes so as to avoid or minimize any impacts to emergency service response time" (Ad Hoc Congestion Pricing Committee, I-10 and I-110 Hot Lanes California Environmental Quality Act Findings of Responsible Agency, July 14, 2010, pp. 1-2). Although the long-term effectiveness and consequences of these measures remains uncertain, the LACMTA's acknowledgement of the existence of potentially significant environmental justice impacts on proximal HOT lane projects in the southern California area suggests a disparity in the manner in which like-kind projects are assessed and evaluated. 267

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8.5 Other Considerations

Federal transportation programs are currently funded under SAFETEA-LU, as enacted in August 2005. It is the City's understanding that the current federal transportation funding bill is set to expire on June 30, 2012. In response, federal lawmakers are presently discussing the prospects of new legislation that could potentially affect the environmental review of many highway, bridge and other surface transportation projects. The United States House of Representatives (House) and United States Senate (Senate) passed differing transportation bills earlier this year and has appointed a committee of legislators to reconcile the differences between those two bills.

House Resolution (H.R.) 4338 contains a series of provisions intended to streamline and reduce the review of transportation infrastructure projects under NEPA. In its declaration of policy, the legislation states: "[I]t is in the national interest to expedite the delivery of surface transportation projects by substantially reducing the average length of the environmental review process" (Section 602). The bill provides that if NEPA review is not completed with 270 days of the notice of project initiation, "the project shall be considered to have no significant impact to the human environment for purposes of the National Environmental Policy Act" (Section 618). The bill further limits the alternatives required to be considered for transportation projects and states that federal funding of less than $10,000,000, or less than 15 percent of a transportation project's anticipated costs, shall not trigger NEPA review (Section 608). The bill would authorizes certain pre-construction activities prior to the completion of the NEPA process. Based on the significant and potentially significant impacts of the proposed action, implementation of any blanket timeframe should not be deemed to be retroactive to this project. Because of its potential project-specific significant, the Lead Agency should discuss the potential impact of this proposed legislation (or subsequent versions thereon) on the proposed project. 268

Similarly, although Senate Bill 1813 does not include the same broad changes to CEQA, it would require agencies with permitting authority over transportation projects to render decisions within 180 days of a completed application or the lead agency's final determination under NEPA, whichever is later (Section 1313[6]). Agencies that miss that deadline could be required to pay penalty fees to the agency charged with rendering an ultimate decision on the underlying project (Ibid.). Like the House bill would authorizes certain pre-construction activities prior to the completion of the NEPA process. Because of its potential project-specific significant, the Lead Agency should discuss the potential impact of this proposed legislation (or subsequent versions thereon) on the proposed project. 269

As reported in a report prepared by the Brookings Institute and University of California Berkeley, entitled "The Effect of Government Highway Spending on Road Users' Congestion Costs, Final Report to the Federal Highway Administration" (October 2004), the authors (Clifford Winston and Ashley Langer) concluded:

> [W]e estimate that one dollar of highway spending in the last year of our sample, 1996, reduced motorists' congestion costs only 3.3 cents in that year (2000 dollars). Note that this benefit is not an ongoing return, but only applies to the year in which spending occurred.17 Although highway spending serves many purposes, policymakers frequently cite reducing congestion as among the most important. Thus, our estimate seriously questions the cost-effectiveness of current spending priorities if policymakers wish to achieve this goal. As noted, we did not include several variables

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in the model that affected congestion costs but were arguably affected to some extent by highway spending. If we included any of these variables in the model, the effect of highway spending on congestion costs would be even lower (pp. 13-14).

9.0 DRAFT ENVIRONMENTAL IMPACT REPORT/STATEMENT

The following comments are presented in response to statements and other information presented in specific sections of the DEIR/S. For the purpose of brevity, comments which have been previously raised by the City with regards to the Lead Agency's environmental analysis are not again repeated herein. Time and other constraints have prevented the City from reviewing the totality of the DEIR/S to a similar degree. As a result, the comments presented herein primarily focus on certain topical issues deemed by the City to have the greatest potential environmental effect. The City's independent election not to reference and describe some of the project's potential impacts and document's potential defects (e.g., discussion of redevelopment agencies and agency plans when redevelopment agency activities have ceased in California) should not be construed as Seal Beach's concurrence with the information and analysis presented therein. The City reserves the right to submit additional comments concerning the proposed action and its potential environmental impacts and to avail itself of other relevant comments as may be submitted to the Lead Agency by other stakeholders.

The City believes that there may exist some confusion as to where, how, and to which agency and/or entity written comments on the DEIR/S should be submitted. For example, the front matter of the document identifies Caltrans' address as "3347 Michelson Drive, Suite 100, Irvine, CA 92612-1692" but states that "comments via postal mail" shall be delivered to "2201 Dupont Drive, Irvine, CA 92612." In contrast, "comments via email" shall be sent not to Caltrans but to "404.dedcomments.Parsons@parsons.com." Since "Parsons" is neither a governmental agency nor appears to be contracted directly by the Lead Agency, it is unclear why comments would be delivered to a representative of the "project sponsor" rather than delivery to the Lead Agency. Because of this confusion, the City requests that the Lead Agency accept any written comments received within a reasonable time period extending beyond July 17, 2012 that may have been delivered to Caltrans, to the OCTA, and/or to Parsons, including those that may have been transmitted to addresses other than those specified. In addition, an explanation is requested as to why the Lead Agency is specifying that comments should be delivered to "Parsons" in lieu of Caltrans and what role "Parsons" will play or has played in the preparation of responses to those comments. **270**

9.1 Traffic and Transportation/Pedestrian and Bicycle Facilities

9.1.1 Traffic Study

The following additional comments are submitted in response to the information presented in the "Traffic Study – San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties" (Caltrans, May 2011). Because there is no reference to or discussion of SOVs in the Traffic Study, potential capacity and other traffic-related impacts related to or resulting from the use of the HOV lane by single-occupant vehicles has not been addressed. As a result, the traffic analysis does not adequately address the proposed action.

- **Page ES-3** (Traffic Study). A basis of the traffic study is throughput, which is "the number of vehicles able to pass a fixed point along the corridor during the greatest hour of demand." This analysis approach focuses on vehicles passing particular points on the

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freeway but ignores a more critical measure of a transportation improvement, movement of person trips, particularly given the region's overburdened transportation system. Vehicle throughput does not provide complete disclosure of transportation impacts and mitigations (e.g., accommodation of added SOVs can actually result in impacts to the overall transportation system by reducing overall mobility). The Lead Agency's focus on throughput analysis results in a failure to consider other related transportation and environmental impacts. **271**

- **Page ES-4** (Traffic Study). Figure ES-2 shows added "throughput capacity" for Alternative 3 but the "express lanes" will likely cause MOVs to be exchanged for SOVs. Given the portion of "throughput capacity" associated with the "2 Express" lanes (as shown in Figure ES-2), there may be significant shifts from MOVs to SOVs, resulting in a net decrease in mobility, and an overall increase in environmental impacts (e.g., increased air quality impacts, reductions in the number of persons being served even though added vehicles are being accommodated, added traffic impacts to other areas caused by former carpool travelers now driving alone). **272**

  As indicated in the FHWA's "Consideration for High Occupancy Vehicle Lane to High Occupancy Toll Lane Conversion Guidebook" (June 2007) (HOV2HOT Conversion Guidebook), "[i]t is critical to fully understand the impact of creating added capacity to HOV lanes and potentially creating unexpected, new congestion hot spots" (p. 6-2).

  For Alternative 3 when toll lanes take the place of existing free HOV lanes there is the potential for drivers who are now carpooling to change their driving patterns to SOVs to avoid the added toll costs and congestion in the GP lanes. Alternative 3, therefore, has the potential to cause increased traffic impacts to routes (including arterial travel routes) other than the I-405 Freeway. The number of vehicles traveling other parallel routes could be significant. If added SOVs are added to the arterial roadways due to Alternative 3, those vehicles, not previously on the street system would also result in added noise and air quality impacts.

The Traffic Study contains numerous inconsistencies, resulting in the presentation of inaccurate information and analyses in the DEIR/S. For example:

- **Page 2.1-3** (Traffic Study). The study indicates that "zero flow rate occurs. . .when density becomes so high that all vehicles must stop – the speed is zero and the flow rate is zero. . .vehicles cannot pass a point on the roadway." Yet, in Table 2.3.1, (Existing [2009] I-405 Mainline Peak Hour Level of Service), LOS "F" conditions result in extremely large traffic volumes that exceed "capacity" but, based on the accompanying discussion (p. 2.1-3), the traffic volumes (passing a point) should be extremely low. The high traffic volumes indicated for the LOS "F" locations (shown in Table 2.3.1) must be erroneous since bumper-to-bumper traffic would allow very few cars to pass a particular point during a one-hour period (since they are stopped and their speeds approach zero).

  The Traffic Study indicates the "Highway Capacity Manual" (HCM) was used to analyze the traffic conditions. That methodology is not, however, reliable for freeway breakdown (LOS "F") conditions. As a result, the methodology employed in the Traffic Study was improper for the traffic conditions encountered throughout the study area. A more sophisticated analysis methodology should have been utilized so that an adequate analysis (and full disclosure) of traffic-related impacts can have been provided. For **273**

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example, some type of traffic simulation procedure is needed to correctly identify the traffic impacts. **273**

- **Page 2.1-9** (Traffic Study). The Traffic Study indicates that analyses for freeway ramps and ramp-freeway junctions were performed under both "constrained" and "unconstrained" mainline freeway conditions. The ramp analysis tables (Table 2.4.5, p. 2.4-20), however, show the same traffic volumes for both constrained and unconstrained conditions. Additionally, different densities are indicated; however, pursuant to the Traffic Study, this is not possible since the traffic flows would change as a function of density variations (Figure 2.1.1, p 2.1-4).

  It does not appear the effects of ramp metering have been included in the traffic evaluations. Ramp metering assumptions and evaluations would be critical to every aspect of the traffic analyses. Current ramp meter effects, including reasonable assumptions of future ramp meter conditions, must be incorporated throughout the Traffic Study, including (but not limited to) the analyses for the mainline freeway, the ramp merge points, the ramp intersections, queuing on the ramps, the ramp traffic volumes, and freeway mainline traffic volumes. Given the overburdened transportation systems (freeways, arterials, and other modes of transportation) ramp meter assumptions will have a "ripple effect" through the surrounding areas. Many of those effects were not analyzed in the Traffic Study. **274**

Each project alternatives would be expected to generate unique transportation travel patterns within and surrounding the study areas. The project's alternative improvements (e.g., on the I-405 Freeway mainline), therefore, would create differing levels of congestion and cause people to make differing transportation choices (i.e., varying mode choices and travel patterns) causing differing traffic impacts for each of the build alternatives and affecting areas. For example: **275**

- **Page 2.1-5** (Traffic Study). The Traffic Study indicates that it is "important to note that while speed varies by alternative, it is only predictable as relative differences between alternatives."

  Since it can only predict "relative differences," it must be assumed that the analytical approach employed by the Lead Agency cannot provide accurate analyses of future traffic conditions. An analogy would be that a person believes they should not receive a ticket because they were going slower than another vehicle, however, if the driver was going 80 mph and the other vehicle 82 mph, the "relative differences" are meaningless.

  Is there an analysis methodology that could be used to more accurately assess future freeway mainline traffic and/or ramp traffic, operations? **276**

  Why is use of a "Speed Index" necessary? It appears that "Appendix A1" only serves to validate that the traffic on the study roadways follow typical traffic patterns, resulting in generalized conclusions. **277**

- **Page 2.2-3** (Traffic Study). The Traffic Study indicates that "a single demand forecast was prepared. Forecasts for each of the alternatives utilize the same total traffic volumes on a segment." Traffic projections and associated analyses for each alternative are, therefore, not unique to each alternative, including the considerations of the unique area travel patterns that would be associated with each alternative. How could the **278**

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"same total traffic volumes" on the freeway segments result from significantly different improvement measures? **278**

If separate traffic model runs were used, the potential impacts (including beneficial impacts) on the surrounding areas could have been evaluated. Why were separate traffic model runs not prepared for each project alternative condition? **279**

Having one traffic model run serve to translate everything to a very narrow perspective, namely moving a given number of vehicles through one section on one travel route. From an environmental perspective this approaches results in the impacts on other areas, outside this project corridor, to be ignored. This approach further serves to unreasonably limit the discussion and analysis whether other alternatives could be formulated which would not only benefit the project freeway sections but also benefit the surrounding areas by focusing on the movement of people throughout various corridors (rather than the movement of vehicles through one freeway section).

The HCM contains various statements which indicate that the HCM's specified procedures are inadequate and inappropriate for analysis of the proposed action. For example, the HCM includes (but is not limited to) the following examples:

- **Page 22-1** (HCM). The "Scope of the Methodology" presented in Chapter 22 deals with "freeway facilities." As indicated therein, "[f]ree-flow conditions must exist at the upstream and downstream ends of the freeway facility" for the application of the HCM procedures. Since the project study area does not meet this requirement, the use of the HCM methodology is not valid for the project's alternatives (e.g., Traffic Study, Table 2.3.1, pp. 2.3-6 and 7).

- **Page 22-1** (HCM). Under "Limitations of the Methodology," the HCM indicates that "[c]ertain freeway traffic conditions cannot easily be analyzed by the methodology," an example being multiple overlapping bottlenecks. The HCM states that other tools may be more appropriate (e.g., "Refer to Part V of this manual for a discussion of simulation and other models").

- **Page 22-1** (HCM). The procedures address only local oversaturated flow situations and not system-wide oversaturated flow conditions.

Caltrans' "Guide for the Preparation of Traffic Impact Studies" (December 2002) states that "[w]hen a State highway has saturated flows, the use of a micro-simulation model is encouraged for the analyses (please note however, the micro-simulation model must be calibrated and validated for reliable results)" (p. 5). As a result, reliance upon the HCM methodology is both problematic and likely to lead to erroneous results. **280**

9.1.2 Major Investment Study

The MIS Study reveals failure to provide adequate environmental analyses and information from the outset, in part due to erroneous study parameters. The MIS evaluations are inadequate for reasons that include, but are not limited to, the following:

- The study corridor has been limited to a relatively narrow area and short section of the I-405 Freeway that currently experiences significant traffic impacts. By narrowing the

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study corridor to, essentially, this one section of one freeway, it eliminates the possibility of identifying more dynamic and environmentally sensitive solutions. The causes of the traffic impacts (e.g., congestion) obviously extended to a regional level but the alternatives (and mitigation measures) are severely constrained to this one study area. **281**

- Only 13 alternative solutions were considered. The more salient point, however, rather than the number of alternatives are the types of solutions considered. The multitude of environmental documents indicates the area's traffic problems are caused by regional and subregional (County) transportation needs, yet no regional or subregional solutions are considered. Essentially the project alternatives have been predetermined to exist only within the narrow study corridor. Conversely, the solutions to those problems require a regional or subregional approach. There is no evidence that any serious considerations were given to the formulation of broader solutions. **282**

- The approach taken in the MIS could be compared to the invention of the airplane, then only driving it on the ground, making the case it can travel at increased speeds and carry more passengers. While those arguments would be true, the more important factor (i.e., airplanes can fly) is completely ignored. The MIS makes a similar oversight due to its self-limiting approach (i.e., to consider only increased capacity along this section of the I-405 Freeway). In order to provide complete and thorough analyses of environmentally sensitive solutions, alternative solutions must include projects beyond the current study area.

- There is significant information provided in the environmental documents regarding the increased sophistication of the available traffic models. The analyses procedure is essentially backwards in the MIS, namely potential alternatives are selected, then tested by the model. The model needs to be utilized to first analyze the problem and then solutions developed by testing multitudes of complex scenarios. Utilization of an antiquated approach of guessing a solution then using the model to justify the "best" of the limited alternatives only serves to produce short-sighted solutions. The current problems and impacts are complex and require full use of the available tools, otherwise full environmental disclosure is not possible.

9.2 Air Quality

9.2.1 Draft Environmental Impact Report/Statement

The following additional comments are submitted in response to the information presented in Section 3.2.6 (Air Quality) in the DEIR/S.

- **Page 3.2.6-10**. The analysis makes use of the North Coastal (SRA 18) monitoring data and supplements this with the Saddleback (SRA 19) monitoring data for particulate matter (PM). Basically, the entirety of the project represents the dividing line between the North Coastal (SRA 18) and Central Orange County (SRA 17) monitoring areas and the analysis is remiss in not providing the Central Orange County data, especially in that these data do include both PM_{10} and $PM_{2.5}$ that are lacking in the North Coastal data set. Furthermore, because the general wind direction is characterized by an on-shore flow pattern, emissions generated along the length of the corridor are more apt to be carried to the north into SRA 17. As such, these data should also be presented and, where **283**

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applicable, these background concentrations used to present a reasonable worst-case scenario in the air quality analysis. **2835**

- **Page 3.2.6-12** (Table 3.2.6-3). Only 2007-2009 data has been presented. The 2010 data set is available and the analysis should be updated to include the most current data for the applicable receptor areas. **284**

- **Page 3.2.6-12**. In accordance with the SCAQMD, the Lead Agency's definition of "sensitive receptors" does not go far enough so many are excluded from the analysis. According to the SCAQMD's "Final Localized Significance Threshold Methodology" (Methodology) (June 2003, Revised July 2008), the SCAQMD notes "receptor locations" as "off-site locations where persons may be exposed to the emissions from project activities. Receptor locations include residential, commercial and industrial land use areas; and any other areas where persons can be situated for an hour or longer at a time" (p. 3-2). As further indicated therein, "[f]or the purposes of CEQA analysis, the SCAQMD considers a sensitive receptor to be to be [sic] a receptor such as residence, hospital, convalescent facility were [sic] it is possible that an individual could remain for 24 hours. Commercial and industrial facilities are not included in the definition of sensitive receptor because employees do not typically remain onsite for a full 24 hours, but are present for shorter periods of time, such as eight hours" (ibid.).

  Applying a 24-hour standard for particulates to these uses is not appropriate because, according to the SCAQMD's definition, a "sensitive receptor" would need to be present at the location for the full 24-hour period; however, because CO emissions are based on 1- and 8-hour standards, the ambient air quality standards would apply and the analysis is remiss for not including proximate commercial and, where appropriate, industrial uses in the CO analysis. **285**

- **Page 3.2.6-22**. EMFAC2007 has now been replaced with EMFAC2011 and the analysis should be redone using the most current model available. **286**

- **Page 3.2.6-29** (Table 3.2.6-8). The air quality analysis fails to include the "localized significance" analysis necessary for the construction and operation of the project. Based on the data included in the analysis, however, it can be concluded that the proposed action will result in significant localized construction impacts and present the following information to document this conclusion. **287**

  The analysis specifically notes that grading activities will be limited to no more than 4.5 acres per day (p. 3.2.6-27). The analysis also notes that, including the proposed dust suppression; this construction would result in 139 pounds per day for PM_{10} and 31 pounds per day for $PM_{2.5}$ (Table 3.2.6-8, p. 3.2.6-29). The SCAQMD screening tables for localized Impacts for a 5-acre construction site located in the Saddleback Valley area (as was used in the analysis) notes that PM_{10} would present a significant impact is just 12 pounds were produced per day with receptors located at 25 meters. Based on 4.5 acres of disturbance, the impacts associated with 139 pounds of PM_{10} per day would be significant out to 500 meters. With respect to $PM_{2.5}$, a 5-acre construction site in Saddleback Valley would be significant at just 8 pounds per day with receptors at 25 meters. A value of 31 pounds per day on a 4.5-acre site would be significant to beyond 200 meters. **288**

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As illustrated in Figure 2-1 (Sensitive Receptor Locations) in the AQR (p. 39) and Figure 3.2.6-3 in the DEIR/S (p. 3.2.6-13), which illustrates "sensitive receptors within 500 ft of the ROW" (p. 3.2.6-12), numerous "sensitive receptors" are located in Seal Beach directly adjacent to or in close proximity to the I-405 Freeway. Since there are many sensitive receptors located within these "localized significance" threshold distances, construction-term impacts would be deemed significant for both PM_{10} and $PM_{2.5}$. **289**

The DEIR/S, therefore, erroneously concludes that: (1) "Construction emissions would be temporary and not result in any long-term impacts; therefore, Alternative 2 would not result in an adverse impact related to construction emissions" (p. 3.2.6-29); and (3) "Construction emissions would be temporary and not result in any long-term impacts; therefore, Alternative 3 would not result in an adverse impact related to construction emissions" (p. 3.2.6-30). The presence of significant construction-term air quality impacts were not previously disclosed in the DEIR/S. **290**

- **Page 3.2.6-29** (Table 3.2.6-8). With regards to projected daily construction emissions, the table shows 106 pounds per day for NOx. The SCAQMD CEQA construction threshold for NOx is 100 pounds per day. Since the 106 pounds/day projections exceeds the SCAQMD threshold, the resulting impact is significant impact and must be so noted. Contrary to CEQA, no mitigation has been proposed for this significant impact.

  In addition, the DEIR/S notes that construction results in 1.2 tons per acre per month for soil disturbance (p. 3.2.6-28). Based on 22 workdays per month, this results in about 110 pounds per day per acre. Using a Lead Agency's own cited control efficiency of 50 percent for site watering (p. 3.2.6-28), soil disturbance is projected to result in 55 pounds per day per acre. Based on a maximum of 4.5 acres disturbed per day (p. 3.2.6-27), PM_{10} emissions would be 194 pounds per day based on the following calculations:

  4.5 acres per day x 55 pounds per acre per day = 245 pounds per day for PM_{10}.

  Even if 61% control efficiency is used as was used in the table:
  110 pounds per acre per day x (1 – 0.61) = 43 pounds per acre per day
  4.5 acres per day x 43 pounds per acre per day = 194 pounds per day for PM_{10}

  These values are well above the 139 pounds per day presented in the table and also in excess of SCAQMD's 150 pound/day CEQA threshold, thus resulting in a previously undisclosed significant air quality impact for both Alternative 2 and Alternative 3. **291**

- **Page 3.2.6-33** (Table 3.2.6-9 and Table 3.2.6-10). While the analyses include local intersections, they fails to include a "link" analysis for the freeway itself and those receptors located proximate thereto. Furthermore, the analysis fails to include the contribution of the CO emissions from the freeway at the local intersections. **292**

- **Page 3.2.6-38**. The text states that "[i]t was determined that the inland Anaheim Monitoring Station meteorological conditions do not accurately represent the project area." Because the I-405 Freeway serves as the border between the Costa Mesa and Anaheim areas and because the majority of the emissions will manifest themselves in the Anaheim area, what is the source and factual basis of that "determination"? **293**

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- **Page 3.2.6-38**. The analysis of respirable particulate matter is based on "the recorded period of 2000 to 2009" (p. 3.2.6-38). Since Year 2010 data are available, the analysis needs to be revise accordingly. **294**

- **Page 3.2.6-41**. The text states "Tables 3.2.6-5 through 3.2.6-7 present emissions, including PM_{10} and $PM_{2.5}$, from vehicles traveling along the project corridor for the years 2009, 2020, and 2040 (i.e., existing, opening, and design years, respectively). Estimates of PM_{10} and $PM_{2.5}$ emissions for opening, and horizon years show that project implementation would not generate significant additional daily emissions" (p. 3.2.6-41).

  Under CEQA, the project must be compared with the "existing setting." Under the existing setting, $PM_{2.5}$ and PM_{10} are projected at 258 and 426 pound per day, respectively (Table 3.2.6-5, p. 3.2.6-24). Under Alternative 1, the proposed action would result in 508 and 559 pounds per day, respectively (Table 3.2.6-6, p. 3.2.6-25). These then represent increases of 250 and 133 pounds per day, for $PM_{2.5}$ and PM_{10}, respectively. The SCAQMD's significance threshold (i.e., adding to an existing violation) for these operational emissions is 2.5 $\mu g/m^3$. The analysis simply dismisses this threshold and makes no attempt to determine its potential relevancy to the proposed action. **295** **296**

The following additional comments are submitted in response to the information presented in Chapter 4.0 (California Environmental Quality Act Evaluation) in the DEIR/S.

- **Page 4-5**. The analysis bases the impact on the future "no build" versus future "build" and finds no significant impacts. Under CEQA, however, the analysis must compare the future "build" versus the "existing" volumes of traffic. When this is done, the project shows a significant impact for $PM_{2.5}$ (the addition of 354 pounds per day versus 55 pounds per day threshold) and PM_{10} (the addition of 243 pounds per day versus a 150 pound per day threshold). **297**

- **Page 4-6**. Contrary to the text, the analysis indicates that NOx would exceed the SCAQMD's daily threshold, thus resulting in a significant construction impact. However, the analysis fails to identify the SCAQMD threshold values or compare the project to these values. Furthermore, the analysis fails to consider the SCAQMD's localized threshold limitations. The analysis, therefore, needs to be redone relative to SCAQMD's CEQA thresholds for mass daily emissions and localized concentration levels. When this is done, the resulting impacts are significant and remain unmitigable to less-than-significant level. **298**

- **Page 4-6**. The text states that the potential for increased particulate emissions associated with increases in average daily traffic (ADT) would be offset by projected increases in vehicle speed and would, therefore, not have a significant effect on proximal sensitive receptors. The analysis fails to state that much of the PM is generated as a result of re-entrained road dust. Contrary to the text, this value increases with speed. While emissions decrease with increased speed, this is only to a certain point and further increases in speed result in increased emissions due to increased vehicle, road, and air friction.

- **Page 4-7**. Contrary to the text, the analysis has failed to conduct the "localized significance analysis" as required by the SCAQMD. Because construction emissions

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have been demonstrated to exceed threshold values for PM, the project would be expected to expose sensitive receptors to substantial emissions concentrations.

9.2.2 Appendix J (Air Quality)

The following additional comments are submitted in response to the information presented in Appendix J (Air Quality) in the DEIR/S.

- **Page 3.1-5.** With regards to the EPA's "Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas" (December 2010) (Conformity Guidance), citing the Transportation Conformity Working Group of the Southern California Association of Governments January 25, 2011 minutes, the DEIR/S notes: "Update on EPA's Quantitative PM Hot-Spot Guidance: The FR [Federal Register] notice starting the grace period was published on December 20th and the final guidance was posted on the EPA, OTAQ web site. The grace period ends on December 20th, 2012" (p. 3.1-5).

  In accordance with the Conformity Guidance, a "[q]uantitative PM hot-spot analyses will be required at the end of the conformity grace period for applying motor vehicle emissions models for such analysis. . A hot-spot analysis is defined in 40 CFR 93.101 as an estimate of likely future localized pollutant concentrations and a comparison of those concentration to the relevant NAAQS [National Ambient Air Quality Standards]. A hot-spot analysis assesses the air quality impacts on a scale smaller than an entire nonattainment or maintenance area, including, for example, congested highways or transit terminals. Such an analysis of the area substantially affected by the project demonstrates that CAA [Clean Air Act] conformity requirements are met for the relevant NAAQS in the 'project area.' When a hot-spot analysis is required, it is included within a project-level conformity determination" (emphasis added) (p. 2). **299**

  As noted in Table S-3 (Project Schedule) in the DEIR/S, the "Record of Decision" (ROD) for the proposed action is not scheduled until "Spring 2014" (p. S-6) and "[s]ubsequent to circulation of the DEIR/EIS and selection of the preferred alternative, an Air Quality Conformity Analysis will be prepared and submitted to FHWA" (p. 3.2.6-21).

  The AQR notes that "[a] qualitative particulate matter hotspot analysis was completed that concluded that the proposed project would not cause new or delay timely attainment of the National Ambient Air Quality Standards" (emphasis added) (p. 1) and that, based on that analysis, "[t]he proposed project would be consistent with transportation conformity requirements" (p. 2). It appears that the "chicken is cooked and in the pot" (e.g., "Alternative 3 is not consistent with the current RTP or FTIP. OCTA is currently pursing revisions to both documents. This will be completed prior to the Final EIR/EIS, which will include the revised description and reference to the conforming documents," DEIR/S, p. S-13).

  As required under CEQ's "Considering Cumulative Effects under the National Environmental Policy Act" (January 1997), "decisions must be supported by the best analysis based on the best data we have or are able to collect" (p. 3) and include "rigorous analyses" (p. 46). While acknowledging that the Lead Agency has a "grace period" extending until December 2012, as a public agency for a regionally significant project, because the USEPA's guidance document was release well in advance of the

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performance of the air quality analysis, because the final CEQA and NEPA document may not be certified until after December 2012, because construction is not scheduled to commence prior to 2015, and because a conformity determination must be conducted, Caltrans has a responsibility (to its constituents and stakeholders) to provide the "best" information it can. In this case, that would include a quantitative analysis of projected PM_{10} and $PM_{2.5}$ emissions conducted in accordance with the USEPA's guidelines rather than to simply "opt out" based solely on a technicality. **300**

9.2.3 Air Quality Report

The following additional comments are submitted in response to the information presented in the "Air Quality Report - San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties" (Caltrans, May 2011).

- **Appendix C** (Regional Construction Emissions). The model run show a project length of just 14 miles; however, the project description states that the project is 16 miles. It is, therefore, possible that the model underestimates construction impacts by approximately 14.3 percent. **301**

- **Appendix F** (CO Hotspot Analysis). The model runs show that the modeling was performed incorrectly. The analysis gives each direction of traffic (i.e., N, S, E, and W) an "approach volume," a "departure volume," and a "turning volume." This is incorrect and under-predicts these emissions. In accordance with Caltrans' "Transportation Project-Level Carbon Monoxide Protocol" (revised December 1997) (CO Protocol), each direction should have an "external approach volume," an "approach volume," (accompanied by a lower speed and higher emissions), a "departure volume" (accompanied by a lower speed and higher emissions), an "external departure volume," and a "turning volume." According to the CO Protocol (Figure B.2), each "external approach" and "external departure" distance is to be 600 meters. The "approach" and "departure" distances are each to be 150 meters. As such, the entire analysis covers a distance of 1,500 meters for each lane. The analysis under-predicts emissions because it considers a lesser distance (i.e., 1,000 meters versus the requisite 1,500 meters per lane) and does not consider that the vehicles slow and accelerate leading to higher emissions proximate to the intersection. **302**

9.3 Noise

Pursuant to 23 C.F.R. 772, the proposed action constitutes a "Type I project" in that it proposes the addition of one or more: (1) through-traffic lanes that function as a high-occupancy vehicle lane, high-occupancy toll lane, bus lane, or truck climbing lane; or (2) auxiliary lanes, except for when the auxiliary lane is a turn lane; or (3) interchange lanes or ramps. If any component of a proposed project is determined to be a Type I project, as defined in the environmental document, the entire project area constitutes a Type I project.

9.3.1 Draft Environmental Impact Report/Statement

The following additional comments are submitted in response to the information presented in Section 3.2.7 (Noise) in the DEIR/S.

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While discussion of FHWA requirements may satisfy the NEPA requirement, under a joint CEQA/NEPA document the analysis must also look at impacts based on local standards. The CEQA Checklist inquires: "Would the project result in exposure of persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?" As such, the analysis is deficient in that it does not discuss the standards of the various municipalities that the project lies within or how the proposed action potentially impacts those local standards at the local general plan and municipal code level. Similarly, while discussion of FHWA thresholds (including the use of peak hour traffic and a 12-dBA increase in noise) may satisfy the NEPA requirement, under a joint CEQA/NEPA document, the analysis must also look at threshold levels, including the 24-hour CNEL (as opposed to just peak hour noise), and any substantial increase (e.g., 3 dBA) imposed at the local level. **303**

In many places the analysis notes that while a sound wall could mitigate the noise impact, it is not considered because it does not meet Caltrans' cost/benefit margin. Under CEQA, if feasible, mitigation cannot be rejected based only on cost considerations. Additionally, in many places the analysis notes that while a sound wall could mitigate the noise impact, but could not achieve 5 dBA of noise reduction and is, therefore, not considered as feasible. Under CEQA, if the impact is significant, mitigation must be provided to the extent feasible, even if it does not meet some performance standard. **304**

As indicated in the NSR, Caltrans' "Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects" (Protocol) "defines a noise increase as substantial when the predicted noise levels with project implementation exceed existing noise levels by 12 dB" (p. 19). Independent of that Protocol, a sound wall is generally "acoustically feasible" if it attains a decrease of 5 dBA (e.g., "Noise abatement is considered to be acoustically feasible if it provides noise reduction of at least 5-dB at receivers subject to noise impacts," NADR, p. 1); however, the impact would not be significant unless the noise increased by 12 dBA. As such, the residual noise could be 7-dBA above the ambient noise and, in accordance with the methodology presented, would be considered mitigated and/or less than significant. As a result, based on the continued fragmentation of improvement projects into short-term horizons, each separate project could produce a 12 dBA increase over then existing noise levels but never be deemed significant. Conversely, under CEQA (although the Department seeks to avoid its application), if this 7-dBA increase remains above that prescribed for a significant increase at the local level, the measure would be considered ineffective and the resulting impact would remain significant. **305**

- **Page 3.2.7-4.** While the text notes that these readings were 24-hours in duration, the data does not support this statement. For example, the reading at 3077 Yukon Avenues (reported to be a 24-hour reading) actually ran from 10:50 AM to 9:53 AM the following morning. Thus, the measurement failed to cover the 10:51 to 9.52 AM period, as is shown in the technical study. **306**

- **Page 3.2.7-9.** The text states: "With consideration of the acoustic benefit and the incremental cost, Sound wall S708 is recommended" (emphasis added) (p. 3.2.7-9). The analysis carries similar "recommendations" throughout the text. Under CEQA, mitigation measures are not merely "recommendations" but are enforceable actions and binding obligations (see 14 CCR 15126.4[a][2]). **307**

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With regards to Soundwall S733, the text further states: "The estimated total construction cost of this soundwall is $112,000, which exceeds the reasonable allowance of $43,000. With consideration of the acoustic benefit and the incremental cost, construction of Sound wall S733 is not reasonable; therefore, it is not recommended" (p. 3.2.7-9). As a result, it is evident that the Lead Agency's decision to install, fortify, or replace a soundwall is not related to the quantifiable acoustical impact of the proposed action but the cost of the wall required to reduce project-related noise to affected receptors. The Department seeks to assert that its obligations to avoid, minimize, or mitigate the impacts of its actions under CEQA and NEPA are limited to a predetermined cost-benefit ratio above which it has no obligation. That approach is not consistent with CEQA. **307**

As stipulated under Section 15126.4(a)(3) of the State CEQA Guidelines, mitigation measures are not required for effects which are not found to be significant. It is, therefore, the Lead Agency's significant determination rather than cost considerations that determine whether mitigation needs to be incorporated.

- **Page 3.2.7-43.** The analysis fails to quantify the impacts of construction noise or provide a discussion of the projected levels at proximate receptor locations. The analysis never concludes whether construction noise impacts are significant but nevertheless imposes mitigation. In addition, the analysis never discloses as to whether the mitigation reduces the impact to a less-than-significant level. **308**

The following additional comments are submitted in response to the information presented in Chapter 4.0 (California Environmental Quality Act Evaluation) in the DEIR/S.

- **Page 4-12.** The text states that temporary noise impacts are to be anticipated. However, the text never establishes the criteria to determine if the impacts are significant or less than significant. The analysis then requires measures in order to minimize noise, stating that those measures would reduce noise to a less-than-significant level. The impact must be held to some quantitative standard and the impact reassessed after application of the mitigation to determine if it is then less than significant. **309**

- **Page 4-12.** The text notes that a change of 5 dBA is considered as the minimum perceptible change in noise levels. However, the NSR states that "it is widely accepted that people are able to begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5 dB increase is generally perceived as a distinctly noticeable increase and a 10 dB increase is generally perceived as a doubling of loudness. Therefore, a doubling of sound energy (e.g., doubling the volume of traffic on a highway) that would result in a 3 dB increase in sound, would generally be perceived as detectable by the average person" (p. 14). **310**

The I-405 Freeway passes through a number of municipalities having their own definition of perceptibility and/or significant change. The Seal Beach General Plan (Noise Element) notes that "[a] 3-dBA increase in noise levels is often noticeable to residents." With regards to a 3-dBA increase, the Noise Element further notes that "residents will perceive the noise as increasing significantly."

The CEQA Checklist inquires: "Would the project result in exposure of persons to or generate noise levels in excess of standards established in the local general plan or **311**

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noise ordinance, or applicable standards of other agencies?" As such, the analysis must address these impacts in accordance with local standards and thresholds.

- **Page 4-13**. The analysis notes that it includes the "recommended noise abatement" measures. Under CEQA, the analysis must be compiled showing the project as described. "Recommended measures" have no meaning or place in CEQA. If these are project "commitments," they must be noted as such and disclosed in the project description. If they are to be mitigation measures, then the analysis must first be compiled without them to assess the impact of the project. They are then imposed and the analysis redone with their inclusion to demonstrate their effectiveness and whether the residual impact remains significant

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9.3.2 Noise Abatement Decision Report

The following additional comments are submitted in response to the information presented in the "Noise Abatement Decision Report – San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties" (Caltrans, September 2011).

- **Soundwall S1162**. As indicated in the NSR: "Soundwall S1162 would be located at the edge of shoulder along the northbound side of I-405. It would provide abatement for the City of Seal Beach Tennis Court Center, an area that already experiences some noise reduction from a combination of an existing property wall and berm. The noise analysis indicates that a 5 dB noise reduction would only be achieved at one of the two modeled receivers positioned behind this barrier. Figures 22 and 23 in Appendix A1 show the minimum heights and location of Soundwall S1162 to achieve at least 5 dB noise reduction at this tennis facility" (p. 62). As indicated in Table 7-21 (Summary of Reasonableness Determination Data – Alternative 1 0 Soundwall S1162), a 12-foot or a 14-foot barrier would produce a 5 decibel (dB) noise reduction (p. 66). As indicated in the NADR, with regards to the area located between Valley View Street and Seal Beach Boulevard, the following information is presented regarding "Soundwall S1162":

  > Soundwall S1162 would be located at the edge of shoulder along the northbound side of I-405 and would extend an existing soundwall 700 feet to the north. The total construction cost of this wall is estimated to be from $225,000 which exceeds the reasonable allowance of $43,000. Figure 23 in Appendix A2 of NSR shows the height and length of Soundwall S1162 to provide feasible abatement. With consideration of the acoustic benefit and the incremental cost, the construction of Soundwall S1162 is not reasonable and therefore not recommended. However, this area is already partially protected by a 6-foot high private wall on top of a berm (p. 53).

  As illustrated on Figures 22 and 23 (February 23, 2011) in the NSR, Soundwall S1162 is located in the vicinity of the Seal Beach Tennis Center, extending from the parking area located on the west side of that facility to Aster Street. As indicated by the above excerpt, although the Lead Agency acknowledges the tennis center as a "sensitive receptor" (e.g., AQR, Figure 2-1, p. 39; DEIR/S, Figure 3.2.6-3, p. 3.2.6-13), no additional sound attenuation is being proposed in that area. As a result, although a perceptible 5 dB noise reduction could be achieved, Caltrans does not believe the expenditure to be justified.

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Presented in Table 17 (Noise Abatement Information [Alternative 3]) is information extracted from Table 3 (Noise Abatement Information [Alt-3]) in the NADR. The City believes that rejecting alternatives and/or an avoidance, minimization, or mitigation measure based on cost considerations and/or a cost-benefit ratio is inconsistent with the Lead Agency's obligations under CEQA. If authorized, the Department may seek to apply a similar cost-benefit rational to the mitigation of GHG emissions and cancer deaths attributable to air pollutants.

Table 17
Noise Abatement Information (Alternative 3)

Noise Barrier No.	Height (feet)	Acoustically Feasible?	Number of Benefitting Residences	Total Reasonable Allowance	Estimated Construction Cost	Cost Less Than Allowance	Preliminary Noise Abatement Decision
S1116	18	No	N/A	N/A	N/A	N/A	Replace In-Kind
S1132	18	No	N/A	N/A	N/A	N/A	Replace In-Kind
S1162	12	Yes	2	$90,000	$225,000	No	Not Reasonable

Source: California Department of Transportation, Noise Abatement Decision Report – San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties, September 2011, Table 15 (Noise Abatement Information [Alt-3]), unpaginated

Presented in Table 18 (Anticipated Major Retaining Wall Locations and Heights for All Alternatives) is information extracted from Table 11-2D (Anticipated Major Retaining Wall Locations and Heights for All Alternatives) in the VIA. Although Soundwall S1116 and S1132 are identified therein, there is no reference to Soundwall S1162. When considered in combination with Table 17 (Noise Abatement Information [Alternative 3]), the absence of any reference to Soundwall S1162 suggesting that the Department has no plans to modify, replace, or relocate that wall under any of the three build alternatives. Similarly, should Alternative 1 be selected, no modifications, replacement, or relocation activities affecting Soundwall S1116 and Soundwall S1132 would appear to be proposed.

As indicated in Table 18 (Anticipated Major Retaining Wall Locations and Heights for All Alternatives) above, should Alternative 2 be selected, no modifications, replacement, or relocation activities affecting Soundwall S1132 would appear to be proposed. That assumption would contradict the information presented in Table 17 (Noise Abatement Information [Alternative 3]) above which contains no similar stipulation. As such, it is not possible to clearly ascertain from the information presented in the DEIR/S what are the Department's actual plans for Soundwall S1116 and Soundwall S1132, including the Lead Agency's definition of "edge of shoulder" in the context of the existing location of those two soundwalls.

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The City seeks clarification from the Department as to the precise nature of all noise mitigation strategies being considered with Seal Beach, including more specificity as to the location and design of any new, modified, fortified, and/or replacement soundwalls, the rational for the rejection of any soundwall under consideration, the noise mitigation anticipated to result therefrom, any additional noise reduction resulting from a minor modification to wall height, the Departments post-construction monitoring plans to

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assess the actual mitigation resulting from these improvements, and any remedial actions that are proposed should the implemented measures fail to attain their projected efficacy. **314**

Table 18
Anticipated Major Retaining Wall Locations and Heights for All Alternatives

Sound Wall No.	Side of Freeway		Soundwall Location & Side of Highway	Alternative			Approx. Wall Height (feet)	Approx. Wall Length (feet)
	NB	SB		1	2	3		
S1116	X		Replaces an existing soundwall with the same height at the edge of shoulder along the NB mainline between Springdale and Seal Beach Dr.		X	X	18	470[2] 400[3]
S1132	X		Replaces and existing soundwall with the same height at the edge of shoulder along the NB mainline between Sprindale and Seal Beach Dr.			x	18	1553

Footnotes:
1. Alternative 1
2. Alternative 2
3. Alternative 3

Source: Visual Impact Assessment – San Diego Freeway (I-405) Improvement Project SR-73 to I-605, Orange and Los Angeles Counties" (Caltrans and Parsons, May 2011, Table 11-2D (Anticipated Major Retaining Wall Locations and Heights for All Alternatives), p. 125

- **Soundwalls S1132 and S1116**. As illustrated on Figures 21 and 22 (February 23, 2011) in the NSR, Soundwall S1132 extends from east of Aster Street to west of Jasmin Circle (east of Shapel Park) and Soundwall S1116 extends further eastward to Violet Street. Between Violet Street and the City boundaries, no soundwall is illustrated in the NSR. As indicated in Table 16 (Noise Abatement Information [Alternative 3]), extracted from Table 3 (Noise Abatement Information [Alt-3]) in the NADR, the Department proposes to replace both soundwalls "in-kind." No reference is made is to whether any portion of those soundwalls will be relocated from a location inset from the existing edge of Caltrans' ROW to a replacement location further to the north.

  The City seeks clarification from the Department as to Caltrans' current proposal with regards to Soundwalls S1132 and S1116, including additional information concerning whether those existing walls will be moved from their current locations and more specificity as to the design of those "in-kind" facilities, the timing of proposed demolition and construction, the anticipated length of the construction period, the projected timeframe when no or only partial soundwalls will be in place, and any short-term or long-term strategies to attenuate both construction and operational impacts at the affected residences. How would increases in wall height enhance noise mitigation (e.g., would a higher wall provide greater noise abatement)? **315**

10.0 RECIRCULATION/SUPPLEMENTATION REQUIRED

Section 21005(a) of CEQA states: "The Legislature finds and declares that it is the policy of the state that noncompliance with the information disclosure provisions of this division which precludes relevant information from being presented to the public agency, or noncompliance

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with substantive requirements of this division, may constitute a prejudicial abuse of discretion within the meaning of Sections 21168 and 21168.5, regardless of whether a different outcome would have resulted if the public agency had complied with those provisions." The courts have determined that "'[t]he failure to comply with the law subverts the purposes of CEQA if it omits material necessary to informed decisionmaking and informed public participation. Case law is clear that, in such cases, the error is prejudicial [Citations.]'" (Sunnyvale West Neighborhood Assn. v. City of Sunnyvale City Council [2010]. quoting County of Amador v. El Dorado County Water Agency (1999)

As indicated by the CEQ, should "a commentor point out an alternative which is not a variation of the proposal or of any alternative discussed in the draft impact statement, and is a reasonable alternative that warrants serious agency response," then the federal lead "agency must issue a supplement to the draft EIS that discusses this new alternative. . .If the permitting agency has failed to consider that approach in the Draft EIS, and the approach cannot be dismissed by the agency as unreasonable, a supplement to the Draft EIS, which discusses that alternative, must be prepared" (CEQ Question, Question 29b).

Pursuant to Section 15088.5 of the State CEQA Guidelines, a lead agency is required to recirculate a previously circulated EIR when "significant new information is added to the EIR" after release of the NOC but before certification. New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantive adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project proponents have declined to implement. "Significant new information requiring recirculation includes, but is not limited to, a disclosure that: (1) a new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented; (2) a substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance; (3) a feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project but the project's proponents decline to adopt it; and (4) the draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded."

Pursuant to Section 15151 of the State CEQA Guidelines: an EIR must provide a degree of analysis and detail about environmental impacts that will enable decision makers to make intelligent judgments in light of the environmental consequences of their decisions. The sufficiency of the EIR is to be reviewed in light of what is reasonably feasible (Kings County Farm Bureau v. City of Hanford [1990]). The Lead Agency must make a good faith effort at full disclosure of environmental impacts. In order to accomplish this requirement, it is essential that the project is adequately described and that existing setting information is complete (County of Inyo v. City of Los Angeles [1977]). Decisionmakers and other stakeholders need to fully understand the implications of the choices that are presented relative to the proposed action and to feasible mitigation measures and alternatives thereto (Laurel Heights Improvement Association v. Regents of University of California [1988]). As indicated in Village Laguna of Laguna Beach, Inc. v. Board of Supervisors (1982), an EIR is "an environmental 'alarm bell' whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return" (emphasis added).

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The absence of any meaningful analysis of project-specific and cumulative environmental and socioeconomic ramifications of the proposed action, including the document's failure to consider a reasonable range of alternatives and to identify feasible mitigation measures, has effectively "deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect" (14 CCR 15088.5). The totality of comments presented herein provides substantial evidence supporting the need to recirculate and supplement the DEIR/S. 316

11.0 DOCUMENTS CITED

(Partial Listing)

11.1 Publications

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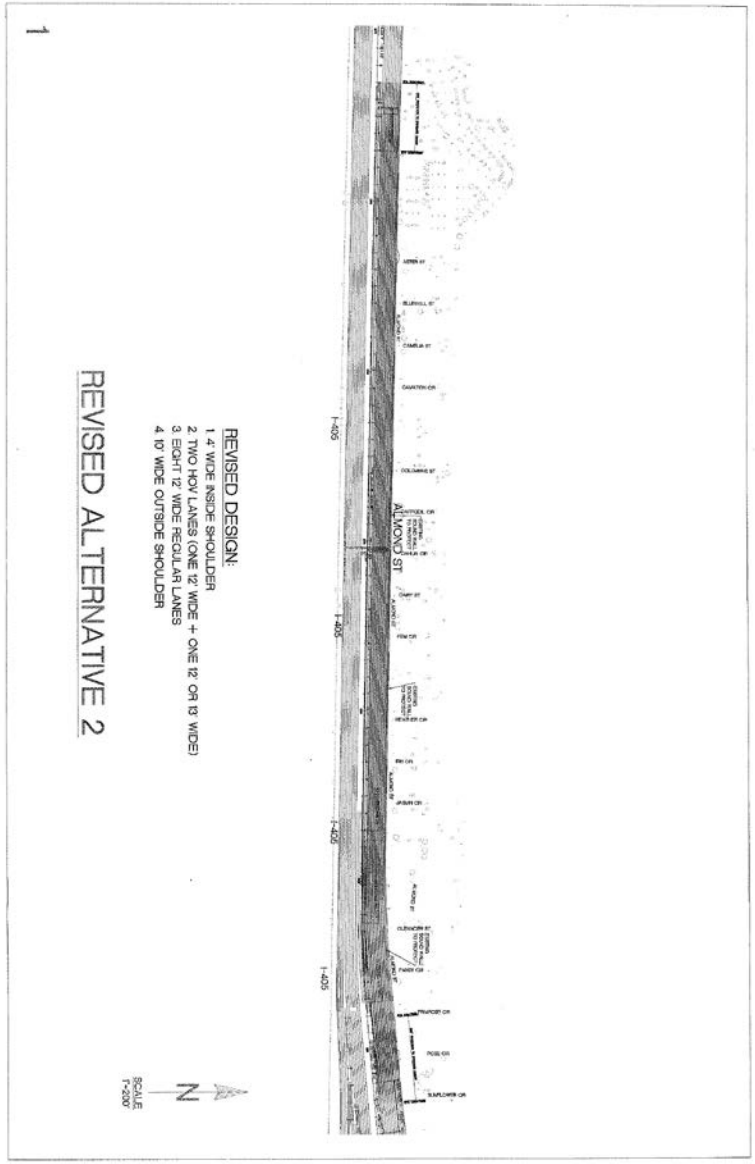
GL14 Continued

Attachment A

W.G. Zimmerman Engineering, Inc.
Alternative Design Configurations
July 2012

GL14 Continued



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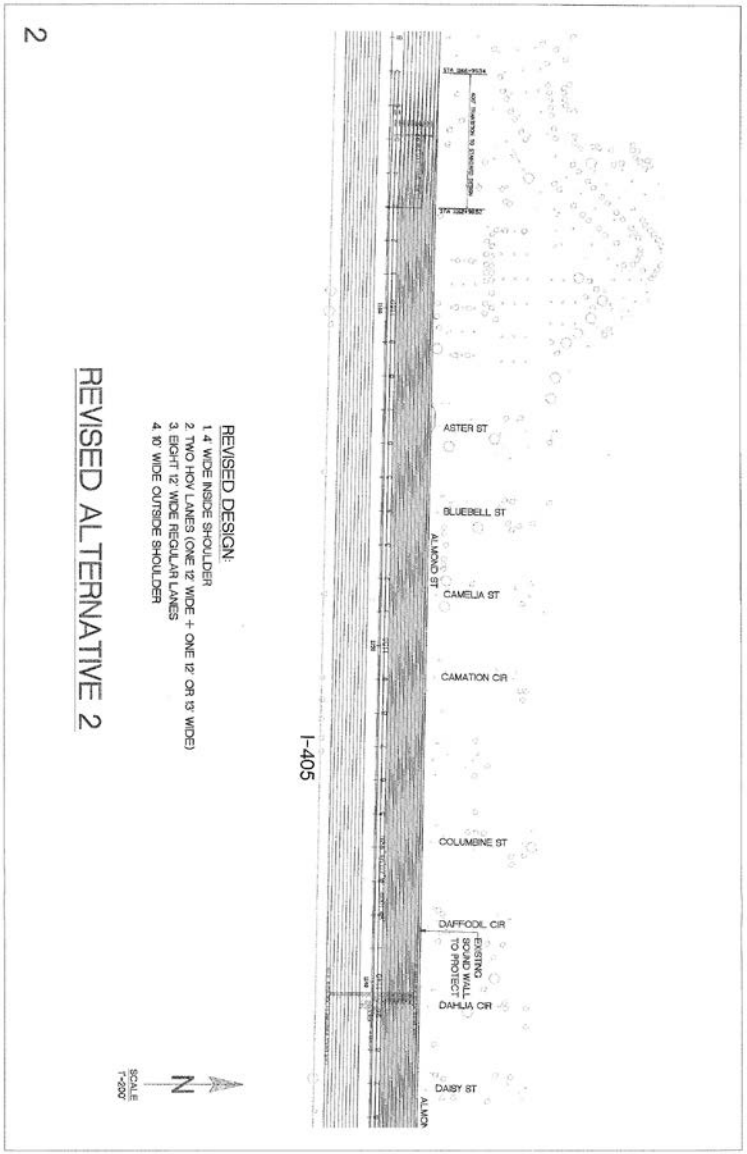

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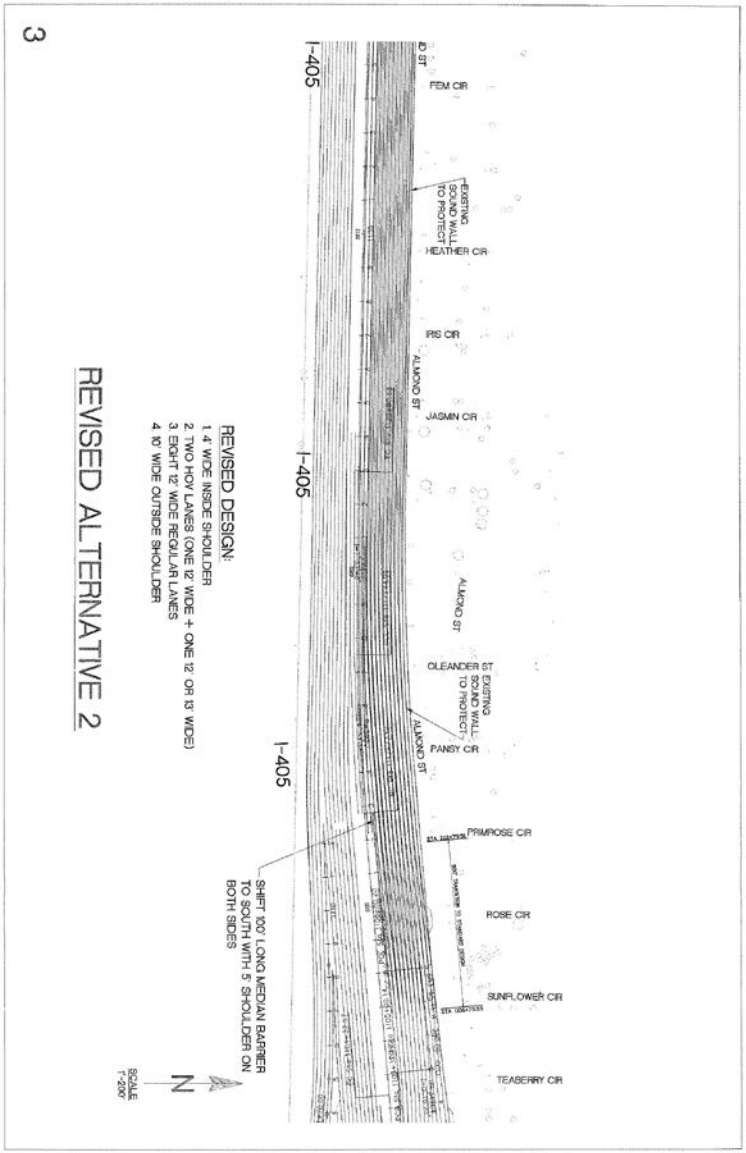

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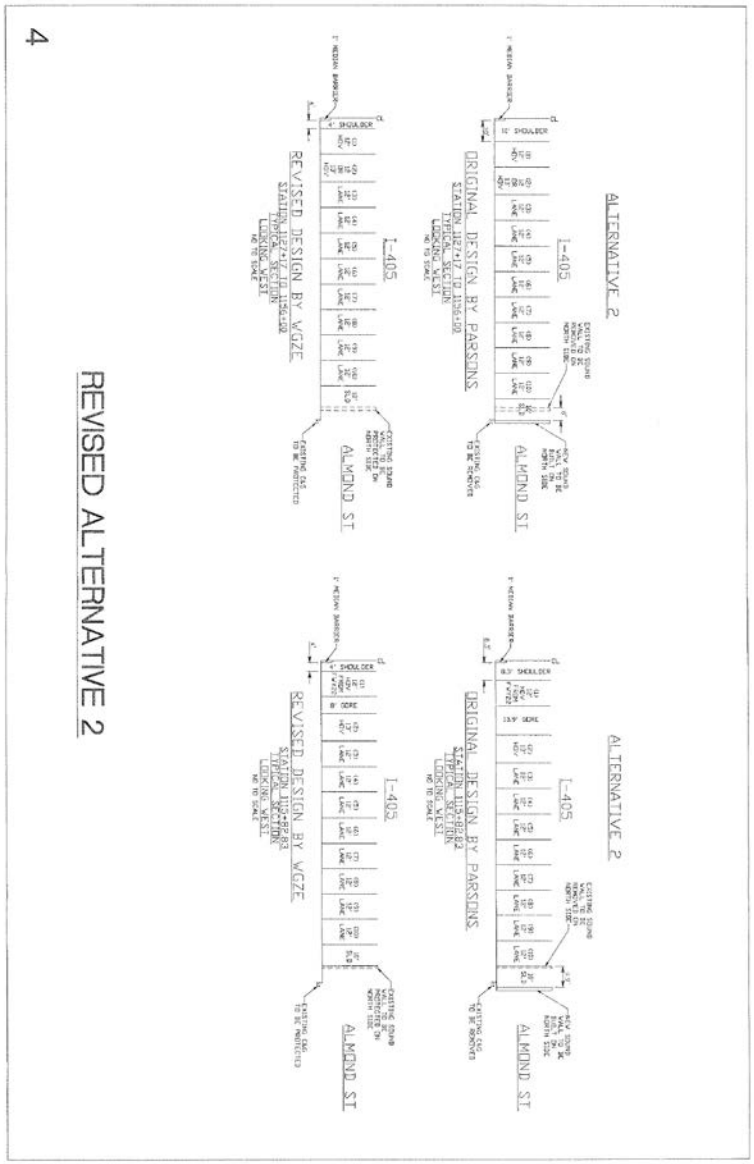

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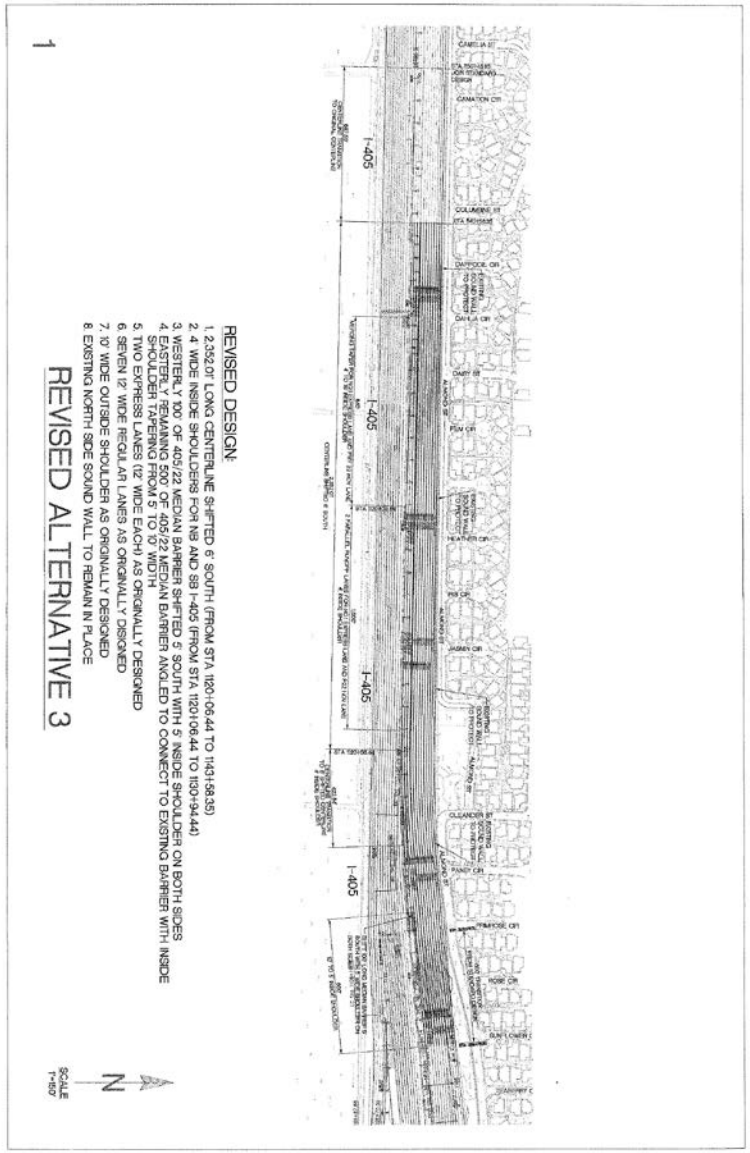

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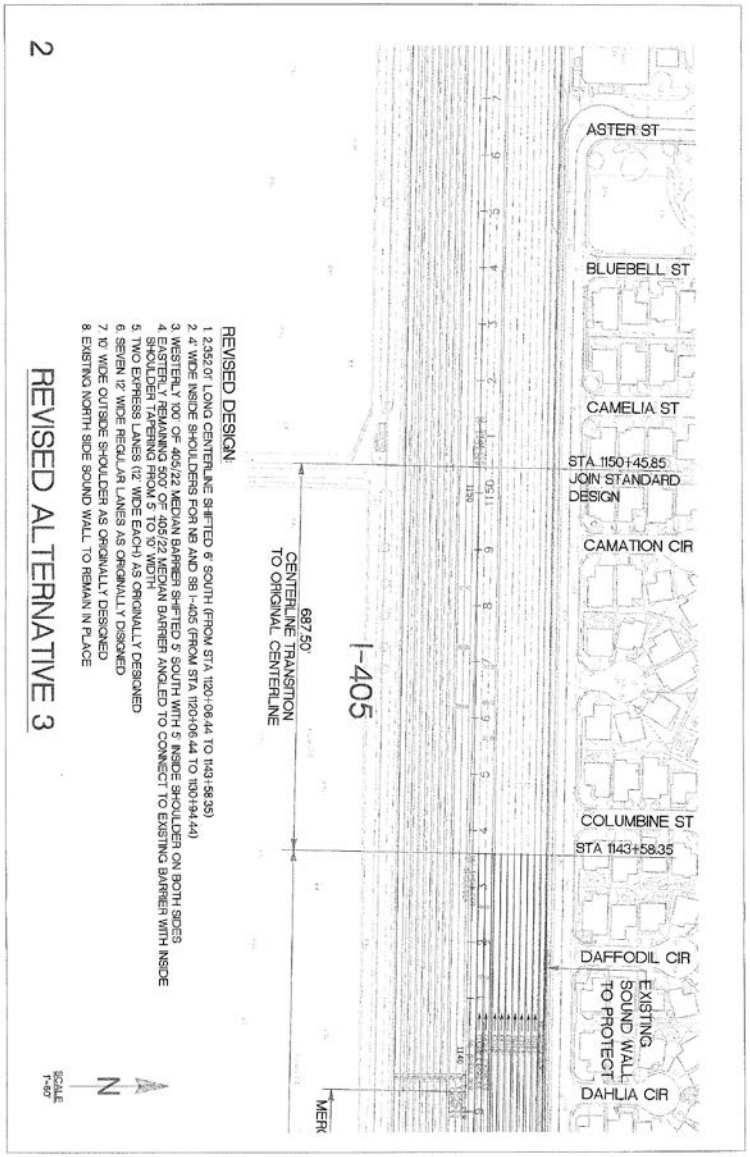

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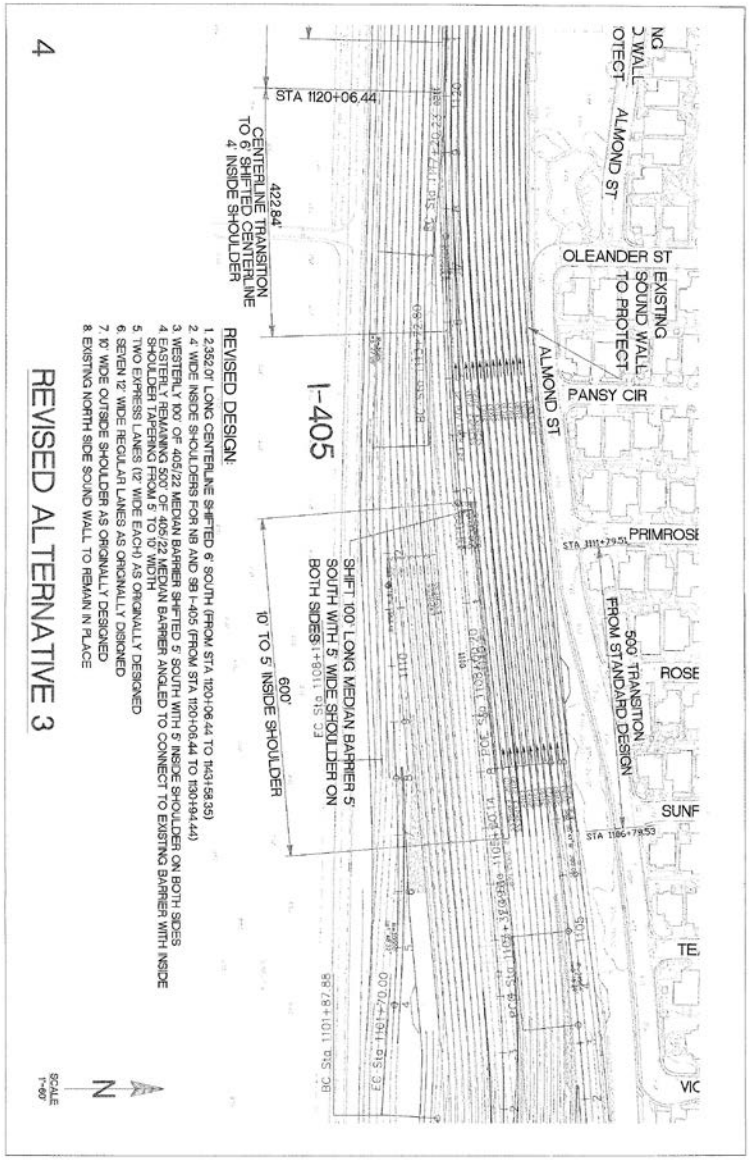

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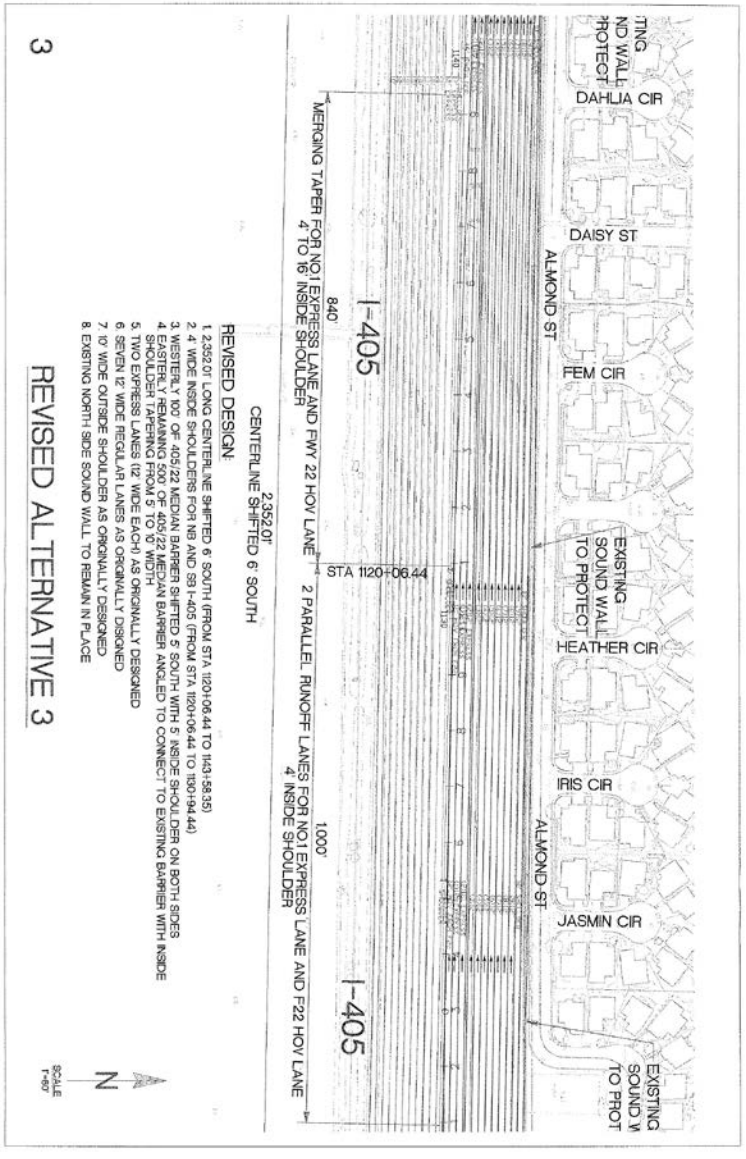

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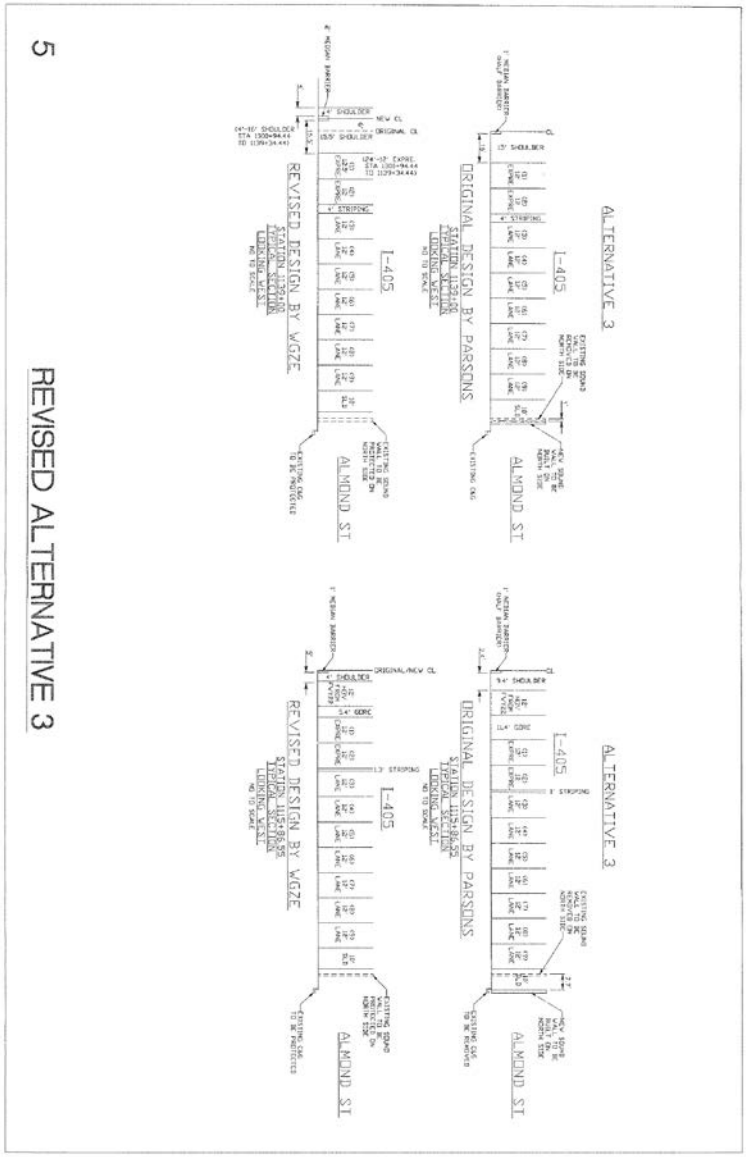

GL14 Continued

Attachment B

Council on Environmental Quality
Appropriate Use of Mitigation and Monitoring and Clarifying the
Appropriate Use of Mitigated Findings of No Significant Impact
January 14, 2011

GL14 Continued

EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL ON ENVIRONMENTAL QUALITY
WASHINGTON, D.C. 20503

January 14, 2011

MEMORANDUM FOR HEADS OF FEDERAL DEPARTMENTS AND AGENCIES

FROM: NANCY H. SUTLEY
Chair

SUBJECT: Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact

The Council on Environmental Quality (CEQ) is issuing this guidance for Federal departments and agencies on establishing, implementing, and monitoring mitigation commitments identified and analyzed in Environmental Assessments, Environmental Impact Statements, and adopted in the final decision documents. This guidance also clarifies the appropriate use of mitigated "Findings of No Significant Impact" under the National Environmental Policy Act (NEPA). This guidance is issued in accordance with NEPA, 42 U.S.C. § 4321 et seq., and the CEQ Regulations for Implementing the Procedural Provisions of NEPA (CEQ Regulations), 40 CFR Parts 1500-1508.[1] The guidance explains the requirements of NEPA and the CEQ Regulations, describes CEQ policies, and recommends procedures for agencies to use to help them comply with the requirements of NEPA and the CEQ Regulations when they establish mitigation planning and implementation procedures.[2]

[1] The Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (CEQ Regulations) are available on www.nepa.gov at ceq.hss.doe.gov/ceq_regulations/regulations.html.

[2] CEQ is issuing this guidance as an exercise of its duties and functions under section 204 of the National Environmental Policy Act (NEPA), 42 U.S.C. § 4344, and Executive Order No. 11,514, 35 Fed. Reg. 4,247 (Mar. 5, 1970), as amended by Executive Order No. 11,991, 42 Fed. Reg. 26,927 (May 24, 1977). This guidance is not a rule or regulation, and the recommendations it contains may not apply to a particular situation based upon the individual facts and circumstances. This guidance does not change or substitute for any law, regulation, or other legally binding requirement and is not legally enforceable. The use of language such as "recommend," "may," "should," and "can" is intended to describe CEQ policies and recommendations. The use of mandatory terminology such as "must" and "required" is intended to describe controlling requirements under the terms of NEPA and the CEQ Regulations, but this document does not independently establish legally binding requirements.

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GL14 Continued

NEPA was enacted to promote efforts that will prevent or eliminate damage to the human environment.[3] Mitigation measures can help to accomplish this goal in several ways. Many Federal agencies and applicants include mitigation measures as integral components of a proposed project's design. Agencies also consider mitigation measures as alternatives when developing Environmental Assessments (EA) and Environmental Impact Statements (EIS). In addition, agencies have increasingly considered mitigation measures in EAs to avoid or lessen potentially significant environmental effects of proposed actions that would otherwise need to be analyzed in an EIS.[4] This use of mitigation may allow the agency to comply with NEPA's procedural requirements by issuing an EA and a Finding of No Significant Impact (FONSI), or "mitigated FONSI," based on the agency's commitment to ensure the mitigation that supports the FONSI is performed, thereby avoiding the need to prepare an EIS.

This guidance addresses mitigation that an agency has committed to implement as part of a project design and mitigation commitments informed by the NEPA review process. As discussed in detail in Section I, below, agencies may commit to mitigation measures considered as alternatives in an EA or EIS so as to achieve an environmentally preferable outcome. Agencies may also commit to mitigation measures to support a mitigated FONSI, so as to complete their review of potentially significant environmental impacts without preparing an EIS. When agencies do not document and, in important cases, monitor mitigation commitments to determine if the mitigation was implemented or effective, the use of mitigation may fail to advance NEPA's purpose of ensuring informed and transparent environmental decisionmaking. Failure to document and monitor mitigation may also undermine the integrity of the NEPA review. These concerns and the need for guidance on this subject have long been recognized.[5] While

[3] 42 U.S.C. § 4321 (stating that the purposes of NEPA include promoting efforts which will prevent or eliminate damage to the environment).

[4] This trend was noted in CEQ's Twenty-Fifth Anniversary report on the effectiveness of NEPA implementation. *See* CEQ, "NEPA: A Study of its Effectiveness After Twenty-Five Years" 20 (1997), *available at* ceq.hss.doe.gov/nepa/nepa25fn.pdf.

[5] *See, e.g.*, CEQ, 1987-1988 Annual Report, *available at* www.slideshare.net/whitehouse/august-1987-1988-the-eighteenth-annual-report-of-the-council-on-environmental-quality (stating that CEQ would issue guidance on the propriety of an Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) rather than requiring an Environmental Impact Statement (EIS) when the environmental effects of a proposal are significant but mitigation reduces those impacts to less than significant levels). In 2002, CEQ convened a Task Force on Modernizing NEPA Implementation, which recommended that CEQ issue guidance clarifying the requirements for public involvement, alternatives, and mitigation for actions that warrant longer EAs including those with mitigated FONSIs. CEQ NEPA Task Force, "Modernizing NEPA Implementation" 75 (2003), *available at* ceq.hss.doe.gov/ntf/report/totaldoc.html. NEPA experts and public stakeholders have expressed broad support for this recommendation, calling for consideration of monitoring and public involvement in the use of mitigated FONSIs. CEQ, "The Public and Experts'

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GL14 Continued

this guidance is designed to address these concerns, CEQ also acknowledges that NEPA itself does not create a general substantive duty on Federal agencies to mitigate adverse environmental effects.[6]

Accordingly, in conjunction with the 40th Anniversary of NEPA, CEQ announced that it would issue this guidance to clarify the appropriateness of mitigated FONSIs and the importance of monitoring environmental mitigation commitments.[7] This new guidance affirms CEQ's support for the appropriate use of mitigated FONSIs, and accordingly amends and supplements previously issued guidance.[8] This guidance is intended to enhance the integrity and credibility of the NEPA process and the information upon which it relies.

CEQ provides several broad recommendations in Section II, below, to help improve agency consideration of mitigation in EISs and EAs. Agencies should not commit to mitigation measures considered in an EIS or EA absent the authority or expectation of resources to ensure that the mitigation is performed. In the decision documents concluding their environmental reviews, agencies should clearly identify any mitigation measures adopted as agency commitments or otherwise relied upon (to the extent consistent with agency authority or other legal authority), so as to ensure the integrity of the NEPA process and allow for greater transparency.

Review of the National Environmental Policy Act Task Force Report 'Modernizing NEPA Implementation'" 7 (2004), *available at* ceq.hss.doe.gov/ntf/CEQ_Draft_Final_Roundtable_Report.pdf; *see also* CEQ, "Rocky Mountain Roundtable Report" 8 (2004), *available at* ceq.hss.doe.gov/ntf/RockyMtnRoundTableReport.pdf (noting that participants in a regional roundtable on NEPA modernization identified "developing a means to enforce agency commitments to monitoring and mitigation" as one of the top five aspects of NEPA implementation needing immediate attention); "Eastern Round Table Report" 4 (2003), *available at* ceq.hss.doe.gov/ntf/EasternRoundTableReport.pdf (reporting that, according to several panelists at a regional roundtable, "parties responsible for monitoring the effects of . . . mitigation measures are rarely identified or easily held accountable," and that a lack of monitoring impedes agencies' ability to address the cumulative effects of EA actions).

[6] *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 352 (1989).

[7] CEQ, "New Proposed NEPA Guidance and Steps to Modernize and Reinvigorate NEPA" (Feb. 18, 2010), *available at* www.whitehouse.gov/administration/eop/ceq/initiatives/nepa.

[8] This previous guidance is found in CEQ, "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations," 46 Fed. Reg. 18,026 (Mar. 23, 1981), *available at* ceq.eh.doe.gov/nepa/regs/40/40P1.htm (suggesting that the existence of mitigation measures developed during the scoping or EA stages "does not obviate the need for an EIS").

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GL14 Continued

Section III emphasizes that agencies should establish implementation plans based on the importance of the project and its projected effects. Agencies should create new, or strengthen existing, monitoring to ensure that mitigation commitments are implemented. Agencies should also use effectiveness monitoring to learn if the mitigation is providing the benefits predicted. Importantly, agencies should encourage public participation and accountability through proactive disclosure of, and provision of access to, agencies' mitigation commitments as well as mitigation monitoring reports and related documents.

Although the recommendations in this guidance are broad in nature, agencies should establish, in their NEPA implementing procedures and/or guidance, specific procedures that create systematic accountability and the mechanisms to accomplish these goals.[9] This guidance is intended to assist agencies with the development and review of their NEPA procedures, by specifically recommending:

- How to ensure that mitigation commitments are implemented;
- How to monitor the effectiveness of mitigation commitments;
- How to remedy failed mitigation; and
- How to involve the public in mitigation planning.

Finally, to assist agencies in the development of their NEPA implementing procedures, an overview of relevant portions of the Department of the Army NEPA regulations is appended to this guidance as an example for agencies to consider when incorporating the recommendations of this guidance as requirements in their NEPA programs and procedures.[10]

I. THE IMPORTANCE OF MITIGATION UNDER NEPA

Mitigation is an important mechanism Federal agencies can use to minimize the potential adverse environmental impacts associated with their actions. As described in the CEQ Regulations, agencies can use mitigation to reduce environmental impacts in several ways. Mitigation includes:

- Avoiding an impact by not taking a certain action or parts of an action;
- Minimizing an impact by limiting the degree or magnitude of the action and its implementation;
- Rectifying an impact by repairing, rehabilitating, or restoring the affected environment;
- Reducing or eliminating an impact over time, through preservation and maintenance operations during the life of the action; and

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[9] 40 CFR § 1507.3 (requiring agencies to issue, and continually review, policies and procedures to implement NEPA in conformity with NEPA and CEQ Regulations).

[10] *See id.*; *see also id.* § 1507.2 (requiring agencies to have personnel and other resources available to implement NEPA reviews and meet their NEPA responsibilities).

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GL14 Continued

- Compensating for an impact by replacing or providing substitute resources or environments.[11]

Federal agencies typically develop mitigation as a component of a proposed action, or as a measure considered in the course of the NEPA review conducted to support agency decisionmaking processes, or both. In developing mitigation, agencies necessarily and appropriately rely upon the expertise and experience of their professional staff to assess mitigation needs, develop mitigation plans, and oversee mitigation implementation. Agencies may also rely on outside resources and experts for information about the ecosystem functions and values to be protected or restored by mitigation, to ensure that mitigation has the desired effects and to develop appropriate monitoring strategies. Any outside parties consulted should be neutral parties without a financial interest in implementing the mitigation and monitoring plans, and should have expert knowledge, training, and experience relevant to the resources potentially affected by the actions and—if possible—the potential effects from similar actions.[12] Further, when agencies delegate responsibility for preparing NEPA analyses and documentation, or when other entities (such as applicants) assume such responsibility, CEQ recommends that any experts employed to develop mitigation and monitoring should have the kind of expert knowledge, training, and experience described above.

The sections below clarify practices Federal agencies should use when they employ mitigation in three different contexts: as components of project design; as mitigation alternatives considered in an EA or an EIS and adopted in related decision documents; and as measures identified and committed to in an EA as necessary to support a mitigated FONSI. CEQ encourages agencies to commit to mitigation to achieve environmentally preferred outcomes, particularly when addressing unavoidable adverse environmental impacts. Agencies should not commit to mitigation, however, unless they have sufficient legal authorities and expect there will be necessary resources available to perform or ensure the performance of the mitigation. The agency's own underlying authority may provide the basis for its commitment to implement and monitor the mitigation. Alternatively, the authority for the mitigation may derive from legal requirements that are enforced by other Federal, state, or local government entities (e.g., air or water permits administered by local or state agencies).

A. Mitigation Incorporated into Project Design

Many Federal agencies rely on mitigation to reduce adverse environmental impacts as part of the planning process for a project, incorporating mitigation as integral components of a proposed project design before making a determination about the

[11] *Id.* § 1508.20 (defining mitigation to include these activities).

[12] *See id.* § 1506.5 (providing that agencies are responsible for the accuracy of environmental information submitted by applicants for use in EISs and EAs, and requiring contractors selected to prepare EISs to execute disclosure statement specifying that they have no financial or other interest in the outcome of the project).

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GL14 Continued

significance of the project's environmental impacts.[13] Such mitigation can lead to an environmentally preferred outcome and in some cases reduce the projected impacts of agency actions to below a threshold of significance. An example of mitigation measures that are typically included as part of the proposed action are agency standardized best management practices such as those developed to prevent storm water runoff or fugitive dust emissions at a construction site.

Mitigation measures included in the project design are integral components of the proposed action, are implemented with the proposed action, and therefore should be clearly described as part of the proposed action that the agency will perform or require to be performed. Consequently, the agency can address mitigation early in the decisionmaking process and potentially conduct a less extensive level of NEPA review.

B. Mitigation Alternatives Considered in Environmental Assessments and Environmental Impact Statements

Agencies are required, under NEPA, to study, develop, and describe appropriate alternatives when preparing EAs and EISs.[14] The CEQ Regulations specifically identify procedures agencies must follow when developing and considering mitigation alternatives when preparing an EIS. When an agency prepares an EIS, it must include mitigation measures (not already included in the proposed action or alternatives) among the alternatives compared in the EIS.[15] Each EIS must contain a section analyzing the environmental consequences of the proposed action and its alternatives, including "[m]eans to mitigate adverse environmental impacts."[16]

When a Federal agency identifies a mitigation alternative in an EA or an EIS, it may commit to implement that mitigation to achieve an environmentally-preferable outcome. Agencies should not commit to mitigation measures considered and analyzed in an EIS or EA if there are insufficient legal authorities, or it is not reasonable to foresee the availability of sufficient resources, to perform or ensure the performance of the mitigation. Furthermore, the decision document following the EA should—and a Record of Decision (ROD) must—identify those mitigation measures that the agency is adopting

[13] CEQ NEPA Task Force, "Modernizing NEPA Implementation" at 69.

[14] 42 U.S.C. § 4332(2)(C) (mandating that agencies' detailed statements must include alternatives to the proposed action); *id.* § 4332(E) (requiring agencies to study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources).

[15] 40 CFR § 1502.14(f) (listing mitigation measures as one of the required components of the alternatives included in an EIS); *id.* § 1508.25(b)(3) (defining the "scope" of an EIS to include mitigation measures).

[16] *Id.* § 1502.16(h).

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GL14 Continued

and committing to implement, including any monitoring and enforcement program applicable to such mitigation commitments.[17]

C. Mitigation Commitments Analyzed in Environmental Assessments to Support a Mitigated FONSI

When preparing an EA, many agencies develop and consider committing to mitigation measures to avoid, minimize, rectify, reduce, or compensate for potentially significant adverse environmental impacts that would otherwise require full review in an EIS. CEQ recognizes the appropriateness, value, and efficacy of providing for mitigation to reduce the significance of environmental impacts. Consequently, when such mitigation measures are available and an agency commits to perform or ensure the performance of them, then these mitigation commitments can be used to support a FONSI, allowing the agency to conclude the NEPA process and proceed with its action without preparing an EIS.[18] An agency should not commit to mitigation measures necessary for a mitigated FONSI if there are insufficient legal authorities, or it is not reasonable to foresee the availability of sufficient resources, to perform or ensure the performance of the mitigation.[19]

Mitigation commitments needed to lower the level of impacts so that they are not significant should be clearly described in the mitigated FONSI document and in any other relevant decision documents related to the proposed action. Agencies must provide for appropriate public involvement during the development of the EA and FONSI.[20]

[17] *Id.* § 1505.2(c) (providing that a record of decision must state whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not; and providing that a monitoring and enforcement program must be adopted and summarized where applicable for any mitigation).

[18] This guidance approves of the use of the "mitigated FONSI" when the NEPA process results in *enforceable* mitigation measures. It thereby amends and supplements previously issued CEQ guidance that suggested that the existence of mitigation measures developed during the scoping or EA stages "does not obviate the need for an EIS." *See* CEQ, "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations," 46 Fed. Reg. 18,026 (Mar. 23, 1981), *available at* ceq.eh.doe.gov/nepa/regs/40/40P1.htm.

[19] When agencies consider and decide on an alternative outside their jurisdiction (as discussed in 40 CFR § 1502.14(c)), they should identify the authority for the mitigation and consider the consequences of it not being implemented.

[20] 40 CFR § 1501.4(b) (requiring agencies to involve environmental agencies, applicants, and the public, to the extent practicable); *id.* § 1501.4(e)(1) (requiring agencies to make FONSIs available to the affected public as specified in § 1506.6); *id.* § 1501.4(e)(2) (requiring agencies to make FONSIs available for public review for thirty days before making any final determination on whether to prepare an EIS or proceed with an action when the proposed action is, or is closely similar to, one which normally requires the

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Furthermore, in addition to those situations where a 30-day public review of the FONSI is required,[21] agencies should make the EA and FONSI available to the public (e.g., by posting them on an agency website). Providing the public with clear information about agencies' mitigation commitments helps ensure the value and integrity of the NEPA process.

II. ENSURING THAT MITIGATION COMMITMENTS ARE IMPLEMENTED

Federal agencies should take steps to ensure that mitigation commitments are actually implemented. Consistent with their authority, agencies should establish internal processes to ensure that mitigation commitments made on the basis of any NEPA analysis are carefully documented and that relevant funding, permitting, or other agency approvals and decisions are made conditional on performance of mitigation commitments.

Agency NEPA implementing procedures should require clear documentation of mitigation commitments considered in EAs and EISs prepared during the NEPA process and adopted in their decision documents. Agencies should ensure that the expertise and professional judgment applied in determining the appropriate mitigation commitments are described in the EA or EIS, and that the NEPA analysis considers when and how those mitigation commitments will be implemented.

Agencies should clearly identify commitments to mitigation measures designed to achieve environmentally preferable outcomes in their decision documents. They should also identify mitigation commitments necessary to reduce impacts, where appropriate, to a level necessary for a mitigated FONSI. In both cases, mitigation commitments should be carefully specified in terms of measurable performance standards or expected results, so as to establish clear performance expectations.[22] The agency should also specify the

preparation of an EIS under agency NEPA implementing procedures, or when the nature of the proposed action is one without precedent); *id.* § 1506.6 (requiring agencies to make diligent efforts to involve the public in preparing and implementing their NEPA procedures).

[21] *Id.* § 1501.4(e)(2).

[22] In 2001, the Committee on Mitigating Wetland Losses, through the National Research Council (NRC), conducted a nationwide study evaluating compensatory mitigation, focusing on whether the process is achieving the overall goal of "restoring and maintaining the quality of the nation's waters." NRC Committee on Mitigating Wetland Losses, "Compensating for Wetland Losses Under the Clean Water Act" 2 (2001). The study's recommendations were incorporated into the 2008 Final Compensatory Mitigation Rule promulgated jointly by the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency. *See* U.S. Army Corps of Engineers & U.S. Environmental Protection Agency, "Compensatory Mitigation for Losses of Aquatic Resources," 73 Fed. Reg. 19,594 (Apr. 10, 2008).

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GL14 Continued

timeframe for the agency action and the mitigation measures in its decision documents, to ensure that the intended start date and duration of the mitigation commitment is clear. When an agency funds, permits, or otherwise approves actions, it should also exercise its available authorities to ensure implementation of any mitigation commitments by including appropriate conditions on the relevant grants, permits, or approvals.

CEQ views funding for implementation of mitigation commitments as critical to ensuring informed decisionmaking. For mitigation commitments that agencies will implement directly, CEQ recognizes that it may not be possible to identify funds from future budgets; however, a commitment to seek funding is considered essential and if it is reasonably foreseeable that funding for implementation of mitigation may be unavailable at any time during the life of the project, the agency should disclose in the EA or EIS the possible lack of funding and assess the resultant environmental effects. If the agency has disclosed and assessed the lack of funding, then unless the mitigation is essential to a mitigated FONSI or necessary to comply with another legal requirement, the action could proceed. If the agency committing to implementing mitigation has not disclosed and assessed the lack of funding, and the necessary funding later becomes unavailable, then the agency should not move forward with the proposed action until funding becomes available or the lack of funding is appropriately assessed (*see* Section III, below).

A. Establishing a Mitigation Monitoring Program

Federal agencies must consider reasonably foreseeable future impacts and conditions in a constantly evolving environment. Decisionmakers will be better able to adapt to changing circumstances by creating a sound mitigation implementation plan and through ongoing monitoring of environmental impacts and their mitigation. Monitoring can improve the quality of overall agency decisionmaking by providing feedback on the effectiveness of mitigation techniques. A comprehensive approach to mitigation planning, implementation, and monitoring will therefore help agencies realize opportunities for reducing environmental impacts through mitigation, advancing the integrity of the entire NEPA process. These approaches also serve NEPA's goals of ensuring transparency and openness by making relevant and useful environmental information available to decisionmakers and the public.[23]

Adaptive management can help an agency take corrective action if mitigation commitments originally made in NEPA and decision documents fail to achieve projected environmental outcomes and there is remaining federal action. Agencies can, in their NEPA reviews, establish and analyze mitigation measures that are projected to result in the desired environmental outcomes, and can then identify those mitigation principles or measures that it would apply in the event the initial mitigation commitments are not implemented or effective. Such adaptive management techniques can be advantageous to both the environment and the agency's project goals.[24] Agencies can also, short of

[23] 40 CFR § 1500.1(b).

[24] *See* CEQ NEPA Task Force, "Modernizing NEPA Implementation" at 44.

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GL14 Continued

adaptive management, analyze specific mitigation alternatives that could take the place of mitigation commitments in the event the commitment is not implemented or effective.

Monitoring is fundamental for ensuring the implementation and effectiveness of mitigation commitments, meeting legal and permitting requirements, and identifying trends and possible means for improvement. Under NEPA, a Federal agency has a continuing duty to ensure that new information about the environmental impact of its proposed actions is taken into account, and that the NEPA review is supplemented when significant new circumstances or information arise that are relevant to environmental concerns and bear on the proposed action or its impacts.[25] For agency decisions based on an EIS, the CEQ Regulations explicitly require that "a monitoring and enforcement program shall be adopted . . . where applicable for any mitigation."[26] In addition, the CEQ Regulations state that agencies may "provide for monitoring to assure that their decisions are carried out and should do so in important cases."[27] Accordingly, an agency should also commit to mitigation monitoring in important cases when relying upon an EA and mitigated FONSI. Monitoring is essential in those important cases where the mitigation is necessary to support a FONSI and thus is part of the justification for the agency's determination not to prepare an EIS.

Agencies are expected to apply professional judgment and the rule of reason when identifying those cases that are important and warrant monitoring, and when determining the type and extent of monitoring they will use to check on the progress made in implementing mitigation commitments as well as their effectiveness. In cases that are less important, the agency should exercise its discretion to determine what level of monitoring, if any, is appropriate. The following are examples of factors that agencies should consider to determine importance:

- Legal requirements of statutes, regulations, or permits;
- Human health and safety;
- Protected resources (e.g., parklands, threatened or endangered species, cultural or historic sites) and the proposed action's impacts on them;
- Degree of public interest in the resource or public debate over the effects of the proposed action and any reasonable mitigation alternatives on the resource; and
- Level of intensity of projected impacts.

Once an agency determines that it will provide for monitoring in a particular case, monitoring plans and programs should be described or incorporated by reference in the

[25] 40 CFR § 1502.9(c) (requiring supplementation of EISs when there are substantial changes to the proposed action, or significant new information or circumstances arise that are relevant to the environmental effects of the proposed action).

[26] *Id.* § 1505.2(c).

[27] *Id.* § 1505.3.

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GL14 Continued

agency's decision documents.[28] Agencies have discretion, within the scope of their authority, to select an appropriate form and method for monitoring, but they should identify the monitoring area and establish the appropriate monitoring system.[29] The form and method of monitoring can be informed by an agency's past monitoring plans and programs that tracked impacts on similar resources, as well as plans and programs used by other agencies or entities, particularly those with an interest in the resource being monitored. For mitigation commitments that warrant rigorous oversight, an Environmental Management System (EMS), or other data or management system could serve as a useful way to integrate monitoring efforts effectively.[30] Other possible monitoring methods include agency-specific environmental monitoring, compliance assessment, and auditing systems. For activities involving third parties (e.g., permittees or grantees), it may be appropriate to require the third party to perform the monitoring as long as a clear accountability and oversight framework is established. The monitoring program should be implemented together with a review process and a system for reporting results.

Regardless of the method chosen, agencies should ensure that the monitoring program tracks whether mitigation commitments are being performed as described in the NEPA and related decision documents (i.e., implementation monitoring), and whether the mitigation effort is producing the expected outcomes and resulting environmental effects (i.e., effectiveness monitoring). Agencies should also ensure that their mitigation monitoring procedures appropriately provide for public involvement. These recommendations are explained in more detail below.

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[28] The mitigation plan and program should be described to the extent possible based on available and reasonably foreseeable information in cases where the NEPA analysis and documentation are completed prior to final design of a proposed project.

[29] The Department of the Army regulations provide an example of this approach. *See* 32 CFR part 651 App. C. These regulations are summarized in the Appendix to this guidance.

[30] An EMS provides a systematic framework for a Federal agency to monitor and continually improve its environmental performance through audits, evaluations of legal and other requirements, and management reviews. The potential for EMS to support NEPA work is further addressed in CEQ, "Aligning National Environmental Policy Act Processes with Environmental Management Systems" 4 (2007) *available at* ceq.hss.doe.gov/nepa/nepapubs/Aligning_NEPA_Processes_with_Environmental_Management_Systems_2007.pdf (discussing the use of EMSs to track implementation and monitoring of mitigation). In 2001, the Department of the Army announced that it would implement a recognized environmental management standard, ISO 14001, across Army installations. ISO 14001 represents a standardized system to plan, track, and monitor environmental performance within the agency's operations. To learn more about how EMS implementation has resulted in an effective EMS for monitoring purposes at an Army installation, see the Sustainability website for the Army's Fort Lewis installation, *available at* sustainablefortlewis.army.mil.

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B. Monitoring Mitigation Implementation

A successful monitoring program will track the implementation of mitigation commitments to determine whether they are being performed as described in the NEPA documents and related decision documents. The responsibility for developing an implementation monitoring program depends in large part upon who will actually perform the mitigation—the lead Federal agency or cooperating agency; the applicant, grantee, or permit holder; another responsible entity or cooperative non-Federal partner; or a combination of these. The lead agency should ensure that information about responsible parties, mitigation requirements, as well as any appropriate enforcement clauses are included in documents such as authorizations, agreements, permits, financial assistance awards, or contracts.[31] Ultimate monitoring responsibility rests with the lead Federal agency or agencies to assure that monitoring is occurring when needed and that results are being properly considered. The project's lead agency can share monitoring responsibility with joint lead or cooperating agencies or other entities, such as applicants or grantees. The responsibility should be clearly described in the NEPA documents or associated decision documents, or related documents describing and establishing the monitoring requirements or expectations.

C. Monitoring the Effectiveness of Mitigation

Effectiveness monitoring tracks the success of a mitigation effort in achieving expected outcomes and environmental effects. Completing environmental data collection and analyses prior to project implementation provides an understanding of the baseline conditions for each potentially affected resource for reference when determining whether the predicted efficacy of mitigation commitments is being achieved. Agencies can rely on agency staff and outside experts familiar with the predicted environmental impacts to develop the means to monitor mitigation effectiveness, in the same way that they can rely on agency and outside experts to develop and evaluate the effectiveness of mitigation (*see* Section I, above).

When monitoring mitigation, agencies should consider drawing on sources of information available from the agency, from other Federal agencies, and from state, local, and tribal agencies, as well as from non-governmental sources such as local organizations, academic institutions, and non-governmental organizations. Agencies should especially consider working with agencies responsible for overseeing land management and impacts to specific resources. For example, agencies could consult with the U.S. Fish and Wildlife and National Marine Fisheries Services (for information to evaluate potential impacts to threatened and endangered species) and with State Historic Preservation Officers (for information to evaluate potential impacts to historic structures).

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[31] Such enforcement clauses, including appropriate penalty clauses, should be developed as allowable under the applicable statutory and regulatory authorities.

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D. The Role of the Public

Public involvement is a key procedural requirement of the NEPA review process, and should be fully provided for in the development of mitigation and monitoring procedures.[32] Agencies are also encouraged, as a matter of transparency and accountability, to consider including public involvement components in their mitigation monitoring programs. The agencies' experience and professional judgment are key to determining the appropriate level of public involvement. In addition to advancing accountability and transparency, public involvement may provide insight or perspective for improving mitigation activities and monitoring. The public may also assist with actual monitoring through public-private partnership programs.

Agencies should provide for public access to mitigation monitoring information consistent with NEPA and the Freedom of Information Act (FOIA).[33] NEPA and the CEQ Regulations incorporate the FOIA by reference to require agencies to provide public access to releasable documents related to EISs, which may include documents regarding mitigation monitoring and enforcement.[34] The CEQ Regulations also require agencies to involve the public in the EA preparation process to the extent practicable and in certain cases to make a FONSI available for public review before making its final determination on whether it will prepare an EIS or proceed with the action.[35] Consequently, agencies should involve the public when preparing EAs and mitigated FONSIs.[36] NEPA further requires all Federal agencies to make information useful for restoring, maintaining, and

[32] 40 CFR § 1506.6 (requiring agencies to make diligent efforts to involve the public in preparing and implementing their NEPA procedures).

[33] 5 U.S.C. § 552.

[34] 42 U.S.C. § 4332(2)(C) (requiring Federal agencies to make EISs available to the public as provided by the FOIA); 40 CFR § 1506.6(f) (requiring agencies to make EISs, comments received, and any underlying documents available to the public pursuant to the provisions of the FOIA without regard to the exclusion for interagency memoranda where such memoranda transmit comments of Federal agencies on the environmental impact of the proposed action).

[35] 40 CFR § 1501.4(b) (requiring agencies to involve environmental agencies, applicants, and the public, to the extent practicable); *id.* § 1501.4(e)(1) (requiring agencies to make FONSIs available to the affected public as specified in § 1506.6); *id.* § 1501.4(e)(2) (requiring agencies to make a FONSI available for public review for thirty days before making its final determination on whether it will prepare an EIS or proceed with the action when the nature of the proposed action is, or is similar to, an action which normally requires the preparation of an EIS); *id.* § 1506.6 (requiring agencies to make diligent efforts to involve the public in preparing and implementing their NEPA procedures).

[36] *Id.* § 1501.4.

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enhancing the quality of the environment available to States, counties, municipalities, institutions, and individuals.[37] This requirement can include information on mitigation and mitigation monitoring.

Beyond these requirements, agencies are encouraged to make proactive, discretionary release of mitigation monitoring reports and other supporting documents, and to make responses to public inquiries regarding mitigation monitoring readily available to the public through online or print media. This recommendation is consistent with the President's Memorandum on Transparency and Open Government directing agencies to take affirmative steps to make information public without waiting for specific requests for information.[38] The Open Government Directive, issued by the Office of Management and Budget in accordance with the President's Memorandum, further directs agencies to use their web sites and information technology capabilities to disseminate, to the maximum extent practicable, useful information under FOIA, so as to promote transparency and accountability.[39]

Agencies should exercise their judgment to ensure that the methods and media used to provide mitigation and monitoring information are commensurate with the importance of the action and the resources at issue, taking into account any risks of harm to affected resources. In some cases, agencies may need to balance competing privacy or confidentiality concerns (e.g., protecting confidential business information or the location of sacred sites) with the benefits of public disclosure.

III. REMEDYING INEFFECTIVE OR NON-IMPLEMENTED MITIGATION

Through careful monitoring, agencies may discover that mitigation commitments have not been implemented, or have not had the environmental results predicted in the NEPA and decision documents. Agencies, having committed to mitigation, should work to remedy such inadequacies. It is an agency's underlying authority or other legal authority that provides the basis for the commitment to implement mitigation and monitor its effectiveness. As discussed in Section I, agencies should not commit to mitigation considered in an EIS or EA unless there are sufficient legal authorities and they expect the resources to be available to perform or ensure the performance of the mitigation. In some cases, as discussed in Section II, agencies may exercise their authority to make

[37] 42 U.S.C. § 4332(2)(G).

[38] Presidential Memorandum for Heads of Executive Departments and Agencies Concerning the Freedom of Information Act, 74 Fed. Reg. 4,683 (Jan. 21, 2009); *accord* DOJ, "Memorandum for Heads of Executive Departments and Agencies Concerning the Freedom of Information Act" (Mar. 19, 2009), *available at* www.usdoj.gov/ag/foia-memo-march2009.pdf.

[39] Office of Mgmt. & Budget, Executive Office of the President, "Open Government Directive" (Dec. 8, 2009), *available at* www.whitehouse.gov/open/documents/open-government-directive.

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relevant funding, permitting, or other agency approvals and decisions conditional on the performance of mitigation commitments by third parties. It follows that an agency must rely on its underlying authority and available resources to take remedial steps. Agencies should consider taking remedial steps as long as there remains a pending Federal decision regarding the project or proposed action. Agencies may also exercise their legal authority to enforce conditions placed on funding, grants, permits, or other approvals.

If a mitigation commitment is simply not undertaken or fails to mitigate the environmental effects as predicted, the responsible agency should further consider whether it is necessary to prepare supplemental NEPA analysis and documentation.[40] The agency determination would be based upon its expertise and judgment regarding environmental consequences. Much will depend upon the agency's determination as to what, if any, portions of the Federal action remain and what opportunities remain to address the effects of the mitigation failure. In cases where an EIS or a supplementary EA or EIS is required, the agency must avoid actions that would have adverse environmental impacts and limit its choice of reasonable alternatives during the preparation of an EIS.[41]

In cases where there is no remaining agency action to be taken, and the mitigation has not been fully implemented or has not been as effective as predicted, it may not be appropriate to supplement the original NEPA analysis and documentation. However, it would be appropriate for future NEPA analyses of similar proposed actions and relevant programs to consider past experience and address the potential for environmental consequences as a result of mitigation failure. This would ensure that the assumed environmental baselines reflect true conditions, and that similar mitigation is not relied on in subsequent decisions, at least without more robust provisions for adaptive management or analysis of mitigation alternatives that can be applied in the event of mitigation failure.

IV. CONCLUSION

This guidance is intended to assist Federal agencies with the development of their NEPA procedures, guidance, and regulations; foster the appropriate use of Findings of No Significant Impact; and ensure that mitigation commitments are appropriately and effectively documented, implemented, and monitored. The guidance also provides Federal agencies with recommended actions in circumstances where mitigation is not

[40] 40 CFR § 1502.9(c) (requiring an agency to prepare supplements to draft or final EISs if the agency makes substantial changes in the proposed action that are relevant to environmental concerns, or if there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts).

[41] *Id.* § 1506.1(a) (providing that until an agency issues a Record of Decision, no action concerning the proposal may be taken that would have an adverse environmental impact or limit the choice of reasonable alternatives).

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implemented or fails to have the predicted effect. Questions regarding this guidance should be directed to the CEQ Associate Director for NEPA Oversight.

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APPENDIX

Case Study: Existing Agency Mitigation Regulations & Guidance

A number of agencies have already taken actions to improve their use of mitigation and their monitoring of mitigation commitments undertaken as part of their NEPA processes. For example, the Department of the Army has promulgated regulations implementing NEPA for military installations and programs that include a monitoring and implementation component.[42] These NEPA implementing procedures are notable for their comprehensive approach to ensuring that mitigation proposed in the NEPA review process is completed and monitored for effectiveness. These procedures are described in detail below to illustrate one approach agencies can use to meet the goals of this Guidance.

a. *Mitigation Planning*

Consistent with existing CEQ guidelines, the Army's NEPA implementing regulations place significant emphasis on the planning and implementation of mitigation throughout the environmental analysis process. The first step of mitigation planning is to seek to avoid or minimize harm.[43] When the analysis proceeds to an EA or EIS, however, the Army regulation requires that any mitigation measures be "clearly assessed and those selected for implementation will be identified in the [FONSI] or the ROD," and that "[t]he proponent must implement those identified mitigations, because they are commitments made as part of the Army decision."[44] This is notable as this mitigation is a binding commitment documented in the agency NEPA decision. In addition, the adoption of mitigation that reduces environmental impacts below the NEPA significance threshold is similarly binding upon the agency.[45] When the mitigation results in a FONSI in a NEPA analysis, the mitigation is considered legally binding.[46] Because these regulations create a clear obligation for the agency to ensure any proposed mitigation adopted in the environmental review process is performed, there is assurance that mitigation will lead to a reduction of environmental impacts in the implementation stage and include binding mechanisms for enforcement.

Another important mechanism in the Army's regulations to assure effective mitigation results is the requirement to fully fund and implement adopted mitigation. It is acknowledged in the regulations that "unless money is actually budgeted and manpower

[42] The Department of the Army promulgated its NEPA implementing procedures as a regulation.

[43] *See* 40 CFR § 1508.2.

[44] 32 CFR § 651.15(b).

[45] *Id.* § 651.35(g)

[46] *Id.* § 651.15(c).

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assigned, the mitigation does not exist."[47] As a result, a proposed action cannot proceed until all adopted mitigation is fully resourced or until the lack of funding is addressed in the NEPA analysis.[48] This is an important step in the planning process, as mitigation benefits are unlikely to be realized unless financial and planning resources are committed through the NEPA planning process.

b. *Mitigation Monitoring*

The Army regulations recognize that monitoring is an integral part of any mitigation system.[49] The Army regulations require monitoring plans and implementation programs to be summarized in NEPA documentation, and should consider several important factors. These factors include anticipated changes in environmental conditions or project activities, unexpected outcomes from mitigation, controversy over the selected alternative, potential impacts or adverse effects on federally or state protected resources, and statutory permitting requirements.[50] Consideration of these factors can help prioritize monitoring efforts and anticipate possible challenges.

The Army regulations distinguish between implementation monitoring and effectiveness monitoring. Implementation monitoring ensures that mitigation commitments made in NEPA documentation are implemented. To further this objective, the Army regulations specify that these conditions must be written into any contracts furthering the proposed action. In addition, the agency or unit proposing the action is ultimately responsible for the performance of the mitigation activities.[51] In a helpful appendix to its regulations, the Army outlines guidelines for the creation of an implementation monitoring program to address contract performance, the role of cooperating agencies, and the responsibilities of the lead agency.[52]

The Army's effectiveness monitoring addresses changing conditions inherent in evolving natural systems and the potential for unexpected environmental mitigation outcomes. For this monitoring effort, the Army utilizes its Environmental Management System (EMS) based on the standardized ISO 14001 protocols.[53] The core of this

[47] *Id.* § 651.15(d).

[48] *Id.* § 651.15(d).

[49] *Id.* § 651.15(i).

[50] *Id.* §§ 651.15(h)(1)-(4) Appendix C to 32 CFR § 651, 67 Fed. Reg. 15,290, 15,326-28 (Mar. 29, 2002).

[51] *Id.* § 651.15(i)(1).

[52] *See* Appendix C to 32 CFR § 651, 67 Fed. Reg. 15,290, 15,326-28 (Mar. 29, 2002).

[53] *See also* CEQ, "Aligning NEPA Processes with Environmental Management Systems" (2007), *available at*

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program is the creation of a clear and accountable system for tracking and reporting both quantitative and qualitative measures of the mitigation efforts. An action-forcing response to mitigation failure is essential to the success of any mitigation program. In the context of a mitigated FONSI, the Army regulations provide that if any "identified mitigation measures do not occur, so that significant adverse environmental effects could be reasonably expected to result, the [agency actor] must publish a [Notice of Intent] and prepare an EIS."[54] This is an essential response measure to changed conditions in the proposed agency action. In addition, the Army regulations address potential failures in the mitigation systems indentified through monitoring. If mitigation is ineffective, the agency entity responsible should re-examine the mitigation and consider a different approach to mitigation. However, if mitigation is required to reduce environmental impacts below significance levels are found to be ineffective, the regulations contemplate the issuance of a Notice of Intent and preparation of an EIS.[55]

The Army regulations also provide guidance for the challenging task of defining parameters for effectiveness monitoring. Guidelines include identifying a source of expertise, using measurable and replicable technical parameters, conducting a baseline study before mitigation is commenced, using a control to isolate mitigation effects, and, importantly, providing timely results to allow the decision-maker to take corrective action if necessary.[56] In addition, the regulations call for the preparation of an environmental monitoring report to determine the accuracy of the mitigation impact predictions made in the NEPA planning process.[57] The report is essential for agency planning and documentation and promotes public engagement in the mitigation process.

c. *Public Engagement*

The Army regulations seek to integrate robust engagement of the interested public in the mitigation monitoring program. The regulations place responsibility on the entity proposing the action to respond to inquiries from the public and other agencies regarding the status of mitigation adopted in the NEPA process.[58] In addition, the regulations find that "concerned citizens are essential to the credibility of [the] review" of mitigation

ceq.hss.doe.gov/nepa/nepapubs/Aligning_NEPA_Processes_with_Environmental_Management_Systems_2007.pdf.

[54] 32 CFR § 651.15(c).

[55] *See id.* § 651.35(g) (describing the implementation steps, including public availability and implementation tracking, that must be taken when a FONSI requires mitigation); *id.* § 651.15(k).

[56] *See* subsections (g)(1)-(5) of Appendix C to 32 CFR § 651, 67 Fed. Reg. at 15,327.

[57] 32 CFR § 651.15(l).

[58] *Id.* § 651.15(b).

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effectiveness.[59] The Army specifies that outreach with the interested public regarding mitigation efforts is to be coordinated by the installation's Environmental Office.[60] These regulations bring the public a step closer to the process by designating an agency source responsible for enabling public participation, and by acknowledging the important role the public can play to ensure the integrity and tracking of the mitigation process. The success of agency mitigation efforts will be bolstered by public access to timely information on NEPA mitigation monitoring.

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[59] *Id.* § 651.15(k).

[60] 32 CFR § 651.15(j).

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Attachment C

Cervero, Robert and Hansen, Mark
Induced Travel Demand and Induced Road Investment
A Simultaneous Equation Analysis
Journal of Transport Economics and Policy, Volume 36, Part 3
September 2002

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Introduction

The subject of "induced travel" continues to spark interest within the transport research and practitioner communities. Although certain segments of these communities have long maintained that adding road capacity spurs additional traffic, in recent years a spate of papers has sought to quantify the effect and obtained results suggesting that induced effects are stronger than previously believed. Many of these papers employ regional (county or metropolitan level) pooled time-series data on vehicle-miles travelled (VMT), lane-miles of road, population, income, and other relevant variables to infer elasticities of VMT with respect to lane-miles. While a wide range of estimates has been obtained, the majority is in excess of 0.5, suggesting that the most added road capacity is "absorbed" by increases in traffic (Hansen and Huang, 1997; Fulton *et al.* 2000; Noland and Coward, 2000; Marshall, 2000). Other works, based on disparate research methods and drawn from international experiences, suggest an average value for the elasticity of traffic volume with respect to travel time of about −0.5 in the short term, and up to −1.0 in the long term (Goodwin, 1996; Bar, 2000). Such findings contrast with earlier work, summarised in Reuter *et al.* (1979), in which estimated lane-mile elasticities were of a much smaller magnitude: 0.01 to 0.15.

The more recent results are broadly consistent with the assertions, made several decades ago, of two noted transport policy analysts, Anthony Downs and Wilfred Owen. Downs (1962, 1992), argued that expanding congested freeways triggers a phenomenon he termed "triple convergence" in which drivers shift their routes, times of travel, and modes in order to exploit the new capacity, thereby generating similar levels of congestion (at least during peak periods) as before. Downs' interpretation led Owen to conclude (1985: 366): "Meeting the ever-growing needs for transport capacity has often proved to be a fruitless task, as the persistence in urban traffic jams attest." In the United States, the contention that "you can't build your way out of traffic congestion" has become the rallying cry of the Surface Transportation Policy Project (STPP). In a recent report based on 15 years of data across 70 US metropolitan areas, STPP (1999) concluded that regions that invested heavily in expanding road capacity fared no better in easing congestion than areas that did not.

Past empirical research has not always been clear on distinguishing "induced travel" from "induced demand" (United Kingdom Department of Transport, 1993; Lee *et al.*, 1999). Induced travel is the more inclusive term, reflecting all changes in trip-making that are unleashed by a road improvement: (1) newly generated trips (that is, latent demand); (2) longer

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journeys; (3) changes in modal splits; (4) route diversions; and (5) time-of-day shifts. Induced demand is more restrictive, encompassing only the first three of these components, thereby representing only newly added VMT within a region. Past studies have focused on gauging changes in all five components of travel change (that is, "induced travel"), even though this is not always explicitly stated. This is partly because, short of placing an electronic tag on each traveller affected by a new road and monitoring his or her travel, disentangling the many contributors to increased travel — at least to a high degree of precision — can be a futile exercise (Bonsall, 1996). One way to gauge newly generated traffic, or induced demand, is to focus on changes in VMT at a county or metropolitan level *versus* along a specific project corridor; this is because the bigger the geographic area of study, the more likely it is that any route diversions are internal to the unit of analysis.

In addition to these definitional concerns, past research has been criticised on a number of other grounds. Most studies have considered VMT and lane-miles on higher-level facilities; for example, state or provincial highways. This raises the question of whether increases in VMT found in these studies represent shifts from lower-level facilities, either as the result of improvements to the main roads or, more trivially, the redesignation of roads from one category to the other, or altogether "new" traffic (Cohen, 1995; DeCorla-Souza and Cohen, 1999). A second line of criticism questions the normative significance of research findings. Even if the elasticities obtained are essentially correct, some contend, lane-mile growth accounts for only a small fraction of VMT growth (DeCorla-Souza, 1998). Moreover, it is argued, induced travel may increase the benefits from road improvements since the extra VMT is presumably generating some additional surplus that may or may not offset congestion impacts (Small, 1992; Hansen, 1998; Lee *et al.*, 1999).

A third claim, and potentially the most far-reaching one, is that induced traffic models confuse, or conflate, cause and effect (Sen, 1999). The statistical relationship between road supply and traffic is not the result of a simple, one-way, causal link between the former and the latter, but rather a simultaneous relationship in which more traffic also spawns more roads. The transport planning and programming process is designed to anticipate and respond to changes in traffic. Thus, the correlation between road supply and traffic could reveal nothing more than that this process is working successfully. Likewise, the STPP findings that road expansion fails to relieve congestion could simply indicate that regions are failing to keep pace with the burgeoning demand for additional road capacity. Irrespective of a traffic inducement effect, road supply will generally

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correlate with road use. Sceptics can easily claim that all or most of the observed relationships between traffic and road investment derive from good planning rather than traffic inducement.

The implications of this last argument are clearly profound. If most or all of the correlation between traffic and road supply derives from the effect of the former on the latter, then questions of interpretation or normative implication become mute. And if the same set of facts can equally support either causal interpretation, then policy debates are reduced to ideological conflicts no more resolvable than the question of when human life begins. It is therefore important to see whether the causal linkages between road supply and traffic can be disentangled.

This paper attempts to accomplish this by estimating a simultaneous set of equations from a dataset containing 22 years of observations from California urban counties. In the next section, we review and critique past efforts to determine the direction of causality between road supply and traffic. This is followed by a presentation of our methodology, research results, and conclusions.

Previous Work

As noted, recent work on induced travel demand has featured single-equation models in which VMT is the dependent variable and lane-miles is included among a vector of independent variables. The models are generally in log-linear form so that coefficients represent elasticities. Various single-equation regression techniques are employed to allow both short-run and long-run elasticities of VMT with respect to lane-miles to be estimated. Some representative studies of this kind, based on US experiences, include: Hansen and Huang (1997), who obtained a short-run elasticity of 0.3 and a long-run elasticity of 0.9 for California metropolitan areas; Noland and Cowart (2000), who, using state-level data, found short-run elasticities in the 0.3 to 0.5 range and long-run elasticities of 0.7 to 1.0; and Fulton *et al.* (2000), who, based on county-level data drawn from the mid-Atlantic states, calculated short- and long-run elasticities of 0.1 to 0.4 and 0.5 to 0.8 respectively. Despite some agreement across these studies that elasticities are not inconsequential and generally increase over time, all estimates are based on single-equation regression models, raising the concern that the estimates are "consistently inconsistent" as a result of simultaneity bias.

Efforts to disentangle the simultaneous relationship between lane-miles and traffic have to date been limited. One approach has been to examine

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sequences and patterns of changes. Sen (1999) used this approach to show that in the Chicago metropolitan area, "major population gains occurred in proximity to the expressways over a decade before the construction of the respective expressways." Another approach, used by Fulton *et al.* (2000), has been to include both forward and backward lags to predict changes in VMT as a function of changes in lane-miles. The authors found that the backward lags were significant while the forward lags were not, implying that changes in lane-miles generally precede changes in VMT. However, as Fulton *et al.* (2000, p.16) acknowledge, "this is not quite evidence of causality, i.e. that increases in lane miles *cause* increases in VMT, since the results can be explained by 'efficient' planning that correctly anticipates future growth in VMT by building new capacity in advance." (Italics in original.)

A more rigorous approach is to estimate a simultaneous system of equations in which lane-miles and VMT are both treated as endogenous variables. To do this successfully, it is necessary to find exogenous variables that directly influence one endogenous variable but not the other. For example, if the costs of road construction varied significantly over time and across regions, we would expect this to affect road supply but not (directly) the demand for roads. In this case, the effect of road supply on traffic could be inferred from the statistical relationships between road supply and construction cost (termed an "instrument variable" in this context) and VMT and construction cost.

Accounting for endogeneity effects can be difficult due to a lack of suitable instrument variables. Even though construction cost is a logical candidate, the only readily available highway construction cost index in the US is a national one. While a number of other variables influence lane-miles, most that are easy to obtain are likely to directly affect VMT as well. As part of a single-equation regression analysis of induced demand across the US, Noland and Cowart (2000) use metropolitan land area and population density as instrument variables for lane-miles, but it is highly likely that both of these also have a direct impact on VMT since travel generally increases with the geographic size and use-intensity of land. The search for more appropriate instrument variables was a major focus of our study.

Research Methodology

A pooled time-series/cross-section of data on road supplies, demand, and various control variables was compiled for the state of California. California was chosen for empirically studying these endogeneity questions not

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only because the state department of transport (CalTrans) maintains rich and reliable time-series data, but also because the state provides a fairly good portrait of urban, suburban, and exurban settings for studying induced travel demand impacts.

The time period chosen for the analysis was 1976 to 1997, a period of rapid growth and change. The population of the state increased by 50 per cent over this 22-year period, from 22 to 33 million. Annual state highway lane-mile and VMT data for the state's 34 urbanised counties with central-city populations of 50,000 or more (as of 1990) were available from CalTrans. In total, then, 22 years of 34 cross-sectional observations, or 748 data points, were available for the analysis.

We turned to county-level data to carry out the analysis for several reasons. Compared to a project-level grain of analysis, county data better capture network effects of road expansions, such as the additional access and egress traffic on unimproved roads that connect to newly improved ones. Capturing area-wide effects is important since road improvements have spillover impacts that reverberate throughout a network. While metropolitan-level data offer an even larger geographic context for capturing spillover effects, it was felt that studying impacts at the regional level would overly dilute the analysis since many key metropolitan areas (such as greater Los Angeles or the San Francisco Bay Area) encompass large geographies. Thus, as a balance between municipal/corridor level data and metropolitan-wide data, counties provide a meso-scale, "middle ground" for capturing induced travel demand impacts. Also, by using county-level data, this and similar analyses are thought to capture "induced demand" (for example, newly generated traffic, longer trips, and modal shifts) since route diversions largely occur within the unit of analysis. Thus, the term "induced demand" is used to reflect the study's focus on newly added traffic, as reflected by increases in countywide VMT over time.

An econometric modelling framework was used to probe roadway supply-demand relationships in California. A two-way system of equations was simultaneously estimated, taking the form:

$$\textit{Demand Model: } D_{it} = f\,(S, P, A, I, L, F)_{it}$$
$$\textit{Supply Model: } S_{it} = g(D, A, L, G, F)_{it}$$

where: D = Travel demand vector (vehicle miles travelled); S = Roadway supply vector (lane miles of major road facilities); P = Price vector (fuel price per gallon); A = Population Attribute vector (population size; demographics); I = Income-effects vector (per capita income levels); L = Localised-effects vector (land-use densities; meteorological characteristics); G = Governance and policy factors vector (state political party

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The core variables used as candidate predictors in this research and their sources are summarised in Tables 1 and 2. Table 1 presents the primary predictor variables, whereas Table 2 lists variables that were candidates for predicting and instrumenting road supply. The metric we used to represent travel demand was vehicle miles travelled (VMT) on state-owned facilities, which consisted principally of freeways, arterials, and other major thoroughfares. Supply was represented by lane-miles of the same facilities used in measuring travel demand. Care was taken to ensure that "apples and apples" were being compared, including making adjustments to account for newly designated state facilities and the re-assignment of existing facilities to state jurisdiction. Limiting the analysis to state owned and maintained facilities meant that other, sometimes significant, roadways (for example, county collectors) were omitted from the analysis; however, the advantages of using consistent and reliable data more than offset the disadvantage of an incomplete universe of road facilities, in our judgement.

Table 1 shows a host of variables related to vehicle operating cost, population size and composition, income levels, and fuel economy were culled from various sources as candidate predictors. Unavoidably, problems of multi-collinearity were encountered in simultaneously using all as predictors; hence variables chosen as predictors were selected based on contributions to fit and consistency with theory.

Table 1
Key Predictor Variables and Sources

Dimension	*Variable*	*Sources*
Demand	VM, state facilities	Caltrans files, Department of Finance
Supply	Lane-Mile, state facilities	Caltrans files, Department of Finance
Price	Operating Cost/Mile	AAA, *Your Driving Costs*, 1997
	Retail Gas Price, local cents/gallon	U.S. Department of Energy, Energy Information Administration
	Gas, Tax, state, cents/gallon	U.S. Department of Commerce, *The Book of States*, various years
Population	County Population	CA Dept. of Finance, files
	Population by race	CA Dept. of Finance, files
	Density, Person per acre	CA Dept. of Finance, files
	Density, Workers per acre	CA Dept. of Finance, files
Income	Personal Income, median ($000)	U.S. Department of Commerce, Bureau of Economic Analysis
Fuel economy	Pass. Car, average miles per gallon	U.S. Department of Transportation, FHWA, *Highway Statistics*, various years

Key: Caltrans: California Department of Transportation; AAA: Automobile Association of America; CA = California; VMT = vehicle miles travelled.

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Table 2
Candidate Predictor and Instrument Variables for Predicting Road Supply

Dimension	*Variable*	*Source*
Geography/Weather	Precipitation, inches	CA Dept. of Finance, *California Almanac*
	Heating Degree Days	CA Dept. of Finance, *California Almanac*
	Cooling Degree Days	CA Dept. of Finance, *California Almanac*
	Low daily temp., avg.	CA Dept. of Finance, *California Almanac*
	High daily temp., avg.	CA Dept. of Finance, *California Almanac*
	Lowest Elevation, feet	CA Dept. of Finance, *California Almanac*
	Highest Elevation, feet	CA Dept. of Finance, *California Almanac*
Air Quality	No. Days > NAAQS	California Air Resources Board, data files
	Max. 1hr., CO, ppm	California Air Resources Board, data files
	Max. 8 hr. CO, ppm	California Air Resources Board, data files
	Max. 1hr, Ozone, ppm	California Air Resources Board, data files
Politics	Governor's Party (0–1)	U.S. Department of Commerce, *The Book of States*
	Gov. in 2nd Term (0–1)	U.S. Department of Commerce, *The Book of States*
	House Majority, party affiliation (0–1)	U.S. Department of Commerce, *The Book of States*, various years
	Senate Majority, party affiliation (0–1)	U.S. Department of Commerce, *The Book of States*, various years
	Local Assembly Rep. On Transp. Committee (0–1)	California Assembly, *CA Roster*, various years
	Local Assembly Rep. Chair Transp. Com. (0–1)	California Assembly, *CA Roster*, various years
	Local Senate Rep. On Transp. Committee (0–1)	California Assembly, *CA Roster*, various years
	Local Senate Rep., Chair Transp. Com (0–1)	California Assembly, *CA Roster*, various years

Key: NAAQS = National Ambient Air Quality Standard; CA = California; CO = Carbon Monoxide; ppm = parts per million.

Table 2 summarises variables that served as both potential predictors and instruments of the supply-side endogenous variable, roadway lane miles. The set of topographic and meteorological variables sought to gauge how extremes in weather and terrain might account for variation in road development, other things being equal. More mountainous areas with greater temperature extremes and high levels of precipitation, for example, might receive capacity additions as part of road reconstruction and rehabilitation programmes. Air quality is thought to shape road investment programmes for legal and policy reasons. What is unclear, however, is whether worsening air quality, on balance, encourages or discourages road expansion. On the one hand, new roads promise to relieve congestion and increase average travel speeds, which generally contributes to improved air quality; on the other hand, proposed road

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improvements are often opposed on the grounds that they exacerbate air quality over the long run by inducing sprawl and car-oriented development. Several road projects in the San Francisco Bay Area were legally challenged on the very grounds that road expansions induce sprawl; however, the courts generally sided with the argument that roads, by increasing travel speeds, on balance have a positive air-quality impact (Garret and Wachs, 1996). Lastly, a series of variables on executive and legislative party affiliations and committee assignments were compiled to gauge the influences of politics on road development in the state. Representation from a local (that is, municipal or county) elected official on a state transport committee, or better still, having a local politician as chairperson of such a committee, might be expected to result in relatively high levels of local road investments. In the US, conventional wisdom also holds that Republication administrations are friendlier to road programmes than their Democratic counterparts, who tend to focus more on social programmes. Thus, the analyses that follow examine how politics and parochialism have shaped road development in California over the last quarter of the twentieth century.

Empirical Findings

The 3SLS estimation results are presented in Tables 3 and 4. Both models, simultaneously estimated, represent best-fitting equations that are free of serious collinearity problems and violations of underlying estimation assumptions. In the three-stage technique, all exogenous variables in the system of equations (that is, the variables other than VMT and lane-miles) were used as instruments in estimating the two endogenous variables, VMT and roadway lane-miles. Because there were no serial auto-correlation problems in the calibration of models, there was no need to first-difference equations.

These model results are consistent with theory and much of the empirical literature to date. Notably, a strong short-term travel *induced-demand effect* was uncovered from the 22 years of county-level California data: from the elasticity estimate, every 10 per cent increase in lane-mile capacity was associated with a 5.9 per cent increase in VMT, controlling for other factors including the simultaneous influences of road supply and demand. However, the results also reveal a significant *induced-investment effect*, with lane-mile additions significantly explained by VMT: a 10 per cent increase in VMT was associated with a 3.3 per cent increase in lane-

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Table 3
Induced Demand Model: Natural Logarithm of Annual Countywide Vehicle Miles Travelled (VMT), 34 California Counties, 1976 to 1997; 3SLS Estimation

	Coefficient	*Std. Error*	*t-Statistic*	*Prob.*
Natural Log of:				
Lane-Miles	0.588	0.028	21.17	0.000
Population	0.690	0.030	21.02	0.000
Employment density	−0.079	0.013	−6.30	0.000
Income, $ per capita	0.294	0.012	27.51	0.000
Gas Price, local, cts.	−0.179	0.016	−11.02	0.000
County Fixed Effects:				
Los Angeles	−0.563	0.035	−15.79	0.000
Orange	−0.122	0.021	−5.64	0.000
San Bernadino	−0.843	0.030	−28.24	0.000
Riverside	−0.694	0.021	−28.57	0.000
Ventura	−0.469	0.021	−22.52	0.000
San Diego	−0.533	0.027	−19.41	0.000
Santa Barbara	−0.547	0.018	−30.22	0.000
Contra Costa	−0.087	0.023	−3.73	0.000
Santa Clara	−0.306	0.021	−14.29	0.000
Sonoma	−0.475	0.020	−24.22	0.000
Napa	−0.367	0.021	−17.09	0.000
Sacramento	−0.405	0.018	−21.86	0.000
Yolo	−0.306	0.022	−13.96	0.000
Monterey	−0.579	0.020	−29.41	0.000
Santa Cruz	−0.251	0.018	−21.85	0.000
San Luis Obispo	−0.502	0.023	−25.17	0.000
Fresno	−1.051	0.023	−44.78	0.000
El Dorado	−0.344	0.021	−15.64	0.000
Placer	−0.111	0.019	−5.78	0.000
Kern	−0.847	0.022	−37.75	0.000
Madera	−0.069	0.025	−2.79	0.006
Sutter	−0.298	0.023	−12.75	0.000
Merced	−0.348	0.020	−17.57	0.000
Tulare	−0.835	0.022	−37.02	0.000
San Joaquin	−0.417	0.017	−23.85	0.000
Stanislaus	−0.603	0.022	−27.02	0.000
Butte	−0.855	0.022	−38.25	0.000
Shasta	−0.549	0.022	−25.49	0.000
Yuba	−0.296	0.028	−10.53	0.000
Constant	0.102	0.175	0.86	0.582

Summary Statistics:
No. of Cases: 713
F Statistic = 6037, prob. = 0.000
R-Square = 0.996.

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Table 4
Induced Investment Model: Natural Log of Annual Countywide Lane Miles of Freeway–Highway Capacity, 34 California Counties, 1976 to 1997; 3SLS Estimation

	Coefficient	*Std. Error*	*t-Statistic*	*Prob.*
Natural Log of:				
VMT	0.329	0.021	15.47	0.000
Population	0.516	0.020	26.65	0.000
Employment density	−0.321	0.006	−57.69	0.000
White Pop., prop.	0.411	0.069	5.59	0.000
Gov. Party, 1 = Dem., lag	0.097	0.008	12.09	0.000
CO Max 1 Hour, ppm, lag	0.060	0.006	9.85	0.000
Temperature Diff., low-hi	0.501	0.027	18.61	0.000
County Fixed Effects:				
Los Angeles	0.497	0.027	18.58	0.000
Orange	0.183	0.027	6.77	0.000
San Diego	0.398	0.025	15.97	0.000
Santa Barbara	0.102	0.016	6.44	0.000
Alameda	0.434	0.027	16.13	0.000
Contra Costa	−0.218	0.018	−12.10	0.000
San Francisco	0.261	0.028	9.02	0.000
San Mateo	0.282	0.020	13.88	0.000
Marin	−0.269	0.018	−14.61	0.000
Solano	−0.123	0.018	−6.88	0.000
Sonoma	−0.305	0.021	−14.84	0.000
Napa	−0.281	0.019	−14.26	0.000
Yolo	0.183	0.018	10.16	0.000
Monterey	0.125	0.020	6.34	0.000
Santa Cruz	0.196	0.019	10.05	0.000
San Luis Obispo	0.151	0.016	9.33	0.000
Kern	0.448	0.016	26.97	0.000
Madera	−0.433	0.019	−22.23	0.000
Stanislaus	−0.300	0.019	−15.65	0.000
Butte	−0.271	0.025	−10.83	0.000
Sutter	−0.317	0.021	−14.63	0.000
Yuba	−0.473	0.023	20.61	0.000
Constant	−3.827	0.150	25.40	0.000

Summary Statistics:
No. of Cases: 713
F Statistic = 3645, prob. = 0.000
R-Square = 0.994.

mile additions, all else being equal and simultaneous influences accounted for. Thus, "induced demand" effects were found to be stronger than "induced investment" effects, although not overwhelmingly so. Regarding the polarised debate that swirls around induced travel demand, as often is the case with ideological differences, there is some truth in both sides of the

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argument. That is, California experiences suggest that road investments induce travel demand and traffic growth induces road investments. The former dynamic appears to be stronger than the latter; however, both sets of relationships are statistically significant.

In terms of model estimation, failure to account for simultaneous influences invariably leads to biased parameter estimates. Because the two endogenous variables are positively correlated with each other, the direction of bias in many past studies has probably been an overstatement of induced travel demand effects. Despite this, we uncovered a respectable elasticity of 0.588 for induced travel demand from our database, in line with estimates of Hansen and Huang (1997) who used single-equation (non-simultaneously estimated) models in estimating elasticities for California counties. This is partly explained by the fact that the models presented in this paper have different specifications, are estimated on a different set of years, and are thus not completely comparable with the earlier work. Consequently, our models could very well be yielding elasticity results that are fairly consistent with less well-specified models that contain biases due to single-equation estimation. And in relation to elasticity estimates from our models and those of other researchers who have built single-equation models using data from other states, the comparability of results could very well be due to stronger induced demand effects in California, America's most populous state and, in aggregate terms, the fastest growing one.

It is worth noting that including county fixed effects enhanced the simultaneous equations. Statistically, their chief role was to improve model specification, similar to the induced demand work carried out by Noland and Cowart (2000) and Fulton *et al.* (2000). Still, both the induced demand and induced investment models were highly significant even when county fixed effects were excluded in model runs (with *R*-Squares of 0.94 or more). Adding fixed effects helped to specify more fully the system of equations (revealed by marginal increases in *R*-Squares to over 0.99), thus refining elasticity estimates of induced travel demand and induced roadway investments.

Induced demand model

Besides the strong influence of lane-mile additions on VMT, other explanatory relationships revealed in Table 3 are also of policy interest. Population growth most strongly accounted for VMT increases. Because of the steady pattern of year-to-year population increases among California counties, the population variable also served as a secular-trend proxy, obviating the need for any temporal fixed-effect variable.

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Table 3 shows that, as expected, VMT was market-sensitive—it rose with personal income levels and fell as local fuel prices increased, both expressed in constant 1990 currency. Areas with relatively dense employment averaged less VMT, controlling for other factors (notably population), suggesting that commuting alternatives (for example, better public transport in denser settings) and other influences (for example, higher parking charges in denser settings) worked to suppress VMT. Cross-sectional fixed effects were significant for 29 of the counties, indicating lower levels of travel consumption relative to the five suppressed Bay Area counties — San Francisco, Alameda, San Mateo, Marin, and Solano counties.

Overall, the VMT model had superb predictive abilities, explaining virtually all of the variation in travel consumption across the 34 California counties over the 22-year time period. This near-perfect fit was attributable largely to core variables that closely tracked VMT secularly, notably population and income.

Induced investment model

Table 4 reveals that, in addition to VMT, California's roadway capacity responded to population trends (that is, demographic characteristics), localised effects (that is, density and temperature differentials), and policy-related influences (that is, governor party affiliation and air-quality levels). Consistent with expectations, road investments increased with population size and temperature differentials and decreased with employment density. Settings with wide swings in yearly temperatures have been recipients of more road improvements, most probably because higher investments in maintenance and road reconstruction afford opportunities for piggy-backing road expansions onto these programmes. High employment densities probably act as a deterrent to road investments since right-of-way acquisitions tend to be costlier and Not-In-My-Backyard (NIMBY) resistance to potential disruptive effects tends to be stronger in more urbanised settings.

Signs on the other predictor variables are less grounded *a priori* and thus warrant explanation. Unexpectedly, our analysis revealed some sensitivity in state road investments with respect to county racial composition. Controlling for population size, VMT, and other factors, counties with higher shares of white residents averaged more road-capacity expansion. While one might argue this reflects the tendency of whites to live in suburban areas where roads tend to be more plentiful, this was so even when controlling for county fixed effects, including the unique influences of counties that are quintessentially suburban, such as Orange County in Southern California and Solano County in the San Francisco Bay Area.

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The positive coefficient on the air-pollution variable, represented by maximum levels of carbon monoxide (CO) emissions recorded in one hour (expressed in parts per million) the previous year, was not totally expected. As discussed earlier, road improvements are variously viewed as an asset and a liability in relation to air pollution. To the degree they reduce stop-and-go traffic, they generally improve air quality (CO in particular); to the degree they spawn VMT increases, as revealed in this model, they worsen air quality. On balance, it appears that the former argument has succeeded over the latter in California public policy circles. That is, worsening of air quality in prior years appears to be a catalyst to road expansion, all else being equal. Because of the time commitments involved in proposing and programming road improvements, one might contend that a longer lag period than one year should be used to represent the influences of prior air quality levels on contemporaneous road investments. Longer lagged structures were indeed attempted in the exploratory phases of model construction; however, these consistently provided poorer model fits — and not to be overlooked, at the loss of considerable degrees of freedom. Accordingly, one-year lags were used. It might very well be that prior-year slippages in air quality add momentum to road investment initiatives and perhaps, during periods of budget constraints, make a difference in which projects are built and which ones are delayed. Or, as argued above, planners may have anticipated the congested conditions giving rise to high CO levels in planning and programming decisions that were made years earlier.

Most surprising was the influence of party affiliation the prior year on contemporary state road investments. In California, road supply is higher, other things being equal, when a Democrat is governor. This reflects the historical evolution of the California highway program. The 1974–82 period when Jerry Brown was California's governor coincided with a rapid deceleration in the state's highway construction programme because of a variety of factors, including increased costs, declining fuel tax revenues, heightened environmental concerns, and Brown's own multi-modal transport policy (Taylor 1992). Subsequent Republican governors were unable to resurrect this programme. Thus, while the California population and economy have grown rapidly in the past two decades, road supply has not kept pace, and, controlling for these variables, road expansions have been more tentative under the later, Republican, administrations.

Table 4 also reveals distinct county-by-county variations in road investments even when controlling for other variables such as VMT and population. Based on the positive coefficients, many urbanised counties, particularly those in Southern California, were recipients of relatively high levels of road improvements over the 1976 to 1997 period. This could

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reflect the need for major road improvements following the widespread damage caused by major earthquakes during this period (such as, the 1994 Northridge incident). The high positive signs on the fixed-effects variables representing San Francisco, Alameda, San Mateo, Santa Cruz, and Monterrey Counties similarly may reflect the massive road rebuilding that followed the catastrophic 1989 Loma Prieta earthquake.

Overall, the model shown in Table 4 was a very good predictor, explaining over 99 per cent of the variation in lane-mile additions. While much of the explained variation was attributable to secular population growth, VMT was not an inconsequential factor in explaining road development in California. One should expect nothing less, for any competent highway planning and development programme should fully anticipate and respond well in advance to unfolding trends in travel demand.

Intermediate-term relationships

As measures of short-term elasticities, our estimates of induced traffic demand effects from Table 3 are in line with those of earlier studies (see, Goodwin 1996; Hansen and Huang 1997; Fulton *et al.*, 2000). For purposes of measuring induced-demand and induced-investment effects over longer time horizons, we re-estimated the models using polynomial distributed lagged structures. For both the supply and demand equations, models were fitted assuming second-degree polynomial lags with five-year lag periods (and no endpoint restrictions). Exponential distributions were also attempted, similar to those reported by Noland and Cowart (2000); however, our data suggested that induced-demand and induced-investment effects did not diminish exponentially over time lags but rather followed more of a convex-shaped delayed-response pattern.

Table 5 presents the results of the distributed-lagged model for predicting induced-demand effects. Because coefficients on the fixed-effect variables were similar to those of the 3SLS model (Table 3), only coefficients for the primary predictor variables are shown. Slightly significant auto-correlation (revealed by Durban–Watson statistics) prompted us to estimate the second-degree polynomial distributed lag model using first-order autoregressive estimation (Yule Walker estimates). The convex nature of the lagged response effects is revealed by the coefficient weights, with VMT adjustments appearing to be the strongest one year after road expansion, and influences tapering thereafter. A sum of lag coefficients provides an additive estimate of the intermediate induced demand elasticity: +0.79. This estimate aligns with those of other recent studies that have computed longer-term lane-mile elasticities using distributed lag models (Noland and Cowart, 2000; Fulton *et al.*, 2000). Whereas other studies have imputed longer-term

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Table 5
Intermediate-Term Induced Demand Model: Polynomial Distributed Lag Structure; Constant and Fixed-effect Controls not Shown

	Coefficient	*Std. Error*	*t-Statistic*	*Prob.*
Natural Log of:				
Lane Miles (*t*-0)	0.197	0.007	28.19	0.000
Lane Miles (*t*-1)	0.223	0.009	24.69	0.000
Lane Miles (*t*-2)	0.173	0.011	15.70	0.000
Lane Miles (*t*-3)	0.120	0.010	11.93	0.000
Lane Miles (*t*-4)	0.056	0.009	6.24	0.000
Lane Miles (*t*-5)	0.022	0.005	4.56	0.000
Population	0.699	0.033	21.06	0.000
Employment density	−0.107	0.009	−11.77	0.000
Income, $ per capita	0.227	0.010	22.84	0.000
Gas Price, local, cts.	−0.223	0.016	13.92	0.000
Fixed Effects/Constant	***	***	***	***

Summary Statistics:
No. of Cases: 625
F Statistic = 3554, prob. = 0.000
R-Square = 0.986.

induced demand using a single-period lag on both lane-miles and VMT (that is, as a lagged-endogenous term), we were able to estimate directly the longer-term elasticity from the additive coefficients on the distributed lag model (Johnston, 1984; Pindyck and Rubinfeld, 1991).

Results of the distributed lagged model for estimating induced-investment effects, also estimated using auto-regressive techniques, are shown in Table 6. (Again, coefficients on the many fixed effect variables are not shown.) An even stronger convex quadratic structure is revealed by the coefficients on the lagged terms of this model. As both theory and common sense hold, road investments appear to be strongly influenced by traffic loads in previous periods. From the sum of distributed lag coefficients, the estimate five-year (intermediate-term) elasticity is +0.66. This is a far bigger jump from the near-term elasticity than in the case of the induced-demand model, suggesting that induced-investment effects build more strongly over time than do induced-demand effects.

Triangulation: Granger Causality Testing

For purposes of cross-checking the simultaneous estimations findings and triangulating the research design, a Granger (1969) causality test was

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Table 6
Intermediate-Term Induced Investment Model: Polynomial Distributed Lag Structure; Constant and Fixed-effect Controls not Shown

	Coefficient	*Std. Error*	*t-Statistic*	*Prob.*
Natural Log of:				
VMT (*t*-0)	0.154	0.011	12.89	0.000
VMT (*t*-1)	0.209	0.016	13.07	0.000
VMT (*t*-2)	0.191	0.015	12.65	0.000
VMT (*t*-3)	0.126	0.011	11.32	0.000
VMT (*t*-4)	0.067	0.006	11.16	0.000
VMT (*t*-5)	−0.021	0.005	−4.14	0.000
Population	0.605	0.034	17.79	0.000
Employment density	−0.356	0.014	−26.19	0.000
Gov. Party, 1 = Dem., lag	0.045	0.009	4.99	0.000
CO max 1 hr, ppm, lag	0.042	0.007	5.86	0.000
Temperature Diff., low-hi	0.714	0.069	10.42	0.000
Fixed Effects/Constant	***	***	***	***

Summary Statistics:
No. of Cases: 622
F Statistic = 2279, prob. = 0.000
R-Square = 0.997.

conducted using the same dataset. The Granger test infers the direction of causality based on establishing a clear time ordering in the predictability of two correlated variables. If a variable X is a causal factor for a variable Y, then a model for Y that includes past values for X as well as past values for Y should perform better than a model that includes only past values of Y. Thus one can test the null hypothesis that X does not cause Y by estimating a model relating Y to past values of X and Y and testing the restriction that coefficients on the X variables are all zero. An analogous test can be performed to determine whether Y is a causal factor in explaining X. Thus, given two correlated variables, one can use the Granger test to infer whether X causes Y, Y causes X, or both, or neither.

Results of the Granger test are summarised in Table 7. The length of lagged structure in any Granger test is guided partly by theory but mostly by what provides the best statistical fits. With our database, a two-year lagged structure yielded the best statistical results. For purposes of testing whether lane-mile capacity adds significant incremental explanatory power in explaining variation in VMT, the reduced model took the lagged form of: $VMT_t = f(VMT_{t-1}, VMT_{t-2})$. The full model was expressed as: $VMT_t = f(VMT_{t-1}, VMT_{t-2}, LANEMILE_{t-1}, LANEMILE_{t-2})$. The null hypothesis of no value-added was easily rejected. Thus, consistent with the earlier results, road capacity passed the Granger test as a significant

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Table 7
Granger Causality Test Results for Two-Year Time Lagged Structure
(N = 680)

	Sum of Square Errors		*Explanatory Improvement F-Statistic (probability)*	
	Reduced Model	*Full Model*		*H_0 Action*
VMT Model: H_0: "Lane Miles" do not add significant incremental explanatory power	3.83E+13	3.68E+13	13.774 (.000)	Reject
Lane Miles Model: H_0: VMT does not add significant incremental explanatory power	1,291,139	1,165,647	36.330 (.000)	Reject

incremental predictor in explaining variation in VMT. When the analytical process was reversed, with two-year lags of VMT added to a lane-mile model with one- and two-year lags of the endogenous variable, it was found previous-year VMT levels significantly affected lane miles. Overall, then, the Granger results were wholly consistent and reinforced the econometric results — during the past quarter-century in California, at least, road supply and demand have jointly influenced one other.

Conclusions

Our research found, unequivocally, a strong two-way empirical relationship between road supply and demand, as theory holds. Over the past several decades in California, road supply has been both a cause and an effect in relation to VMT. That is, our analysis showed significant *induced-demand* and *induced-investment* effects. Presumably, past state highway investments were based on levels of travel demand that were anticipated — suggesting, in California at least, that road investments not only stimulated travel demand but responded to it as well. While the effects of lane-mile additions on VMT appear to be stronger than vice-versa, both relationships are significant and should be acknowledged when addressing policy questions related to congestion relief and highway development. Like most policy debates full of ideology, the truth often lies somewhere in

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between the extreme positions of the debaters. The findings of this research occupy this middle ground.

Consistent with other studies, our research shows induced-demand effects build over time, revealed by an increase of the short-term elasticity estimate of +0.59 to +0.79 over the intermediate term. Our research also suggests that induced-investment effects build even more rapidly, with the estimated short-term elasticity of +0.33 doubling to +0.66 within a five-year time horizon. While the simultaneous structure used in this study is appealing theoretically, and performs well statistically, we were somewhat surprised that lane-miles respond to contemporaneous or near-contemporaneous exogenous influences even though project implementation can take many years. These results can be partly explained by the "look-ahead" nature of transport planning. However, they are also revealed by the strong correlations of contemporaneous values of the endogenous variables, VMT and lane miles, to lagged values; when polynomial distributed lag structures were used to estimate relationships, insights into the delayed-response of road investments to VMT increases were revealed.

Besides shedding light on the core research question of how road supply and demand jointly influence each other, this research yielded several other useful policy insights. Overall, state road projects in California appear to have been fairly de-politicised, with investments governed mainly by need (for example, growth in VMT and population). Still, governor party affiliation appeared to have some bearing on statewide road development, with Democratic administrations presiding over periods of more abundant road supply, partly a result of historical happenstance. Our research also uncovered possible race-based inequities in road development. While we do not believe that racial discrimination has overtly influenced transport investment decisions, nevertheless California's past allocation of roads has gone disproportionately to counties with predominantly white populations. In addition, our analysis disclosed that deterioration in air quality has generally worked in favour of road expansion, ostensibly as a means of improving traffic flows, at least at the margin. While the desire to expedite traffic movements has never been a centrepiece of air-quality policies in California over the years, the fact that most transport and air-quality forecasting models assign benefits to higher average speeds has no doubt played some role in promoting road development in the state.

Despite the advance over single-equation estimates of induced travel demand, our "bottom-line" elasticity estimates fall well within the range of earlier studies. Single-equation methodologies are no doubt subject to simultaneity bias; however, this does not seem to have greatly distorted

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their results. While some sceptics continue to castigate the elasticities from induced demand studies as nothing more than "random numbers", they cannot deny that these numbers have a central tendency.

Although simultaneous equations improve internal validity, we acknowledge that the use of aggregate data can increase the chance of drawing spurious inferences. We used county-level data, as have other researchers, since the spillover effects of road improvements on connecting facilities can be more readily captured. Several recent studies (see, Strathman *et al*, 2000; Barr, 2000) have sought to examine the travel-demand impacts of road improvements using household travel-diary data. These disaggregate studies derived lower elasticities than those of most aggregate-scale analyses. However, as cross-sectional studies with fairly poor statistical fits, and which ignore impacts of road improvements on commercial travel, studies based on household travel diaries have limitations as well. While our understanding of induced travel demand remains incomplete, as empirical evidence accumulates and model specifications improve, a balance of aggregate and disaggregate research should help close some of the existing knowledge gaps regarding how urban roadways and travel jointly influence each other.

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GL14 Continued

Attachment D

Environmental Council of Sacramento v. California
Department of Transportation
Case No. 07CS00967
July 15, 2008

GL14 Continued

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Environmental Council of Sacramento
and Neighbors Advocating Sustainable
Transportation

FILED / ENDORSED
AUG 1 2 2008
By L. Young, Deputy Clerk

IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF SACRAMENTO

ENVIRONMENTAL COUNCIL OF SACRAMENTO; and NEIGHBORS ADVOCATING SUSTAINABLE TRANSPORTATION Petitioners v. CALIFORNIA DEPARTMENT OF TRANSPORTATION, WILL KEMPTON, Director; and, DOES 1 through 20; Respondents	Case No. 07CS00967 ~~[PROPOSED]~~ JUDGMENT GRANTING PETITION FOR WRIT OF MANDATE

This matter came on for a hearing on the Petition for Writ of Mandate on March 21, 2008, and was heard, argued, and submitted for decision in Department 29 of the above-entitled Court, the Honorable Timothy Frawley presiding. Donald B. Mooney appeared on behalf of Petitioners Environmental Council of Sacramento and Neighbors Advocating Sustainable Transportation. Martin Keck appeared on behalf of Respondents California Department of Transportation ("Caltrans") and Will Kempton, Director of Caltrans.

The Court having reviewed the record of Respondents' proceedings in this matter, the briefs submitted by counsel and the arguments of counsel, the matter having been submitted for

GL14 Continued

decision, and the Court having directed that a peremptory writ of mandate issue in this proceeding,

IT IS SO ORDERED that:

1. Judgment granting a writ of mandate be entered in favor of all the above-referenced Petitioners' in this proceeding. Judgment is so entered because the Court finds that Respondents committed a prejudicial abuse of discretion by failing to prepare a legally adequate Environmental Impact Report and did not comply with the California Environmental Quality Act ("CEQA"), Public Resources Code, section 21000 *et seq*. The basis for the Judgment is set forth in the attached Minute Order ("Ruling After Hearing"), which is incorporated by reference.

2. A peremptory of writ of mandate directed to Respondents California Department of Transportation and Director Will Kempton shall issue under seal of this Court, ordering Respondents to do all of the following:

a. Within 30 days from service of this writ of mandate, Respondents shall vacate and set aside the June 21, 2007, certification of the Final Environmental Impact Report for the Sacramento 50 Bus/Carpool Lanes and Community Enhancement Project, and the June 21, 2007, approval of the Sacramento 50 Bus/Carpool Lanes and Community Enhancement Project ("Project").

b. Respondents shall not reapprove the Project unless and until Respondents have certified an environmental impact report that complies with CEQA and the CEQA Guidelines, and otherwise complied with CEQA.

c. Respondents and their agents shall suspend any and all activities to approve and implement the Project that could result in adverse change or alteration to the physical environment, until this Court determines that Respondents have taken the actions specified herein to bring their approval of the Project into compliance with CEQA.

d. Respondents shall file an initial return to the peremptory writ of mandate within 30 days of service. Respondents shall file a supplemental return to the writ of mandate after they have certified an EIR for the Project, or after they have determined not to reapprove

[PROPOSED] JUDGMENT GRANTING PETITION FOR WRIT OF MANDATE 2

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the Project. The Court shall retain jurisdiction over Respondents' proceedings by way of the return to the peremptory writ of mandate until the Court has determined that Respondents have complied with CEQA.

3. Petitioners are awarded their costs of suit upon appropriate application.

4. The Court shall retain jurisdiction for any motion for an award of attorney's fees.

DATED: ~~July __, 2008~~ August 12, 2008

The Honorable Timothy Frawley
Judge of the Superior Court

Approved as to Form:

DATED: July 24, 2008

CALIFORNIA DEPARTMENT OF TRANSPORTATION

By _____
Martin Keck
Attorney for Respondents
California Department of Transportation and Director Will Kempton

[PROPOSED] JUDGMENT GRANTING PETITION FOR WRIT OF MANDATE 3

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SUPERIOR COURT OF CALIFORNIA,
COUNTY OF SACRAMENTO
GORDON D SCHABER COURTHOUSE
MINUTE ORDER

Date: 07/15/2008 Time: 11:51:50 AM Dept: 29

Judicial Officer Presiding: Judge Timothy Frawley
Clerk: L. Young

Bailiff/Court Attendant: NONE
ERM:
Reporter: NONE,

Case Init. Date: 11/12/2007

Case No: 07CS00967 Case Title: ENVIR COUNCIL OF SAC. ET AL VS. CA DEPT OF TRANSPORT. ET AL

Case Category: Civil - Unlimited

Causal Document & Date Filed:

Appearances:

RULING AFTER HEARING

Petitioners Environmental Council of Sacramento and Neighbors Advocating Sustainable Transportation ("Petitioners") challenge Respondent California Department of Transportation's ("Caltrans") June 21, 2007, approval and certification of a Final Environmental Impact Report ("Final EIR") for the Sacramento 50 Bus/Carpool Lanes and Community Enhancement Project under the California Environmental Quality Act ("CEQA"). Petitioners seek a writ of mandate directing Caltrans to set aside its certification of the EIR and approval of the Project.

The Project, as approved, proposes to build approximately 13 miles of High Occupancy Vehicle ("HOV") lanes, in the east-bound and west-bound directions, within the existing median of U.S. Highway 50 from Sunrise Boulevard to Watt Avenue, plus various transportation-related "community enhancements" related to the highway improvements. Currently, within the Project boundaries, the number of lanes in each direction varies from three to six lanes.

The concept for the Project was conceived several years ago and has been incorporated into a number of regional transportation studies and reports since 1996-97. (14 AR 4640-4673; 23 AR 8638; 11 AR 3716-3724.)

In June 2005, a Notice of Preparation of a Draft EIR for the Project was filed with the California Office of Planning and Research (State Clearing House). (21 AR 8078-8086.)

On December 13, 2006, Caltrans released the Draft EIR for a 60-day public review and comment period. (2 AR 508-775.) The Draft EIR identified two "build" alternatives (Alternatives 10d-1 and 10d-3) and a "No Build" alternative. (2 AR 513-514.) Alternative 10d-1 provides for the construction of HOV lanes from Sunrise Boulevard to the Oak Park interchange in downtown Sacramento. Alternative 10d-3, which is the approved Project, provides for the construction of the HOV lanes from Sunrise Boulevard to Watt Avenue. The No Build Alternative provides no improvements to Highway 50. The Draft EIR also identifies and discusses various other alternatives that were initially considered but then eliminated for various reasons. (2 AR 526-535.) Petitioners and others provided comments on the Draft EIR. (1 AR 339

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Case Title: ENVIR COUNCIL OF SAC. ET AL VS. CA Case No: 07CS00967
DEPT OF TRANSPORT. ET AL

through 2 AR 472.)

In June 2007, Caltrans issued the Final EIR. The Final EIR includes Caltrans' responses to the comments on the Draft EIR. (2 AR 473-507.) The Final EIR concludes that the Project will not result in any significant environmental impacts after mitigation. (1 AR 9-13; 4 AR 1419.)

On June 21, 2007, Caltrans certified the Final EIR and approved the Project. Caltrans adopted findings that the Project will not have a significant effect on the environment. (4 AR 1419; 1 AR 1.)

Caltrans filed a Notice of Determination under Public Resources Code § 21152 with the State Clearing House on June 25, 2007, commencing CEQA's 30-day period of limitations. (1 AR 1.) On the final day of that period, Petitioners filed the instant petition for writ of mandate, alleging that Caltrans violated CEQA.

Discussion

In determining whether an administrative body failed to comply with CEQA, the Court considers whether there was a prejudicial abuse of discretion. (Western States Petroleum Assn. v. Superior Court (1995) 9 Cal.4th 559, 568; Pub. Res. Code § 21168.5.) Abuse of discretion is established if the agency has not proceeded in a manner required by law or if the determination or decision is not supported by substantial evidence. (Citizens of Goleta Valley v. Board of Supervisors (1990) 52 Cal.3d 553, 564.)

Under the substantial evidence test, the court does not decide whether the agency's determinations were correct, but only whether they are supported by substantial evidence in the record. (Id.; see also Association of Irritated Residents v. County of Madera (2004) 107 Cal.App.4th 1383, 1391.)

Substantial evidence is defined as "enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached." (Cal. Code Regs., tit.14, § 15384.) Substantial evidence includes facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts. (Id.) Substantial evidence does not include "[a]rgument, speculation, unsubstantiated opinion or narrative, evidence which is clearly erroneous or inaccurate, or evidence of social or economic impacts which do not contribute to or are not caused by physical impacts on the environment . . . ." (Id.)

In applying the substantial evidence standard, the reviewing court does not reconsider or reweigh the evidence before the agency. The court must indulge all reasonable inferences from the evidence that would support the agency's determinations and resolve all conflicts in the evidence in favor of the agency's decision. (Western States Petroleum, supra, at p.571 [finding the power of the court begins and ends with a determination as to whether there is any substantial evidence, contradicted or uncontradicted, which will support the finding]; Laurel Heights Improvement Ass'n v. Regents of University of California (1988) 47 Cal.3d 376, 393.) A court should not set aside an agency's conclusion merely because an opposite conclusion would be equally or more reasonable. (Laurel Heights, supra, at p.393.)

In addition to reviewing whether an agency's factual determinations are supported by substantial evidence, a court may rule that an agency has prejudicially abused its discretion by failing to proceed in the manner required by law. (Pub. Res. Code §§ 21005, 21168, 21168.5; see also Rural Landowners Assn. v. City Council (1983) 143 Cal.App.3d 1013, 1022.) While an agency's factual determinations are subject to deferential substantial evidence review, questions of interpretation or application of the requirements of CEQA are matters of law, and are reviewed de novo. (Save Our Peninsula Committee v. Monterey County Bd. of Supervisors (2001) 87 Cal.App.4th 99, 119.) Thus, a reviewing court must adjust its review to the nature of the alleged defect, depending on whether the claim is predominantly a dispute over proper procedure or a dispute over the facts. (Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova (2007) 40 Cal.4th 412, 435.)

An agency fails to proceed in the manner required by law if its analysis is based on an erroneous interpretation of CEQA's requirements or if it has failed to comply with the standards in CEQA for an adequate EIR.

When reviewing the adequacy of an EIR, a court does not pass upon the correctness of the EIR's environmental conclusions, but upon its sufficiency as an informational document. (Laurel Heights

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Improvement Ass'n v. Regents of University of California (1988) 47 Cal.3d 376, 392.) An EIR must include detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project. (Association of Irritated Residents v. County of Madera (2004) 107 Cal.App.4th 1383, 1390.) Failure to disclose relevant information in an environmental impact report (EIR) may constitute a prejudicial abuse of discretion regardless of whether a different outcome would have resulted if the agency had disclosed the information. (Laurel Heights, supra, at p.392; Kings County Farm Bureau v. City of Hanford (1990) 221 Cal.App.3d 692, 711-712; see also Association of Irritated Residents, supra, at p.1391 [existence of substantial evidence supporting agency's ultimate decision on a disputed issue is not relevant when assessing violation of the information disclosure provisions of CEQA].)

However, the absence of information in an EIR is not per se a prejudicial abuse of discretion. (Pub. Res. Code § 21005; Al Larson Boat Shop, Inc. v. Bd. of Harbor Commissioners (1993) 18 Cal.App.4th 729, 748; Association of Irritated Residents, supra, at pp.1391-92.) In reviewing the adequacy of an EIR, courts do not look for technical perfection, but for "adequacy, completeness, and a good faith effort at full disclosure." (Cal. Code Regs., tit.14, § 15151; Sequoyah Hills Homeowners Ass'n v. City of Oakland (1993) 23 Cal.App.4th 704, 712; Association of Irritated Residents, supra, at pp.1390-1391; see also Al Larson Boat Shop, supra, at p.748 [standard is "rule of reason"].) The sufficiency of an EIR is determined according to what is reasonably feasible. (Id.) The EIR need not be perfect so long as it provides agencies with sufficient information to enable them to make a decision that intelligently takes account of the environmental consequences of the proposed project. (San Francisco Ecology Center v. City and County of San Francisco (1975) 48 Cal.App.3d 584, 594.) A prejudicial abuse of discretion occurs only if the failure to include relevant information precludes informed decision making and informed public participation, thereby thwarting the statutory goals of the EIR process. (County of Amador v. El Dorado County Water Agency (1999) 76 Cal.App.4th 931, 946; Al Larson Boat Shop, supra, at p.748.)

Although the Legislature intended CEQA to be interpreted in such manner as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language, an EIR is presumed adequate and the plaintiff in a CEQA action has the burden of proving otherwise. (See Al Larson Boat Shop, supra, at p.740.)

Petitioners in this case raise a number of procedural and substantive challenges to Caltrans' EIR. The Court separately addresses each of these challenges below.

The Project's Operational Impacts on Air Quality

The first issue presented relates to whether the EIR adequately discloses and analyzes the Project's operational impacts on air quality. Petitioners claim the EIR is insufficient as an informational document because the EIR fails to adequately analyze the Project's operational impacts on emissions of NOx, PM10, and PM2.5.

The law is settled that an EIR is intended to be an informational document. The purpose of an EIR is to provide public agencies and the public with detailed information about the effects a proposed project is likely to have on the environment, identify alternatives to the project, and indicate the manner in which those significant effects can be mitigated or avoided. (Pub. Res. Code § 21002.1; see also Pub. Res. Code §§ 21002, 21061, 21100.) In this manner, the EIR is intended to act as an "environmental 'alarm bell,' [alerting] the public and its responsible officials to environmental changes before they have reached ecological points of no return." (County of Inyo v. Yorty (1973) 32 Cal.App.3d 795, 810; see also Laurel Heights Improvement Assn. v. Regents of University of California (1988) 47 Cal.3d 376, 392 [EIR intended to demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action].)

CEQA requires the agency to focus the discussion in the EIR on those potential effects on the environment which the agency has determined are or may be significant. Lead agencies may limit discussion on other effects to a brief explanation as to why those effects were determined not to be significant and therefore not discussed in detail in the EIR. (Pub. Res. Code §§ 21002.1, 21100(c); Cal. Code Regs., tit. 14, § 15128.) Determining whether a project may have a significant effect on the environment, therefore, plays a critical role in the CEQA process. (Cal. Code Regs., tit. 14, § 15064.)

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CEQA defines significant effects to mean substantial, or potentially substantial, adverse changes in the environment, including the land, air, water, minerals, flora, fauna, noise, historic and cultural sites, and aesthetics. (Pub. Res. Code §§ 21060.5, 21068, 21100, 21151; Cal. Code Regs., tit. 14, §§ 15126.2, 15360, 15382.)

There is no "gold standard" for determining whether a given environmental impact is significant. (Protect the Historic Amador Waterways, supra, at p.1107.) A precise definition of significant effects is not possible because the significance of an activity varies according to a project's environmental setting. (Cal. Code Regs., tit. 14, § 15064.) The determination of whether a project may have a significant effect on the environment calls for judgment on the part of the public agency, based to the extent possible on scientific and factual data. (Id.)

In this case, Petitioners challenge the methodology and scope of analysis used by Caltrans to assess the Project's air quality impacts. Petitioners contend that Caltrans improperly relied exclusively on a federal Clean Air Act conformity analysis to evaluate whether there will be significant air quality impacts from the Project. Further, Petitioners contend there is no evidence or rationale supporting Caltrans' decision to limit the scope of its analysis in this manner. Petitioners claim that because Caltrans relied on federal Clean Air Act conformity as the sole threshold of significance, Caltrans failed to analyze and disclose critical information about the Project's impacts on emissions of PM10, PM2.5, and NOx, including what those impacts are and how much of the regional emissions budgets they constitute.

Caltrans admits that it relied exclusively on a federal Clean Air Act conformity approach to evaluate the Project's air quality impacts, but denies that its conformity-based approach violates CEQA. The initial question presented, therefore, is whether a federal Clean Air Act conformity approach is sufficient to meet the requirements of CEQA.

Before proceeding to address this issue, some background on the federal Clean Air Act is required.

The Clean Air Act establishes a joint state and federal program to control the nation's air pollution. The Act requires the EPA to establish national ambient air quality standards ("NAAQS"), which establish the maximum limits of pollutants allowed in the outside ambient air. (42 U.S.C. § 7409.) The EPA must designate areas that meet the standards ("attainment areas") and those that do not meet the standards ("non-attainment areas"). (42 U.S.C. § 7407.) The Sacramento region has been designated by the EPA as a "non-attainment" area for PM10 and O3, but as "attainment" for PM2.5.

Under the Clean Air Act, states implement, attain, and enforce the NAAQS through regional state implementation plans ("SIPs"). (42 U.S.C. §§ 7409, 7410.) Each SIP identifies the total allowable amount of emissions necessary to attain and maintain the NAAQS for each pollutant, and allocates the total allowable emissions between stationary, mobile, and other sources. (42 U.S.C. § 7410; 40 C.F.R. § 93.101.) Federally approved transportation projects located in non-attainment areas must conform to the SIP. (Id.)

The Clean Air Act also requires conformity findings for metropolitan transportation plans ("MTPs") and metropolitan transportation improvement programs ("MTIPs"). MTPs describe the policies and strategies for accommodating current and future travel demand in the region. An MTP typically includes all of the federally-sponsored and regionally-significant transportation projects planned for the region over a period of years, usually at least 20 years. An MTIP describes specific transportation projects that are consistent with the MTP. The regional planning organization – in this case, SACOG – is required to ensure that the MTPs and MTIPs conform to the mobile source emissions budgets established in the SIP. (42 U.S.C. § 7506.)

Here, Caltrans relied exclusively on the Project's conformity with federal Clean Air Act standards to evaluate whether the Project will have any significant air quality impacts. Petitioners argue that while a Clean Air Act conformity-based approach may be sufficient to analyze the Project's cumulative air quality impacts, it is not sufficient to discharge Caltrans' duty to analyze and disclose the Project's specific traffic-based emissions. The Court agrees.

While regulatory environmental standards can provide an appropriate benchmark for determining whether a particular impact is significant, compliance with environmental laws is not enough to support a finding of no significant impact under CEQA. (Californians for Alternatives to Toxics v. Department of

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Food and Agriculture (2005) 136 Cal.App.4th 1, 17.)

In Californians for Alternatives to Toxics, the Court of Appeal addressed the question whether the Department of Food and Agriculture (DFA) could forgo environmental analysis of the statewide use of pesticides for a disease control program by relying on the Department of Pesticide Regulation's (DPR's) certified regulatory program. In its EIR, DFA did not independently evaluate the environmental impacts of the project's use of pesticides. Instead, DFA determined that compliance with DPR's existing regulatory scheme was adequate to ensure the project would not result in any significant adverse environmental impacts. Specifically, DFA reasoned that because all pesticide applications must be in compliance with DPR's existing regulatory program, and because the DPR pesticide program was approved as meeting the requirements of CEQA with respect to the use of pesticides, the use of pesticides by DFA according to approved label directions also must comply with CEQA. (Id. at p. 17.)

The Court of Appeal held that DFA's reliance on DPR's regulatory program was not sufficient to comply with CEQA. As the lead agency, DFA was responsible for presenting the facts, data, and analysis necessary to meaningfully assess the environmental impacts of its project. (Id. at p.13; see also Whitman v. Board of Supervisors (1979) 88 Cal.App.3d 397, 411 [requiring specificity and detail in EIRs since a conclusory statement affords no basis for a comparison of the problems involved with the proposed project and the difficulties involved in the alternatives]; Cal. Code Regs., tit. 14, § 15147.) The Court held that DFA fell short of its duty under CEQA by deferring to DPR's regulatory scheme as a substitute for performing its own evaluation of the environmental impacts of its program. (Californians for Alternatives to Toxics, supra, at pp.16-17.) According to the Court, DFA could not rely solely on compliance with an existing regulatory program to conclude that its proposed project would not result in significant adverse impacts. (Id. at p. 17.) "Compliance with the law is not enough to support a finding of no significant impact under the CEQA." (Id.)

The Court in Californians for Alternatives to Toxics acknowledged that DFA's duty to analyze the effects of pesticide use must take account of DPR's existing regulatory scheme, but the Court stated that this does not require DFA to duplicate the work of DPR. The Court suggested DFA could satisfy its duty under CEQA by considering DPR's existing data in the context of the specific project proposed by DFA. (Id. at pp. 16, 18.) DFA's EIR, however, contained only conclusory statements, unsupported by any data or environmental analysis. Thus, the Court ruled that DFA's EIR was inadequate. (Id. at pp. 13, 17.)

As a general rule, an EIR "must contain facts and analysis, not just the bare conclusions of a public agency." (Kings County Farm Bureau v. City of Hanford (1990) 221 Cal.App.3d 711, 736, quoting Santiago County Water Dist. v. County of Orange (1981) 118 Cal.App.3d 818, 831; Laurel Heights Improvement Assn. v. Regents of the Univ. of Cal. (1988) 47 Cal.3d 376, 404 [same].) While an agency's opinion concerning matters within its expertise may be of value, the public and decision-makers, for whom the EIR is prepared, should also have before them the basis for that opinion so as to enable them to make an independent, reasoned judgment. (Kings County Farm Bureau, supra, at p. 736; Californians for Alternatives to Toxics, supra, at p. 13 ["EIR should set forth specific data, as needed to meaningfully assess whether the proposed activities would result in significant impacts"]; Citizens to Preserve Ojai v. County of Ventura (1985) 176 Cal.App.3d 421, 429 [EIR should be prepared with a sufficient degree of analysis to make a decision which intelligently takes account of environmental consequences]; see also Citizens Assoc. for Sensible Dev. of Bishop Area v. County of Inyo (1985) 172 Cal.App.3d 151, 171 [initial study must disclose the data or evidence upon which the person conducting the study relied].)

Caltrans' EIR fell short of these standards. In its EIR, Caltrans determined that because the Project is included in the MTP and MTIP and will not violate any federal "hot spot" requirements, the Project is in conformity with the SIP. The EIR assumes that conformity with the SIP is sufficient to ensure the Project's emissions of PM10, PM2.5, and O3 will conform to regional air quality standards and, therefore, be less than significant. (1 AR 151-157.) The EIR does not, however, disclose or analyze the specific traffic-based emissions that would be generated by the Project. Nor does the EIR disclose or attach the MTP/MTIP, the SIP, or the air quality data and model used by SACOG to determine the MTP/MTIP's conformity with the SIP. Rather, similar to the DFA in Californians for Alternatives to Toxics, Caltrans relied on compliance with the federal Clean Air Act regulatory scheme in lieu of performing its own independent analysis of the specific environmental consequences of its Project. As discussed above, this is not sufficient under CEQA. Compliance with environmental laws alone is not adequate to support a finding of no significant impact under CEQA.

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Further, the record does not contain any evidence or analysis showing that a comprehensive analysis of the Project's actual traffic-based emissions would be infeasible or speculative. (See, e.g., 2 AR 486, 489, 503.)

As a post hoc rationalization for its failure to analyze the specific traffic-based emissions generated by the Project, Caltrans argues that a project-specific analysis of the Project's air quality impacts is unnecessary because (1) a federal Clean Air Act conformity analysis is functionally equivalent to CEQA's air quality requirements; and (2) HOV lanes are a federally recognized transportation control measure. Aside from the fact that Caltrans did not rely on these arguments in limiting the scope of its EIR, both of these arguments miss the mark.

Caltrans has not cited any authority to show that compliance with the Clean Air Act conformity analysis excuses compliance with CEQA. CEQA, unlike NEPA, does not exempt "functional equivalent" environmental schemes from its requirements. Insofar as CEQA may provide an exemption for agencies with functionally equivalent environmental responsibilities, it is only under the express statutory provision for "certified regulatory programs" set forth in Public Resources Code § 21080.5. (Mountain Lion Foundation v. Fish & Game Com. (1997) 16 Cal.4th 105, 121; City of Coronado v. California Coastal Zone Conservation Com. (1977) 69 Cal.App.3d 570, 582; see also Pub. Res. Code § 21080.5.) Here, nothing in CEQA suggests that a federal Clean Air Act conformity determination may be submitted in lieu of an EIR pursuant to the exemption in Public Resources Code § 21080.5.

Caltrans' second argument is also flawed. In essence, Caltrans argues that because the intended purpose of HOV lanes is to encourage carpooling, it is reasonable to assume the Project will reduce congestion, increase travel speeds, and decrease overall emissions. However, even if there is substantial evidence to support a determination that carpool lanes encourage carpooling, Caltrans has not cited any substantial evidence to support its assertion that encouraging carpooling means overall vehicle miles traveled and/or vehicle emissions will decrease or remain the same. Indeed, Caltrans admits that its EIR did not attempt to analyze (quantitatively or qualitatively) the Project's impacts on overall VMT, and, as discussed above, Caltrans did not independently evaluate the Project's specific traffic-based emissions. In contrast, there is evidence in the record suggesting that building HOV lanes can increase vehicle miles traveled and related emissions. (See discussion, infra.) In any event, as Petitioners contend, the EIR's failure to consider this issue – the potential of the Project to induce additional vehicle travel (i.e., new trips or longer trips) – is one of the primary reasons that the EIR is inadequate as an informational document.

Thus, Caltrans abused its discretion by relying on the Project's (purported) conformity with the SIP as a substitute for performing and presenting its own evaluation of the Project's environmental impacts. To be sufficient, the EIR must disclose and analyze the Project's specific traffic-based emissions.

In addition to failing to analyze and disclose the Project's specific traffic-based emission impacts, Caltrans also abused its discretion by relying on conformity with federal regulatory standards to foreclose consideration of potentially significant environmental impacts.

California courts have held that an agency cannot rely on established regulatory standards to foreclose consideration of substantial evidence that the project might have a significant environmental effect. (Protect the Historic Amador Waterways v. Amador Water Agency (2004) 116 Cal.App.4th 1099, 1109.) In preparing an EIR, an agency may use established regulatory standards as a measure of whether a certain environmental effect normally will be considered significant, but the agency cannot use the fact a particular environmental effect meets a threshold of significance as an automatic determinant that the effect is not significant. The agency must consider and resolve any substantial evidence of a fair argument that a certain environmental effect may be significant notwithstanding that the effect complies with established regulatory standards. (Protect the Historic Amador Waterways, supra, at p.1109; see also Cal. Code Regs., tit. 14, § 15064(i)(3).)

The Court acknowledges the fair argument standard normally would be limited to the issue of whether an EIR must be prepared. But courts in California have held that the fair argument standard also is properly applied when an agency has assessed the significance of impacts by relying on established regulatory standards. (Protect the Historic Amador Waterways, supra, at p.1109; Communities for a Better Environment, supra, at pp.113-114.) Thus, if the record contains substantial evidence to support a

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fair argument that the Project may have significant impacts on emissions of PM10, PM2.5, or O3, notwithstanding the Project's compliance with the federal Clean Air Act standards for those pollutants, case law holds that CEQA requires Caltrans to consider and discuss whether those possible significant environmental impacts will, in fact, be significant.

It is a question of law whether substantial evidence of a fair argument exists. (Pocket Protectors v. City of Sacramento (2004) 124 Cal.App.4th 903, 928.)

Substantial evidence to support a fair argument means "enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached." (Cal. Code Regs., tit.14, § 15384; Pocket Protectors, supra, at p.927.) To raise a fair argument, it is not necessary to bring forth credentialed experts to offer scientifically irrefutable, site-specific information foretelling certain environmental harm. (Friends of the Old Trees v. Dep't of Forestry & Fire Prot. (1997) 52 Cal.App.4th 1383, 1402.) The evidence supporting a fair argument need not be overwhelming, overpowering, or even uncontradicted. (Id.)

Furthermore, because CEQA places the burden of investigation on the government rather than the public, an agency cannot hide behind its own failure to gather relevant data to defeat a fair argument. (Sundstrom v. County of Mendocino (1988) 202 Cal.App.3d 296, 311; Gentry v. City of Murrieta (1995) 36 Cal.App.4th 1359, 1379; City of Redlands v. County of San Bernardino (2002) 96 Cal.App.4th 398, 408.) The lack of study enlarges the scope of the fair argument by lending plausibility to a wider range of inferences. (Gentry, supra, at p.1379.)

The administrative record in this case contains substantial evidence to support a fair argument that the Project may cause a significant increase in traffic-based emissions notwithstanding the Project's compliance with the federal Clean Air Act conformity standards. Specifically, the administrative record contains substantial evidence of a fair argument that increasing the capacity of the highway may generate additional vehicle travel by inducing additional demand for vehicle travel (e.g., shifts from other transport modes, longer trips, new vehicle trips). (See, e.g., 23 AR 8586 [unintended effects of adding HOV lane may include induced trips]; 24 AR 8960, 8963 [noting statistically significant relationship between adding lane miles and VMT]; 2 AR 426, 428-430 [citing research discussing induced demand from expansion of roadway capacity]; 11 AR 3609 [discussing findings of model showing HOV lanes increase travel and emissions]; 11 AR 3683, 3692 [study discussing high occupancy vehicle lanes in the Sacramento region and noting that HOV lanes may increase VMT and emissions compared to no-build scenario].)

There also is substantial evidence of a fair argument that additional traffic generated by the Project may have a significant environmental impact on emissions of NOx, PM10, and PM2.5. There is substantial evidence, for example, that the Project may exceed SMAQMD's threshold of significance for NOx and cause non-attainment of the state standards for PM2.5 and PM10. (See 2 AR 463 [commenting that project may exceed SMAQMD's thresholds of significance for ROG and NOx]; 2 AR 398-399 [commenting that levels of PM10 measured at Branch Center Road station annually violate state ambient air quality standards and that the PM2.5 monitoring station closest to the Project regularly measures pollutant concentrations in excess of state standards]; 9 AR 3180-3181 [traffic report showing increase in freeway vehicle throughput relative to no build scenario].)

However, Caltrans did not consider or discuss the potential environmental impacts of induced demand in the EIR. The EIR discusses the Project's potential growth-inducing impacts on population and economic growth and land use patterns, and discusses the Project's potential to generate additional highway travel during peak periods by inducing shifts in routes or time of travel, but the EIR does not consider the potential for additional highway travel as a result of "induced demand." (2 AR 89-92, 475-477, 485-486, 490, 494, 498; 9 AR 3170.) The EIR expressly assumes, without support, that any additional highway traffic will consist of time of day or route shifts and will not increase overall VMT. (Id.) It is noteworthy that the administrative record includes an emissions study that accounts for induced demand, but the study was not analyzed in the EIR, was limited to a 5-year period, and expressly states that a "more expanded analysis is needed" to adequately compare the long-term emissions benefits/disadvantages of HOV lanes relative to a no-build scenario. (24 AR 8960; see Calif. Oak Found. v. City of Santa Clarita (2005) 133 Cal.App.4th 1219, 1239 [information scattered in EIR or buried in appendix is not substitute for good faith reasoned analysis].)

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Caltrans argues that increases in VMT do not necessarily result in higher overall emissions, since emissions are a function of speed as well as VMT. (Opposition Brief, pp.9, 10.) However, there is substantial evidence in the record that emissions vary with VMT, and Caltrans did not perform a specific analysis of the Project's impacts on overall emissions. Thus, at best, Caltrans can argue that even if the Project increases overall VMT, it nevertheless might reduce overall emissions. But it is the failure to disclose and analyze these potentially significant impacts that renders the EIR inadequate from an informational standpoint.

Thus, the Court concludes that Caltrans applied the federal Clean Air Act conformity standards in a way that foreclosed the consideration of substantial evidence tending to show the Project may have significant air quality impacts notwithstanding its compliance with the federal conformity standards. Caltrans was not compelled to find that the Project will have a significant impact on emissions of NOx, PM10, and PM2.5, but Caltrans should have analyzed and discussed whether the Project may have a significant impact on such emissions notwithstanding the Project's compliance with the federal Clean Air Act conformity standards.

For all of these reasons, the Court concludes that the EIR is inadequate and incomplete as an informational document in respect to the Project's operational impacts on emissions of NOx, PM10, and PM2.5.

The Determination that the Project Will Not Increase Vehicle Miles Traveled

Petitioners argue that Caltrans' analysis regarding the Project's potentially significant environmental impacts relies upon a determination that the Project will not result in an increase in VMT (vehicle miles traveled). Petitioners allege that this conclusion is not supported by substantial evidence in the record. Rather, Petitioners claim, the administrative record shows that construction of HOV lanes induces additional demand, which will result in an increase in overall VMT. (See Petitioners' Reply Brief, p.13 [citing 2 AR 428; 9 AR 3154, 3180; 10 AR 3589-3607; 11 AR 3609, 3683, 3685, 3689, 3692; 24 AR 8960, 9194].)

Caltrans denies that its EIR was based on any analysis, or any determination, of the Project's impact on VMT. (See Opposition Brief, pp.18, 20.) This is correct. The record shows that Caltrans made no effort to disclose or analyze the impact that the Project may have on overall VMT in the Highway 50 corridor.

Since Caltrans never determined the Project's impact on overall VMT, it is unnecessary for the Court to decide whether that determination is supported by substantial evidence. However, to the extent Caltrans assumed for purposes of its EIR that the Project would have no impact on overall VMT, the Court finds that assumption is not supported by substantial evidence, for the reasons discussed above.

The Project's Potentially Significant Impacts on Local Roads and Parking

Petitioners allege the EIR fails to adequately disclose and analyze the Project's impacts on the volume, distribution, and flow of traffic on local roadways, and on the demand for parking in downtown Sacramento.

The EIR states that parallel routes and local street connections at freeway off-ramps were analyzed up to the first intersection, but Caltrans concedes that the EIR does not quantify these impacts. (See Respondent's Supplemental Brief, p. 7; see also 2 AR 497, 500.) Caltrans contends that the EIR nevertheless adequately discussed the Project's impacts on local roadways and parking since there is no reason to believe that the Project would have a potentially significant adverse impact on local roads or parking.

Although the EIR's failure to disclose the analysis of the Project's impacts on local street connections renders the EIR less than perfect, the Court is not persuaded that it precluded informed decision making and informed public participation. Even if the Project will increase the number of vehicles exiting the highway and entering local roads, the Final EIR adequately discusses this issue. (See 2 AR 485 [parallel routes were analyzed as were all local street connections at off-ramp termini up to first intersection], 490 [traffic study does not suggest commuters would be likely to divert to local streets as result of project], 491 [not practical for Caltrans to model the entire local street system], 496 [project would not alter traffic patterns in central Sacramento, and traffic signal connections would control the flow rate of traffic onto

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city streets], 497 [induced parking demand is not anticipated], 502 [Caltrans lacks authority to impose or enforce parking requirements].)

The EIR's discussion of the Project's impacts on local roads and parking is adequate.

The Project's Growth Inducing Impacts

Petitioners allege the EIR fails to adequately analyze the Project's growth inducing impacts.

Under CEQA, a project has growth inducing impacts if it will (1) foster economic or population growth or additional housing; (2) remove obstacles to growth; or (3) facilitate other activities that cause significant environmental effects. (Cal. Code Regs., tit.14, § 15126.2(d); see also City of Antioch v. City Council (1986) 187 Cal.App.3d 1325, 1335-1336; Stanislaus Audobon Society, Inc. v. County of Stanislaus (1995) 33 Cal.App.4th 144, 152-160; Napa Citizens for Honest Gov't v. Board of Supervisors (2001) 91 Cal.App.4th 342, 367-371.)

In discussing the Project's growth inducing impacts, a distinction must be made between the concept of "induced demand" and Petitioners' use of the phrase "growth inducing impacts." "Induced demand" is the concept that the increase in the capacity of the highway may generate additional vehicle travel by inducing additional demand for vehicle travel (e.g., shifts from other transport modes, longer trips, new vehicle trips). In contrast, when Petitioners refer to the Project's "growth inducing impacts," Petitioners are referring to the ways in which the proposed Project could directly or indirectly foster economic, population, or housing growth in the surrounding environment, and the related effects this might have on traffic and the environment. (Cal. Code Regs., tit. 14, §§ 15126.2(d), 15358(a)(2).) "Induced demand" is broader than a project's "growth inducing impacts" in that a highway project's "growth inducing impacts" may contribute to "induced demand," but "induced demand" also may occur even if the project will not have any "growth inducing impacts." In this section, the Court is addressing only Petitioners' assertion that the EIR did not adequately disclose and analyze the Project's "growth inducing impacts."

In this context, Petitioners allege the EIR failed to adequately disclose and analyze the Project's growth inducing impacts because the EIR states that population and employment growth occurs independent of the Project and will accelerate in the future with or without the addition of HOV lanes on U.S. Highway 50. Petitioners contend that the EIR is trivializing the Project's growth inducing impacts. (See Kings County Farm Bureau v. City of Hanford (1990) 221 Cal.App.3d 711, 718 [project's impact may be significant even though project contributes only a small amount to an existing problem].) Petitioners allege there is substantial evidence in the record to show that increases to highway capacity facilitate and accommodate regional growth. Thus, Petitioners contend, the EIR's analysis must use separate growth projections for the build and no-build scenarios to adequately account for the growth-inducing impacts of the Project.

Petitioners claim lacks merit. The EIR did not, as Petitioners suggest, find that growth in the Sacramento region occurs independent of construction of new highway capacity. To the contrary, the EIR expressly finds that regional traffic projects may have an impact on regional growth or land use. However, given existing and projected development in the area, and given the data showing that the Project is not expected to eliminate peak period traffic congestion or significantly improve the highway's peak period level of service,
Caltrans determined that the proposed Project would not add sufficient additional highway capacity to significantly affect growth patterns in the U.S. 50 corridor. (1 AR 89-92, 201-202; 2 AR 475, 485, 492, 494, 498.) This determination is supported by substantial evidence in the record. (Id.; 9 AR 3167-3168.) Accordingly, the Court concludes that the EIR adequately analyzes the Project's growth inducing impacts.

The Project's Contribution to Global Warming

Petitioners argue that the EIR also violates CEQA because it fails to analyze the Project's contributions to global warming. In light of the Governor's Executive Order (S-3-05) on global warming, and the legislative requirement that greenhouse gas (GHG) emissions be reduced to 1990 levels by the year 2020, Petitioners contend CEQA requires agencies to analyze a project's impacts on global warming. In order to properly analyze a project's global warming impacts, Petitioners assert, an EIR should (i) provide a regulatory and scientific background on global warming; (ii) assess the project's contribution to

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GHG emissions and the potential impact of those GHG emissions on global warming; (iii) assess the effect of climate change on the project and its impacts; and (iv) make a significance determination.

Caltrans argues that the field of global warming is still in its "infancy." Caltrans notes that the California Global Warming Solution Act of 2006, codified at Health & Safety Code § 38500 et seq., was the nation's first mandatory cap on GHG emissions. Caltrans also notes that evaluation of a project's impact on global warming traditionally has not been demanded under CEQA. Although the Legislature has directed the Office of Planning and Research to develop guidelines for addressing GHG emissions in CEQA, those guidelines do not yet exist and are not required to be finalized until January 1, 2010. Consequently, Caltrans argues there is no workable framework for presenting the GHG analysis that Petitioners demand. According to Caltrans, this means any analysis of the Project's impact on global warming is too speculative for evaluation under CEQA.

Caltrans also argues that this Project's failure to analyze the effects of GHG emissions is not subject to legal challenge pursuant to Public Resources Code § 21097.

The Court agrees with Petitioners that the exemption in Public Resources Code § 21097 does not apply to this Project.

Although § 21097 exempts certain transportation projects – including, potentially, this one – from claims based on a failure to adequately analyze the effects of GHG emissions, that statute applies retroactively only to EIRs that have not become "final." The dispute in this case centers on the meaning of the term "final."

Caltrans contends – not unreasonably – that if the term "retroactively" is to have any meaning, then § 21097 must apply to EIRs certified before adoption of the legislation. If the intent merely was to make § 21097 retroactive to uncertified EIRs, Caltrans argues, then subdivision (c) was superfluous because § 21097 already would have applied to conduct occurring after the effective date of the statute, including certification of an EIR. (See Fairbank v. City of Mill Valley (1999) 75 Cal.App.4th 1243, 1257 [propriety of agency action under CEQA is determined on the date on which the document is presented for public review].) Because the general purpose of the statute was to insulate certain state transportation projects from causes of action based on a failure to adequately analyze the effects of GHG emissions, Caltrans claims the intent of subdivision (c) was to make the protections of § 21097 retroactive to all EIRs, including previously certified EIRs, provided the cause of action itself had not become "final."

In response, Petitioners argue that the statute plainly and unambiguously provides it "shall apply retroactively to an environmental impact report . . . that has not become final." Thus, Petitioners claim, retroactivity depends on the finality of the EIR, not the finality of the cause of action. Petitioners contend that the Legislature used the term "retroactively" to clarify that § 21097 would apply to steps in the CEQA process already undertaken on the effective date of the legislation, provided the EIR or other document had not yet become "final." (See Cal. Code Regs., tit. 14, § 15007(b).)

Although both arguments have some appeal, the Court is persuaded that Petitioners have the better argument. It is the Court's opinion that the Legislature used the word "final" in the same sense it is used in Code of Civil Procedure § 1094.5. (See Civ. Proc. Code § 1094.5 [providing for inquiry into the validity of any final administrative order or decision].) The Legislature did not intend § 21097(a) to apply to a Final EIR certified before the effective date of the legislation.

Section 21097 was signed into law on August 24, 2007, and became effective on January 1, 2008. Caltrans certified its Final EIR on June 21, 2007, months before the effective date of the legislation. Thus, this project does not qualify for the exemption in Public Resources Code § 21097.

The Court next considers whether the EIR provided adequate information about the Project's contributions to global warming, and concludes it did not.

The EIR recognizes the concern that GHG emissions raise for climate change, but concludes that because there is no accepted federal, state, or regional methodology for GHG emission and climate change impact analysis, analyzing the impacts associated with an increase in GHG emissions at the project level is not currently possible. (1 AR 159.)

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However, as Petitioners point out, nothing in the administrative record supports Caltrans' conclusion that it is not possible to quantify the Project's GHG emissions, at which point, Caltrans could make its own evaluation of their significance. While CEQA does not require an agency to foresee the unforeseeable, CEQA does require an agency to use its best efforts to find out and disclose all that it reasonably can. (Cal. Code Regs., tit. 14, § 15144.) Only after thorough investigation may an agency find that a particular impact is too speculative for evaluation and terminate its discussion of the impact. (Cal. Code Regs., tit. 14, § 15145 [emphasis added]; see Berkeley Keep Jets Over the Bay Committee v. Board of Commissioners (2001) 91 Cal.App.4th 1344, 1370-1371 [fact that a single methodology does not currently exist does not excuse evaluation].) Here, there is no evidence in the record that Caltrans performed any investigation whatsoever. This fell short of Caltrans' duty to make a good faith effort to investigate and disclose all that it reasonably can.

Caltrans must meaningfully attempt to quantify the Project's potential impacts on GHG emissions and determine their significance, or at the very least explain what steps it has taken that show such impacts are too speculative for evaluation.

The Project's Construction-Related Impacts on Air Quality

Petitioners also allege that the EIR violates CEQA because it fails to quantify and adequately analyze the Project's construction-related impacts on air quality.

Caltrans concedes that construction equipment will generate emissions while the Project is being built. Nevertheless, Caltrans argues that the EIR is adequate in terms of informing the public about these environmental impacts. According to Caltrans, the EIR adequately advises the public that the Project may result in the generation of short-term construction-related emissions, and that such emissions will be controlled and rendered less than significant by requiring compliance with best management practices, Caltrans' Standard Specifications, and all pertinent rules, regulations, and ordinances of the SMAQMD. (See 1 AR 12, 157, 199; 2 AR 505.)

As described above, the sufficiency of the information contained in an EIR is reviewed in light of what is reasonably feasible. (Cal. Code Regs., tit. 14, § 15151; Rio Vista Farm Bureau Ctr. v. County of Solano (1992) 5 Cal.App.4th 351, 374-375.) "Feasible" means "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors." (Cal. Code Regs., tit. 14, §§ 15147, 15364; see also Citizens to Pres. the Ojai v. County of Ventura (1985)176 Cal.App.3d 421, 429-430 [noting courts favor specificity and use of detail in EIRs].)

In this case, an evaluation of the Project's short-term construction-related emissions reasonably was feasible using SMAQMD's established methodology and thresholds of significance. (See 2 AR 463; 13 AR 4536.) Yet Caltrans made no effort to quantify this Project's construction-related air quality impacts or to analyze whether and to what extent the Project is or is not consistent with SMAQMD's threshold of significance. Nor does the EIR explain why an analysis of the Project's construction-related air quality impacts would be infeasible. (See, e.g., 2 AR 505; see also Ojai, supra, at p.430 [EIR failed to explain reliance on earlier analysis]; Berkeley Keep Jets Over the Bay Committee v. Board of Commissioners (2001) 91 Cal.App.4th 1344, 1368-1370 [EIR failed to support decision not to evaluate health risks with any meaningful analysis].) Accordingly, Caltrans' EIR failed to adequately disclose and consider the Project's potentially significant construction-related emissions.

The Description and Analysis of the Project's Community Enhancements

Petitioners allege Caltrans' EIR is inadequate because it does not provide a stable and accurate project description.

An accurate, stable, and finite project description is the sine qua non of an informative and legally sufficient EIR. (County of Inyo v. City of Los Angeles (1977) 71 Cal.App.3d 185, 193.) An adequate project description is necessary to ensure that CEQA's goals of providing information about a project's environmental impacts will not be rendered useless. An overly narrow description of a project could result in an agency overlooking a project's cumulative impact by focusing on the isolated parts of the whole. (Rio Vista Farm Bureau Ctr. v. County of Solano (1992) 5 Cal.App.4th 351, 370.) Thus, to further the objectives of CEQA, the term "project" is defined broadly to include the "whole of an action, which

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has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect change in the environment." (Cal. Code Regs., tit. 14, § 15378(a).)

The description of a project in an EIR should be sufficient to provide public agencies and the public with detailed information about the effects the proposed project is likely to have on the environment. (Dry Creek Citizens Coalition v. County of Tulare (1999) 70 Cal.App.4th 20, 26.)

On the other hand, the project description in an EIR is not required to supply extensive detail beyond that needed for evaluation and review of the environmental impact of the project actually being proposed. (Cal. Code Regs., tit. 14, § 15124.) CEQA requires consideration only of the potential environmental effects of the proposed project, not some hypothetical project. (Rio Vista Farm Bureau Ctr. v. County of Solano (1992) 5 Cal.App.4th 351, 372.) No purpose would be served by requiring an EIR to speculate as to the environmental consequences of future activities that are unspecified or uncertain when the project is proposed. (Id. at pp.372-373.) Accordingly, the project description in an EIR should not include future activities if it is not possible to provide meaningful information about those activities at the time the project is proposed. (Id.)

Petitioners allege Caltrans' EIR does not provide a stable and accurate project description because it fails to adequately identify and describe the proposed "community enhancements."

The Draft EIR states that Caltrans is committed to provide funding for "community enhancements" proposed by the Citizens Advisory Committee and/or requested by affected local governments. (2 AR 513, 524, 535-536.) Although the CAC and local governments identified numerous potential community enhancements – both within and without Caltrans' right-of-way – the Draft EIR never identifies what enhancements will be included in the Project. Similarly, the Final EIR states that the community enhancements will include certain sound walls and landscaping, but it does not state that the community enhancements will be limited to soundwalls and landscaping. (1 AR 32-33.)

Caltrans concedes that the EIR does not identify and describe all the "community enhancements" that actually will be included in the Project. However, Caltrans contends this was reasonable and necessary because it was not possible to identify all of the community enhancements at the time the Project was proposed. According to Caltrans, the final list of community enhancements could not be determined until after the close of the environmental review process because each affected local jurisdiction has the discretion to decide how to spend its share of the community enhancement funds, and such decisions do not have to be made until funding is actually allocated to the local jurisdictions.

Notwithstanding the obvious uncertainty as to what community enhancements will be constructed as part of the Project, (1 AR 6), the Court agrees with Caltrans that the uncertainty does not arise from any attempt by Caltrans to improperly constrain its environmental review by improper segmenting. Rather, it arises from a good faith effort to be inclusive – or perhaps over-inclusive – in describing the "whole of the action" being approved. (See, e.g., Cal. Code Regs., tit. 14, § 15378(b)(4) [a project does not include creation of government funding mechanisms or fiscal activities which do not include any commitment to any specific project].)

Caltrans has made clear that if a local jurisdiction chooses to commit funding to a community enhancement that was not evaluated in the EIR, then that enhancement will be subject to full CEQA review. Caltrans maintains that no community enhancement will be constructed without full CEQA review. Thus, while the EIR's description of the project was not perfect, the description did not preclude informed decision making and informed public participation. (See, e.g., Dusek v. Redev. Agency of City of Anaheim (1985) 173 Cal.App.3rd 1029, 1040-1041 [discrepancy between project description and project approved does not violate CEQA where agency approves a narrower project than that described in EIR]; see also Laurel Heights Improvement Assn. v. Regents of the Univ. of Cal. (1988) 47 Cal.3d 376, 394 [upholding description that defined projects as "[moving] the School of Pharmacy basic science research units from the UCSF Parnassus campus to Laurel Heights"]; Nat'l Parks & Conservation Ass'n v. County of Riverside (1996) 42 Cal.App.4th 1505, 1520 [deferral of environmental assessment does not violate CEQA where an EIR cannot currently provide meaningful information about uncertain or unspecified future projects].)

In addition to challenging the description of the project, Petitioners allege that the EIR failed to adequately disclose and analyze the potential environmental impacts of the community enhancements.

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For the reasons discussed above, the Court concludes that the EIR was not rendered inadequate for failing to discuss possible community enhancements that either were not reasonably foreseeable at the time the project was proposed or that will not have any significant effect on the project or its environmental impacts. (See Laurel Heights Improvement Assn., supra, at pp. 395-396.)

However, in respect to the prospective community enhancements that were identified by the CAC and affected local governments, the Court agrees with Petitioners. The Court could not locate any analysis or evaluation of the possible adverse environmental impacts of the identified community enhancements. (See Sacramento Old City Ass'n v. City Council (1991) 229 Cal.App.3d 1011, 1027 [if the inclusion of a mitigation measure would itself create new significant effects, these too, must be discussed].) This lack of analysis renders this portion of the EIR inadequate as an informational document.

The Geographic Scope of the EIR's Cumulative Impact Analysis

Petitioners allege the geographic scope of the EIR's cumulative impact analysis was unduly restricted to the Highway 50 corridor. Petitioners assert the geographic scope of the cumulative impact analysis should be regional (i.e., the area under the jurisdiction of the SMAQMD), rather than strictly limited to the Highway 50 corridor. (See Opening Brief, p. 19 [citing Citizens to Preserve the Ojai v. County of Ventura (1986) 176 Cal.App.3d 421, 431-432; Cal. Code Regs., tit.14, § 15130(b)(3)].)

When determining the geographic scope of the area affected by the cumulative impacts of a project, the court reviews whether the lead agency has provided a reasonable explanation for the geographic limitation used. (Cal. Code Regs. tit. 14, § 15130(b)(3).)

Caltrans maintains that the geographic scope of its cumulative impact analysis was reasonable under the circumstances. The Court agrees.

For analysis related to transportation impacts, the scope of Caltrans analysis encompassed the Highway 50 corridor, but also considered the impacts from development projects in a larger area encompassing Rancho Cordova, Folsom, downtown Sacramento, and the unincorporated areas of Sacramento County. (See 7 AR 2508-2532; 1AR 198; see also 1 AR 198-259.) For analysis related to air quality, the EIR's analysis was regional, encompassing the entire Sacramento Valley Air Basin. (1 AR 151, 199.) Caltrans has provided a reasonable explanation for the geographic scope of its cumulative impact analysis. Thus, the geographic scope of the EIR's cumulative impact analysis did not violate CEQA.

The EIR's Discussion of Project Alternatives

Petitioners allege that the EIR is inadequate because it fails to discuss a reasonable range of project alternatives.

CEQA does not require an EIR to consider every conceivable alternative to a project. CEQA only requires an EIR to describe a range of potentially feasible alternatives.

The range of alternatives required to be considered in an EIR is governed by a "rule of reason." (Cal. Code Regs., tit. 14, § 15126.6(f).) The EIR should include those alternatives that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more significant effects. (Cal. Code Regs., tit. 14, § 15126.6(a), (c).)

There is no categorical legal imperative as to the scope of alternatives to be analyzed in an EIR; each case must be evaluated on its facts. However, the range of alternatives considered in an EIR must represent enough variation to allow informed decisionmaking and informed public participation. (Cal. Code Regs., tit. 14, § 15126.6(a); Preservation Action Council v. City of San Jose (2006) 141 Cal.App.4th 1336, 1351.)

An EIR is required to include an in-depth discussion of those alternatives identified as at least potentially feasible. (Preservation Action Council, supra, at pp.1350-1351; Citizens of Goleta Valley v. Bd. of Supervisors (1990) 52 Cal.3d 553, 569.) On the other hand, an EIR is not required to consider alternatives which are infeasible. (Id.) Thus, the lead agency must make an initial determination as to which alternatives are potentially feasible and merit in-depth consideration, and which do not. (Citizens of Goleta Valley, supra, at p.569.)

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The Legislature has defined "feasible" for purposes of CEQA to mean "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors." (Pub. Res. Code § 21061.1; see also Cal. Code Regs., tit. 14, § 15364.) Among the factors that may be taken into account when assessing feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent reasonably can acquire, control, or otherwise have access to the alternative site. (Cal. Code Regs., tit. 14, § 15126.6(f)(1); Citizens of Goleta Valley, supra, at pp.574-575.)

The EIR should briefly describe the rationale for selecting the potentially feasible alternatives considered in-depth in the EIR. (Cal. Code Regs., tit. 14, § 15126.6(c).) The EIR also should identify the alternatives that were rejected during the scoping process, and briefly explain the reasons underlying the agency's determination. (Id.) Evidence of infeasibility need not be found within the EIR itself. However, a finding of infeasibility must be supported by substantial evidence in the record. (Citizens of Goleta Valley, supra, at p. 569.)

Here, Petitioners acknowledge that Caltrans considered and rejected many alternatives during the scoping process. (See 1 AR 24-32.) Nevertheless, Petitioners allege that the EIR fails to discuss a reasonable range of alternatives because the EIR considered only two "build" alternatives – with little variation between them – and failed to consider a transit-only alternative. (1 AR 24-32.) The Court agrees.

The EIR did not include an in-depth discussion of the transit-only alternative because SACOG's HOV-US 50 Corridor Study suggested that both light rail extensions and HOV lanes were necessary to alleviate congestion in the corridor. (1 AR 30.) But even if this statement is accurate, it is not a proper basis to reject the transit-only alternative as infeasible. (Cal. Code Regs., tit.14, § 15126.6(b) ["the discussion of alternatives shall focus on alternatives . . . which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly."])

The test is not whether the transit-only alternative is the best strategy to achieve the Project's objectives, but whether it is a reasonable alternative that could feasibly accomplish most of the basic objectives of the Project and avoid or substantially lessen one or more of the Project's significant effects. (Cal. Code Regs., tit.14, § 15126.6; Wildlife Alive v. Chickering (1976) 18 Cal.3d 190, 197 [one of EIR's major functions is to ensure that all reasonable alternatives are thoroughly assessed].)

In this case, the objectives of the Project are to improve mobility, provide an option for reliable peak period travel time, improve traffic operations by reducing congestion and travel time, use highway facilities as efficiently as possible, provide incentives for commuters to use carpools, vanpools, or buses during peak period travel, and identify projects and strategies to improve adjacent street system and thereby enhance neighborhood livability. (1 AR 20.) The transit-only alternative is a potentially feasible alternative that could accomplish most of the basic objectives of the Project, while potentially avoiding or substantially lessening one or more potentially significant effects. (2 AR 417, 432-433; 11 AR 3648.) Thus, the transit-only alternative is a reasonable alternative that merits discussion and comparison to the two build options discussed in the EIR.

Because the EIR included only two build alternatives, with little variation between them, Caltrans' failure to include an in-depth discussion of the transit-only alternative precluded informed decision-making and informed public participation and rendered the EIR's discussion of alternatives inadequate. (Laurel Heights Improvement Assn. v. Regents of University of California (1988) 47 Cal.3d 376, 403-404.)

Impermissible Segmentation of Environmental Review

Petitioners contend that Caltrans impermissibly segmented its environmental review because the EIR fails to analyze a foreseeable extension of HOV lanes on major highways throughout the Sacramento region.

Although Caltrans admits that SACOG has an HOV network in concept, Caltrans denies that this Project

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is part of a larger enterprise to construct a comprehensive network of HOV lanes throughout the Sacramento region.

As described above, an EIR must consider all future phases of a project as the "whole of the action" so that "environmental considerations [do] not become submerged by chopping a large project into many little ones . . . " (Burbank-Glendale-Pasadena Airport Auth. v. Hensler (1991) 233 Cal. App. 3d 577, 592.) On the other hand, CEQA does not require a detailed environmental analysis of every future activity that conceivably may occur. Where future activities are unknown or uncertain, no purpose would be served by requiring an EIR to speculate about their environmental consequences. (Laurel Heights Improvement Ass'n v. Regents of University of California (1988) 47 Cal.3d 376, 395, 398-399.) Generally speaking, an EIR should be prepared as early as feasible to enable environmental considerations to influence project design yet late enough to provide meaningful and reliable information for environmental review. (Id. at p. 395.)

In Laurel Heights, the California Supreme Court considered the difficult question of when an EIR is required to analyze the environmental effects of future activities that may become part of the project. The Court held that an EIR must analyze the environmental effects of a future activity if (1) it is a reasonably foreseeable consequence of the initial project; and (2) the future expansion or action will be significant in that it will likely change the scope or nature of the initial project or its environmental effects. (Id. at p. 396; see also Cal. Code Regs., tit. 14, § 15165.) Future activities not currently proposed for approval, and not reasonably foreseeable, need not be analyzed in the EIR. (Nat'l Parks & Conservation Ass'n v. County of Riverside (1996) 42 Cal.App.4th 1505, 1520.)

In Del Mar Terrace Conservancy, Inc. v. City Council (1992) 10 Cal.App.4th 712, the Fourth Appellate District Court of Appeal upheld a trial court's use of a federal standard for evaluating the specific issue of whether a particular highway project is an impermissible segmentation of a larger roadway project. (Del Mar Terrace Conservancy, Inc. v. City Council (1992) 10 Cal.App.4th 712, 732-735, disapproved on other grounds by Western States Petroleum Assn. v. Superior Court (1995) 9 Cal.4th 559.) The federal standard uses the following criteria to evaluate whether a proposed highway segment may be reviewed separately: (1) is the highway segment located between logical terminal points; (2) is the segment of sufficient length to assure adequate consideration of alternatives; (3) does the segment have "independent utility;" (3) and (4) does the segment seem to serve important state and local needs, such as relieving particular traffic congestion? (Id. at pp. 732-733.) The Court also considered whether approval of the segment would irretrievably commit the agency to a definite course of action in regard to other highway segments. (Id. at p. 734.)

Applying the criteria in Laurel Heights and, more specifically, Del Mar Terrace, the Court concludes that Caltrans did not impermissibly segment its environmental review of this Project. The evidence in the record supports the determination that this Project is of substantial length, is located between logical terminal points, serves important state and local needs, and has independent utility. Further, approval of the project would not irretrievably commit Caltrans to construct any other HOV-related projects. The eventual possible construction of a comprehensive network of HOV lanes throughout the Sacramento region was not, at the time the EIR was prepared, a reasonably anticipated future project. (2 AR 480.)

The CEQA Guidelines provide that where a project is one of several similar projects of a public agency, but is not deemed part of a larger project, the agency may prepare one EIR for all projects, or one for each project, but shall in either case comment, in at least general terms, upon the cumulative effect. (Cal. Code Regs., tit. 14, § 15165; see also Del Mar Terrace, supra, at p. 735, 736-737.) The Court's review of the record shows that Caltrans' EIR met this standard. (See, e.g., 1 AR 79, 83, 198, 205.)

The CEQA Findings

Petitioners finally allege Caltrans' Findings violate CEQA because (i) Caltrans failed to adopt a mitigation monitoring plan; (ii) the Findings fail to specify the location and custodian of the record of proceedings; and (iii) the Findings are not supported by substantial evidence.

Caltrans contends that nothing in CEQA requires an agency to adopt a mitigation monitoring program as part of its Findings.

However, even if CEQA does not state how a mitigation monitoring plan may be adopted, CEQA clearly

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such action as may be necessary to bring the Project into compliance with CEQA; and (iv) file a return in this Court within six months after the issuance of the writ specifying what Caltrans has done to comply with the writ.

Petitioners are directed to prepare a formal judgment incorporating this ruling by reference, and a peremptory writ of mandate; submit them to opposing counsel for approval as to form; and thereafter submit them to the Court for signature and entry of judgment in accordance with Rule of Court 3.1312. Petitioners shall be entitled to recover their costs upon appropriate application. The Court shall retain jurisdiction to determine compliance with the writ and any motion for an award of attorney fees.

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Case No. 07CS00967
Name of Case: Environmental Council of Sacramento, et al. vs. CA Dept. of Transportation, et al.

CERTIFICATE OF SERVICE BY MAILING
(C.C.P. Sec. 1013a(4)

I, the undersigned deputy clerk of the Superior Court of California, County of Sacramento, do declare under penalty of perjury that I did this date place a copy of the above-entitled RULING AFTER HEARING a notice envelopes addressed to each of the parties or their counsel of record as stated below, with sufficient postage affixed thereto and deposited the same in the United States Post Office at Sacramento, California.

Donald B. Mooney
Attorney at Law
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Davis, CA 95616

Martin Keck
Attorney for Department of Transportation
1120 N Street (MS-57)
P.O. Box 1438
Sacramento, CA 95812-1438

I, the undersigned Deputy Clerk, declare under penalty of perjury that the foregoing is true and correct.

Dated: 7/15/08

SUPERIOR COURT OF CALIFORNIA
COUNTY OF SACRAMENTO

By: L. YOUNG
Deputy Clerk

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PROOF OF SERVICE

I am employed in the County of Yolo; my business address is 129 C Street, Suite 2, Davis, California; I am over the age of 18 years and not a party to the foregoing action. On July 25, 2008, I served a true and correct copy of

[PROPOSED] JUDGMENT GRANTING
PETITION FOR WRIT OF MANDATE

X (by mail) on all parties in said action listed below, in accordance with Code of Civil Procedure §1013a(3), by placing a true copy thereof enclosed in a sealed envelope in a United States mailbox in the City of Davis, California.

Martin Keck
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Sacramento, CA 95812-1438

Representing Respondents
California Department of Transportation

I declare under penalty of perjury that the foregoing is true and correct. Executed on July 25, 2008, at Davis, California.

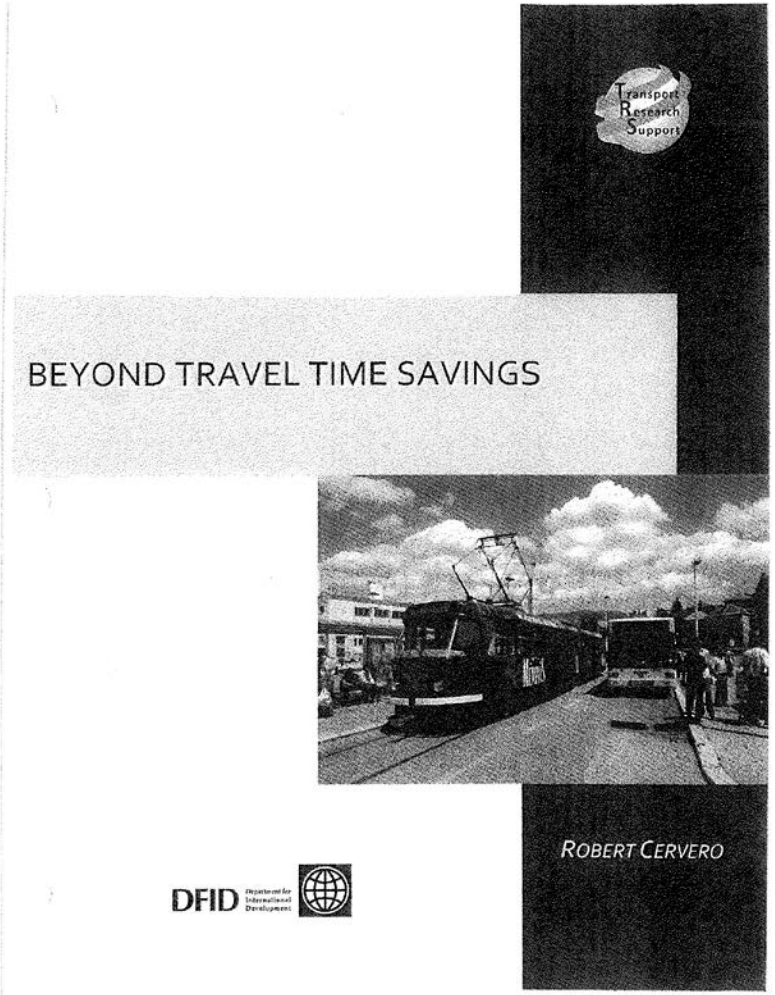
Donald B. Mooney

GL14 Continued

Attachment E

Cervero, Robert
Beyond Travel Time Savings: An Expanded Framework or
Evaluating Urban Transport Projects
World Bank
2011

GL14 Continued



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GL14 Continued

BEYOND TRAVEL TIME SAVINGS: AN EXPANDED FRAMEWORK FOR EVALUATING URBAN TRANSPORT PROJECTS

GL14 Continued

The Transport Research Support program is a joint World Bank/ DFID initiative focusing on emerging issues in the transport sector. Its goal is to generate knowledge in high priority areas of the transport sector and to disseminate to practitioners and decision-makers in developing countries.

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ABSTRACT

This paper challenges the widespread and often indiscriminant use of travel-time savings as a principal metric of economic benefits for evaluating urban transport projects. Time-budget theory and empirical evidence reveals that the benefits of a widened road or extended rail line often get expressed by more and longer trips to larger numbers of destinations and not by less time spent traveling. Induced travel demand can also erode time-savings benefits over the long term. Other conceptual and measurement issues related to travel-time reductions as a welfare measure are raised as well. A case is then made for elevating accessibility improvements as an outcome measure, particularly in light of the long-term nature of urban transport investments. Examples of measuring and monetizing accessibility are provided, although applying these techniques in developing countries is never easy. Still, tractability of measurement is no reason for relying on measures like reduced travel time when doing so flies in the face of theory, logic, and empirical evidence. The paper concludes that the World Bank should adopt a more robust and inclusionary framework for evaluating urban transport projects, one that supplements mobility-based measures like travel-time savings with metrics tied to accessibility, sustainability, livability, safety, and affordability. A preliminary plan of action is proposed in this regard.

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1 INTRODUCTION

Travel-time savings are the principal economic benefit assigned to urban transport projects. Other benefits, like reduced vehicle operating costs (e.g., less wear-and-tear on vehicles; improved fuel economy) and accidents, are sometimes monetized as well. Because they are difficult to measure, less tangible second-order impacts, like improved air quality, are often treated subjectively in economic evaluations. According to Mackie et al. (2001), travel-time savings capture 80% of the quantified benefits for transportation Cost-Benefit Analyses (CBA) in the United Kingdom. In a recent evaluation of proposed bus-way improvements in Lima, Peru, travel-time savings represented 75% of the project's total estimated benefits (World Bank, Latin American and the Caribbean Region, 2003). World Bank studies likewise use travel-time savings as the chief measure of economic benefits — e.g., as an overall indicator in Monitoring and Evaluation (M&E) frameworks and Bank-sponsored CBAs.

This paper questions the focus on travel-time savings as the core and sometimes even exclusive metric of user benefits. History shows that major improvements to roads and public transit do not reduce the amount of time per day urbanites devote to getting around a city. More often, they increase the number and length of trips.

Despite dramatic gains in the average speed of travel conferred by modern technology over the past century — faster cars, super-highways, limited-access/grade-separated freeways — the amount of time urbanites spend traveling has remained largely unchanged over many decades, if not centuries. As transport systems become speedier and cheaper, urban dwellers take advantage of these improvements by traveling more and over greater distances as opposed to saving time or money. If conditions allow, users prefer to broaden their range of options rather than reduce general costs of travel. Thus, the benefit of a new road or bus-way gets expressed more in terms of expansion of trade-sheds, labor-sheds, market-sheds, and social networks than spending less on physical movement. Stated another way, the chief benefit is increased "accessibility" — i.e., the ability to get to destinations and activities people want to reach — not less total time traveling. It follows that any assessment of prospective transport investment projects should give at least as much attention to estimated impacts on accessibility as to travel-time savings.

Accessibility is a function of two main elements: (1) mobility – speed between point A and point B; and (2) location – distance between points A and B. In the near term, faster speeds either save time or allow more interactions between a fixed set of origins/destinations, possibly over a larger geographic catchment. Over the longer term, they allow origins and destinations to be

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farther apart – which, when unplanned, equates to sprawl but when well-planned can increase opportunities for job searching, trading, and social interaction.

Metz (2008) has been particularly critical about the conventional practice of equating benefits to shrinking travel times. He asserts: "travel time savings has the quality of a myth — a traditional story accepted as factual" (Metz, 2008, p. 333). Travel time savings, Metz argues, are transient. In the short term, the prospect of travel time savings can influence when, along which corridor, and by which mode one travels. But once the new route becomes part of an established pattern of daily activity, the benefit should be viewed as an improvement in access rather than as a savings in travel time.

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2 TIME-BUDGET THEORY

Arguments for focusing on enhanced accessibility vis-à-vis travel-time savings are rooted in time-budget theory (Zahavi and Talvitie, 1980, Tanner, 1981). Despite rapid increases in average travel speed, people continue to invest roughly the same amount of time to move about a city, on average an hour per day. This daily time budget has held remarkably constant over time, from ancient Rome to the walking cities of 15th century Europe to the streetcar suburbs of the early 20th century and freeway-laced cities of today. Time budgets are seemingly an anthropological constant, as if people are genetically pre-disposed to spend a fixed amount of time during their lives moving about cities and their surroundings. If a new road speeds up this movement, people simply move more often or farther. Traveling longer means the boundaries of cities have stretched outward as average speeds have increased.

Scholars have long cited transportation systems and technology as powerful forces that shape cityscapes and economic growth patterns (Warner, 1962; Wachs and Crawford, 1992; Garrison and Levinson, 2006). One can easily trace the outward expansion of cities to a succession of transportation advances that increased average travel speeds. The maximum size of walking cities was around 20 square kilometers, which supported settlements up to 50,000 or so inhabitants. When electric streetcars gained ascendency in the late 1800s, many cities quadrupled in size and with the advent of freeways the population and spatial extent of cities grew by several additional orders of magnitude (Schaeffer and Sclar, 1980; Muller, 2004).[1] Faster mobility has thus mainly changed the spatial organization of cities, not the amount of time devoted to travel.

Among the most persuasive evidence in support of time-budget theory is the following:

- In a study of world cities, Zahavi and Talvitie (1980) found a fairly constant amount of time and budget devoted to urban mobility — on average, around one hour per day moving about the city and around 11% of disposable income, with mean statistics three to four times larger than standard deviations.
- Zahavi (1979) also studied changes in travel patterns in the U.S. from 1958 to 1970, finding that Americans did not spend any less time traveling during a period when massive freeway construction let them travel considerably faster. A later study updated Zahavi's analysis

[1] A walking speed of 5 km/hour permits a 2.5 km return journey to be covered in one hour, producing a 20 km² range (a circle with a 2.5 mile radius). With car travel ten times faster, the access area becomes one-hundred-fold larger — i.e., 2000 km² (Lefèvre, 2010).

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using data through 1990, showing the earlier results still held (Barnes and Davis, 2001).

- Several other studies documented constancy in the amount of time, around 1.1 hours per day,that Americans invest in traveling (Ryan and Spear, 1978). McLynn and Spielberg (1978) found the one-hour-per-day figure held as early as 1840, a time when the first high-speed form of mechanized movement, steam-engine trains, spurred the industrial revolution and ushered in an era of decentralized growth in America.

- National surveys in the UK show that travel hours per person per year remained constant from 1970 to 2005 (around 350-380 hours), a period of massive motorway construction throughout the British Isles. According to Metz (2008), this implies "a long run value of travel time savings of zero". What is preferred is more and longer trips – average distance travelled shot up by 60% over the 1970-2005 period.

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3 INDUCED TRAVEL DEMAND

Time-budget theory holds that supply-side improvements increase speeds which alter cities and travel distances. A related theory, called induced travel demand, contends supply-side improvements alter cities and travel so as to erode speed benefits. The two are flip sides of the same coin.

Critics of supply-side solutions to traffic congestion charge that the capacity-expanding benefits of most transport projects are short-lived. While all forms of transport investment influence travel, most complaints about the ephemeral benefits of added capacity are directed at the road sector. Figure 1 diagrams the flow of events attributed to the demand-inducing impacts of an expanded road. In the near term, increased capacity unleashes behavioral adjustments — e.g., trips previously suppressed are now made because of improved flows (i.e., latent demand); motorists switch routes, modes, or time-of-travel to take advantage of a new facility; motorists travel to destinations that are further away because of speedier flows (Downs, 1962, 1992; Cervero 2002; Noland and Lem, 2002). New trips, longer trips, and modal shifts contribute to increased Vehicle Kilometers Traveled (VKT), the strongest correlate to overall resource consumption and tailpipe emissions in the transport sector. Other adjustments, like route and temporal shifts, do not noticeably increase VKT and thus are largely redistributive in nature.

A meta-analysis found a mean short-term elasticity (between lane-km capacity and VKT) of several dozen roadway investments in the United States of 0.40 — i.e., all else equal, a doubling of road capacity was associated with a 40 percent increase in VKT within 1-3 years of the investment (Cervero, 2003). Over the long term, added road capacity led to more deeply rooted structural shifts, like increased car-ownership rates and more auto-oriented land-development patterns. Adding structural impacts to accumulated short-term ones markedly increases long-term elasticities — on average, 0.75 in the U.S. (Cervero, 2002). Other studies have estimated even higher long-term elasticities (Heanue, 1997; Fulton et al., 2000; Metz, 2008). Most empirical studies of induced travel demand have been conducted in the U.S. Metz (2008) has examined aggregate data to study nationwide trends in the UK. He found that average vehicle trip rates per household have changed little over the long run. This implies that induced traffic in the aggregate does not arise from increased journey frequency, retiming, or making entirely new additional journeys. Rather, Metz contends that induced traffic is generally the consequence of the choice of more distance destinations for the same journey purposes and is associated with changed land-use patterns. Metz also notes that induced traffic increases traffic accidents and vehicle emissions since they increase in lock-step with trip distances. Such factors should be adjusted in any long-range road project appraisal.

Overall, experiences reveal that travel adjusts to form a new equilibrium of traffic congestion following road improvements. This traffic-inducing and thus benefit-offsetting impact is incompletely accounted for by most economic appraisals of transport-facility investments (Downs, 1992; Salomon and Mokhtarian, 1997; Cervero, 2002; Cervero and Hansen, 2002; Ory et al., 2004).

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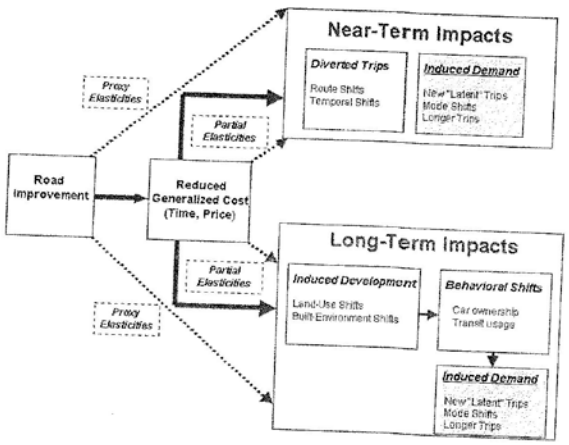
This is true in developing and developed countries alike.[2] Ignoring induced-demand impacts further calls into question the validity of relying on reduced travel times as the standard bearer for gauging the benefits of capital investments in roads and transit facilities.

Figure 1. Near- and Long-Term Travel Effects



The diagram shows near-term (i.e., first-order) and longer-term (i.e., second-order) impacts of expanded capacity. Initially, a road investment increases travel speeds and reduces travel times (and sometimes yields other benefits like less stressful driving conditions, on-time arrival, etc.); increased utility, or a lowering of "generalized cost", in turn stimulates travel, made up of multiple components, including new motorized trips (e.g., latent demand, previously suppressed), redistributions (modal, route, and time-of-day shifts), and over the longer term, more deeply rooted structural shifts like land-use adjustments

[2] There are rarely, if ever, adjustments for induced demand in travel forecasts of proposed urban transport projects in developing countries. Typically the subject matter is not even raised. Only a few World Bank appraisals of urban transport projects conducted over the past decade, such as in Hanoi and Lima, acknowledged that generated traffic or induced demand was not considered in estimating of travel-time savings.

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and increased vehicle ownership rates (that in turn increase trip lengths and VKT). Some of the added trips are new, or induced, and some are diverted.

It is likely the case that the phenomenon of induced demand is more pronounced in the developing world than in most advanced first-world economies. Traffic gridlock creates a huge pent-up demand for mobility. Highly congested, poorly planned cities can thus expect to see the inducement of many newly generated trips following a roadway upgrade.[3] Over the long run, most new development in rapidly modernizing cities will gravitate to less-congested and newly expanded corridors, which are often on the urban fringes. In the Jakarta's, Nairobi's, and São Paulo's of the world — rapidly growing, bigger, denser, and poorer than their first-world counterparts — the transportation/land-use connection is robust, as are traveler responses to changes in road capacity and public-transport services.

[3] This is partly due to the archaic designs of central cities in many developing countries, often laid out to accommodate foot and bicycle traffic. The ability to retrofit urban cores with new transportation infrastructure is constrained in most instances and the costs of road construction thus tends to be quite high. Asian cities, for example, have 12% to 24% of land dedicated to roads compared to 25%–50% in US cities (Gwilliam, 2003).

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4 TRAVEL TIME SAVINGS

This section discusses both conceptual and measurement challenges in operationalizing travel-time savings as a metric of economic benefits.

4.1 CONCEPTUAL CHALLENGES

Travel-time savings has been the centerpiece of transport economic analyses for approaching a half century (Small, 1992; Metz, 2008). Its popularity is as much due to the ease and convenience of measurement as to any theoretically grounded notion of why and how welfare — and particularly the welfare of the urban poor — would or should be improved by a transport investment.

There is a well-established literature on how to compare the benefits and costs of transportation proposals. Given the difficulty in determining how much consumers are willing to pay for, say, a new road, a common approach for imputing benefits is to multiply the predicted time savings to users by assumed values of time and sum the results (Mohring, 1961; Small, 1999; Banister and Berechman, 2000).[4] This has become conventional practice since total economic benefits are fairly easy to derive by comparing estimated total Vehicle Hours Traveled (VHT) "with" versus "without" a proposed improvement. Assumptions are needed, such as the estimated value of time, however even these often go unchallenged — e.g., 40% to 50% of a city's prevailing wage rate is what is typically assumed.[5] In developing countries, where current and reliable travel data are often in short supply and calibrated models are sometimes borrowed from elsewhere, potential errors from applying standardized and simplified approaches are likely magnified. In using computer-generated estimates of travel-time savings to gauge benefits, one must ask whether ease of measurement has usurped theory and logic?

Among the conceptual challenges faced in examining economic benefits and travel-time savings are the following:

- *Time Frame.* There can be a disconnect between the 40-50 year service life of most transport infrastructure and the near-term time horizon in which benefits are measured (given fixed land uses and thus fixed origin-destination patterns). CBA evaluates long-lived transport infrastructure based mainly on estimates of short-term

[4] Travel-time impacts of a specific road project are typically gauged throughout an entire network using the traditional four-step travel-demand modeling approach. This reflects the fact that the impacts of improving any single link reverberate throughout a network, affecting speeds and performance on other links as well. Impacts are also registered across modes. Proposed transportation investments, by saving travel time, generally influence model outputs by changing mode choice and route assignments. In more advanced models, such as when there is a feedback loop between the traffic assignment and land-use allocation phases, they may also influence trip generation and distribution.

[5] This practice applies to developed and developing countries as well as road and non-road projects. The Mumbai rail capacity upgrade study, for instance, similarly set the value of passenger time at 40% of average wage rate for users of different modes (World Bank, South Asia Region, 2002).

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travel-time savings. These near-term estimates might then be straight-line extrapolated to 50 years in the future without any adjustments in assumed future land-use (and thus origin-destination) patterns.

Over time, land markets shift as changes in accessibility patterns and housing filtration occurs, newly formed households trade off housing and transport costs to maximize utility, and a host of other dynamic forces are unleashed that reshape cities and travel. By the time that market effects of a transport investment have played out, it is never clear whether the per-capita amount of time spent traveling actually declines, particularly for the urban poor. As noted earlier, empirical evidence suggests it does not.

- *Scale of Analysis.* Benefits can vary widely by the geographic scale of analysis. At the corridor level, significant time savings might accrue among those traveling along a newly expanded 10-kilometer highway. However at a larger geographical scale (i.e., sub-regional "meso-scale" or regional "macro-scale"), more traffic might be induced by the addition of new and longer trips on existing roads, thus slowing speeds. The net impacts might be no changes in travel time for the sub-region or metropolitan area as a whole. While temporal changes might be most dramatic at a small geographic scale like a corridor, within an entire travel-shed or at the regional level – the scale most appropriate for drawing welfare judgments on public-policy interventions – spatial changes are likely to be most dramatic, especially over the long run (which, of course, is the time frame most appropriate for evaluating projects).

- *Travel Trade-offs.* Urban economic theory suggests that travel time alone is not a sufficient indicator of welfare because it is "traded off" against housing values (i.e. site rents) (Alonso, 1964; Muth, 1969). Dictated by consumer preferences and often stage-of-lifecycle, some households willfully endure long commutes in return for lower-cost housing on a per-square meter basis. Stereotypically these are younger families seeking larger living spaces (and in the U.S., often better schools). Also stereotypically, once the kids have gone off to college, some "empty-nesters" downsize by moving closer to the city, effectively trading off less time spent traveling for higher priced housing per square meter. Measuring changes in travel time alone thus ignores the reality that transportation and housing are a bundled good in the minds of many households. Thus a new freeway or rail line might induce some households to move farther out and thereby increase total time spent traveling in return for cheaper housing — a utility-maximizing choice made within the limits of a fixed transportation/housing cost budget. In such instances, studying impacts on travel times alone becomes meaningless.

- *Path Dependence and Infrastructure.* Once a dominant technology, like the auto-highway combination, gains ascendency, other modes can be marginalized as functional carriers, to the long-term detriment of a region at large. Mogridge (1997) argues that investing exclusively

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in road transport at the expense of other alternatives may cause a lower net welfare and higher congestion than a modally diverse investment strategy. He contends that roadway capacity expansion and similar congestion-mitigation policies actually increase travel times in the long-term in many urban settings. Building on theories of induced travel, Mogridge asserts that the modal convergence of switching from transit to auto travel in response to congestion-mitigation policies ultimately leads to deteriorating transit service, auto dependence, gross increases in travel time, and even more congestion. Perhaps car-dependent U.S. metropolises like greater Los Angeles and Houston provide the strongest empirical backing of this viewpoint. Despite averaging high levels of freeway capacity per capita, Los Angeles and Houston have over the past two decades consistently ranked as among the most congested areas in the country in terms of annual hours of delays per traveler (Schrank et al., 2010).

The obverse of this path dependency argument can be seen when tracing the impacts of pursuing a more balanced, multi-modal transportation program. In the case of Seoul, South Korea, for example, road capacity has been reduced in the core area (e.g., the Cheonggyecheon freeway-to-greenway conversion; replacement of a large traffic circle in front of City Hall by an oval civic green), replaced by expanded Bus Rapid Transit (BRT) and other transit service reforms. Commercial and residential land prices increased following these road-to-amenity conversions (Kang and Cervero, 2009; Cervero, 2010; Cervero and Kang, 2011). In Seoul's case, property markets placed a higher premium on neighborhood quality, livability, and public amenities than mobility or swiftness of movement. Seoul's experience also demonstrate that the withdrawal of road capacity matched by stepped-up public-transport services can yield net welfare benefits.

- *Time Loss = Reduced Productivity?* Arguments that congestion-induced travel delay results in lost productivity are questionable, at least as a *carte blanche* assumption (Stopher 2004). While current research on traffic congestion attributes substantial economic drags to time losses or scheduling delays, it does not offer any guidance on whether these delays constitute foregone productivity. Transportation infrastructure is not productive in and of itself; rather the service and accessibility premiums it provides enable agglomeration economies or transport savings that function as direct inputs into productivity (Boarnet 1997). Although congested conditions may appear to be less productive than higher speed, non-peak conditions, many users clearly derive benefits from traveling during specific times (such as peak commuting hours) and to specific locations, despite the lower travel speeds. If an employee finds that his or her commute is 15 minutes longer due to congestion, he or she may leave for work earlier or may depart from work later in order to make up the additional work time. Also, 15 minutes of congestion delay would not replace economically productive time for an individual traveling to a social event after shopping. While foregone recreational time would certainly be valuable from a cost-benefit

GL14 Continued

analysis perspective, it is not economically productive (at least in the traditional sense of the word). Even for commuters, 15 minutes of delay might simply replace 15 minutes of idle time that would have been spent sometime during the workday or after work. Downs (1992, 2004) argues that time stuck in traffic is not necessarily stressful for some. Rather it might be the one time of the day when office workers enjoy solitude and quiet, comforted by the posh interior of a car playing relaxing music or having a novel recited on a high-end stereo unit. For some, sitting in an office bullpen separated by thin partitions from co-workers chatting on the phone might be just as stressful or unproductive.

4.2 MEASUREMENT ISSUES

Besides conceptual challenges, economic appraisals based on travel-time metrics face a number of practical measurement-related problems as well. These are discussed below.

- *Travel Surveys.* Data on travel times are usually obtained from self-reported travel diaries of a random sample of households in a region. This poses numerous problems, especially in cities of the developing world. One, informality and incomplete land registries make defining a population base from which to sample households virtually impossible. Since the poor most likely live in informal or itinerant settlements, they are most likely to be under-sampled. The same holds for any data-collection instrument using random-digit dialing of telephone numbers since the poor are least likely to have a landline or cell phone. Two, travel-diaries presume literacy and because they are self-reported, are easily subjected to biased or incorrect responses. Such issues are again most likely to surface for low-income individuals and households. However biases can also be introduced by failing to compile data from the wealthiest members of society. A travel-diary survey of households in Bogotá, Colombia, for instance, recorded low response rates from not only the two lowest income strata but also the highest (Cervero et al., 2009).[8] In a city once known as the "kidnap capital of the world" and where narco-terrorist attacks still occur, most wealthy households have armed guards whose sheer presence deter surveyors from approaching their properties. Lastly, household surveys fail to capture non-home-based or non-household travel, such as by commercial trucks, taxis, paratransit/informal-transport, or inter-city through traffic.

- *Derived estimates.* Sometimes travel-time impacts are not estimated directly but rather derived from estimated future travel speeds and invoking the questionable assumption that trip origins and destinations will be unaffected by changes in transport system

[8] Under-sampling of the lowest income stratum was due to households living in squatter settlements and either being unavailable or unable to comprehend the purpose of surveys. Illiteracy and cultural factors (e.g., uncomfortability of having someone of a higher income stratum enter a tattered shelter) accounted for low response rates among the next-to-lowest income stratum.

GL14 Continued

performance. This is common practice in the World Bank M&E framework. As already noted, smoother flowing traffic can unleash behavioral changes, such as the inducement of new trips or route shifts. Imputing travel times can also be problematic since trip durations often vary considerably from the statistical mean – e.g., by time-of-day, mode, section of corridor, etc. Imputing travel-time savings from average speeds is especially difficult in the developing world due to huge variations given the rather erratic and stochastic nature of traffic flows.

Computational errors are also possible when one invokes the simple assumption that changes in average speed and travel times are proportional. The current average speed is typically estimated by local traffic engineers using a floating car technique — i.e., a test car will pass as many vehicles that passes it over a defined distance, establishing a mean speed for a particular time-of-day. Say the recorded peak-period average speed for a hypothetical 10-km stretch of road is 40 kph. And assume a road improvement is expected to increase this figure to 50 kph. Ignoring issues of induced demand and induced growth effects, this is a 25 percent increase in mean speed. Does this mean average travel times similarly fell by 25 percent? Simple math shows this is incorrect (owing to different denominators used in measuring rates of change). It takes 15 minutes to cover the 10 km stretch at 40 kph and 12 minutes to do so at 50 kph. That's a 20 percent decline in mean travel time for a 25 percent increase in mean speed. Over a fixed distance, speed/travel-time trade-offs are not strictly proportional.

- *Absence of land-use adjustments.* The failure of the vast majority of travel-forecasting models to account for land-use adjustments poses a serious measurement problem in estimating travel-time benefits. The absence of any feedback loop from traffic assignment to land-use allocations implicitly assumes that trip origins and destinations do not change over time. As a result, Metz (2008) argues that the value of activities at trip ends "could be disregarded" since they are the same between the "do nothing" and "do something" alternatives. While travel demand might vary as a result of new infrastructure (as captured in trip distribution, modal split, and traffic assignment phases), the change in trip origins and destinations themselves (in the land-use allocation phase) is usually ignored. Thus, possible economic benefits of land-use adjustments — e.g., better matching of firms and labor, agglomeration economies from more efficient, clustered spatial arrangements, increased comparative shopping — get overlooked. Implicitly, this absence presumes no economic benefits are conferred by land-use adjustments. Assuming trip origins and destinations will not change following any transport-infrastructure enhancement flies in the face of theory, logic, and empirical evidence.

- Valuations. Time valuation stems from cost-benefit analysis (CBA) methods which compare the relative merits of two or more transportation alternatives. While researchers agree that the value of

GL14 Continued

time is related to the regional wage rate (Small 1992, Miller 1989), they do not agree on how to determine its present value. Many cite half of the wage rate, however the range extends from virtually nothing to values greater than the wage rate (Rouwendal and Nijkamp 2004).[7] Some analyses apply specific values of time to different socio-economic groups, trip purposes, or times of day, while others use average estimates.[8] Some research indicates that different trip lengths and savings increments are valued differently. There is likely an indifference zone wherein small time savings are imperceptible. Few people will notice a minute or two savings on a half-hour trip however 20 minutes of savings on a 30-minute trip will be impressionable. Due to the induced-demand/induced-growth phenomenon, most supply-side expansions are likely to shave a few minutes of travel time versus big perceptible savings.

Measuring value-of-time is more complicated for non-highway infrastructure. This is partly due to the predominance of road infrastructure in cities. Rarely will an investment in pedestrian infrastructure increase speeds and thus save time. New bike lanes might divert riders from faster direct routes and thereby increase travel times. For transit users, service reliability, transfer-free direct connections, and perceived levels of safety may be more heavily valued than time (Train, 2009). For such reasons, reliance on travel-time savings as the core metric of economic benefits of urban transport projects engenders a road-based bias.

[7] Small (1992) estimates that the value of time for trips ranges between 20% and 100% of a region's prevailing wage rate and estimates that 50% is a good rule of thumb for peak-hour users. Parry et al. (2007) give a rough estimate of total transportation costs per automobile mile in the U.S. — $0.05 attribute to congestion.

[8] A project appraisal of rail capacity upgrading, for example, set the value of time of high-income railway users at 2.6 times higher than low-income ones (US$2.40 versus US$0.94 per hour) and those with formal jobs were assumed to value time twice as much as those with informal ones (US$2.73 versus US$1.30 per hour) (World Bank, South Asia Region, 2002). An appraisal of a bus-way proposal in Lima used a value of time of US$0.80 per hour for those traveling by private vehicles and US$0.31 for public transport riders (World Bank, Latin America and the Caribbean Region, 2003).

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5 TRANSPORTATION PROJECT APPRAISALS OF THE WORLD BANK

Many of the issues discussed in the preceding sections apply to project appraisals conducted as part of loan packages for World Bank-funded projects. The economic appraisals of seven World Bank studies were examined in terms of their approach to measuring economic benefits [9]. Most rely on travel models to estimate differences (with versus without improvement) in network-wide VHT (reflecting total system-wide travel-time expenditures). Some address other impacts, like reductions in accidents and air pollution, as a consequence of changes in both VHT and VKT. Benefits from reduced VHT and VKT are compared to estimated costs to come up with net present value (NPV) and Benefit/Cost ratios.

Few appraisals dealt with induced demand or any generated-traffic impacts that could erode travel time benefits over time. Most appraisals did not even acknowledge the possibility of induced-demand/induced-growth impacts. To the degree they are even used, it is not clear that travel-demand forecasting models contain feedback loops between traffic assignment and earlier input stages (including initial land-use allocations). Models appear to gauge near-term travel-time savings and assume these will remain fixed and unchanged over the life of a project, annualizing these values and extrapolating them over a set number of years — and in so doing, failing to account for land-use and behavioral adjustments. Travel-demand models do not appear to have been estimated in some of the poorest cities of the world, thus how travel-time savings are derived in these settings is unclear.

[9] Report sections on "economic evaluations" were examined for project appraisals of proposed loans and grants for urban transport projects in Ghana, Hanoi, Lagos, Lima, Mumbai, Rio de Janeiro, and Urumqui.

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6 EQUITY CONSIDERATIONS

Reliance on travel-time metrics also raise equity concerns. Travel-time savings accrue mainly to motorists, yet many poor in the developing world — where most World Bank urban transport projects are targeted — do not own a car or drive. Their values of time might also be substantially less than those of the middle and professional classes. For them, enhanced access opportunities might be a bigger benefit – and contribute to the World Bank's over-arching objective of poverty alleviation — than reduced travel-time expenditures. The ability to widen the territorial sphere for job searching, saving on food purchases, reaching medical clinics, and seeking educational opportunities is likely to benefit the poor more than saving a few minutes of time moving along an expanded roadway.

Experiences also show that the poor are willing to trade-off travel-time delays for lower transit fares, parking rates, or fuel prices — i.e., they tend to be more price-sensitive and less time-sensitive than the non-poor. More popular uprisings have been sparked by increases in fuel prices and bus fares than by delays in travel times. For such reasons, the use of travel-time savings as a singular metric of benefits is all the more questionable from an equity point-of-view.

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7 ALTERNATIVE MEASURES

The critiques of reliance on travel-time savings to gauge economic benefits does not mean they should be discarded. Rather they are just one of a number of measures that should be examined when weighing economic benefits of highway, public transport, and other transport infrastructure investments. A more complete palette of metrics for gauging benefits – one that includes changes in accessibility across a multitude of purposes – should be considered.

7.1 ACCESSIBILITY METRICS

So far, this paper has made the argument that one of the major benefits of expanding roadway capacity and transport services is to enhance access to places where travelers want to go. Access is a theoretical construct as opposed to a manifest behavior, and for this reason can be difficult to grasp. Access is about opportunities versus revealed choices and outcomes.

Besides more directly capturing the benefits conferred by transport investments, the inclusion of accessibility measures promotes a more balanced approach to long-range urban planning. Notably, it gives attention to alternatives to capital investments strategies for reducing traffic congestion and mitigating environmental problems, such as promoting efficient, resource-conserving land-use arrangements. This is because accessibility is a product of *mobility* and *proximity*, enhanced by either increasing the speed of getting between point A and point B (mobility), or by bringing points A and B closer together (proximity), or some combination thereof. Since accessibility is a product of both travel time and the geographic location of urban activities, it captures not only the temporal but also spatial dimension of travel. Thus accessibility measures give legitimacy to land-use initiatives and urban management tools in addition to supply-side, mobility-enhancing measures. Focusing on accessibility improvements as a goal reflects the "derived" nature of travel demand and puts the focus on promoting interaction — e.g., trade, social contacts, engagement with nature – versus movement per se. Some would argue most people want to minimize the time traveling so that more time can be spent at the destination. Framing the objective as making cities more accessible versus more mobile prompts a paradigmatic shift in planning, elevating land-use management and information technologies as bona fide tools for managing traffic flows and mitigating traffic congestion.

Measuring Accessibility

While there is a conceptual elegance to gauging benefits in terms of changes in accessibility, operationalizing this is not easy. For this reason, accessibility is typically handled qualitatively. The appraisal of a proposed BRT investment in Lagos, for example, offered a simple qualitative statement in support of the project on social grounds, noting "the proposed project would benefit women, the elderly, and the physically challenged by responding to their needs and providing them with *better access* to basic social services (health, school, administration), jobs, and markets, at a lower cost than currently available" (World Bank, Africa Regional Office, 2009, p. 26).

GL14 Continued

There are quantitative ways to gauge changes in accessibility. Going from concept to measurement involves mathematics and, increasingly, the power of Geographic Information Systems (GIS) tools. Two approaches are commonly used: (1) gravity-like measures (based on the denominator, or balancing factor, of a singly-constrained trip distribution model); and (2) isochronic measures (indicating the cumulative count of opportunities reachable within a given travel time or distance).[10]
Accessibility is normally measured for specific purposes – such as accessibility to jobs, hospital facilities, retail outlets, etc. In the case of job access, the two approaches to capturing access can be expressed as:

Gravity-based Index:

$$AI_i = \Sigma_j [\, Jobs_j * F_{ij} \,] \text{ where: } F_{ij} = \exp(-v\, Time_{ij}) \text{ or } F_{ij} = Time_{ij}^{-v} \qquad (1)$$

AI	=	Accessibility Index
Jobs	=	# of jobs in tract
Time	=	network travel times
I	=	residential zone
J	=	employment zone
v	=	estimated impedance coefficient

Isochronic-based Index:

$$AI_i = \Sigma_j [\, Jobs_j \, (Time_{ij} \leq m) \,] \text{ where, in addition to above:} \qquad (2)$$

M	=	time threshold (e.g., 30 minutes)

Gravity-like measures of accessibility consider all trip-end possibilities within a defined study area in weighing the drawing power of potential trip attractions, corrected for the friction of distance or time in reaching them. However the AI value of a gravity-based measure is often meaningless unless compared to another value — such as the AI of the poor and non-poor or of auto highway versus public transit options. Regardless of how they are measured, the value of an accessibility index, like any performance indicator, lies in a comparative context. According to Handy and Niemeier (1997, p. 1181), "no one best approach to measuring accessibility exists; different situations and purposes demand different approaches.

Isochronic measures receive high marks for their transparency and intuitiveness (Koenig, 1980). Anyone can relate to a value such as the presence of 200 hospital and medical-clinic beds within a half-hour bus ride as

[10] Other measures, like random utility and prism-based approaches, can be found in the literature, though these tend to be applied less often in practice, partly because of data limitations (Nishi and Kondo, 1992; Kitamura et al., 1998; Handy and Clifton, 2001).

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a gauge of how accessible one is to medical care via transit. GIS allows isochronic measures to be visualized. Perhaps the biggest drawback of isochronic measures is they require the analyst to draw a time or geographic boundary for gauging access, which is sometimes arrived at subjectively.

Cross-City and Longitudinal Comparisons

As noted, accessibility metrics find most advantage when used as a comparative indicator, either between places or in a longitudinal context. Casiroli (2009) did a cross-city comparison of access to central tourist destinations in São Paulo (Praça de Sé) and London (Trafalgar Square) by mapping out how far one can get within 45 minutes (in green) and 90 minutes (in yellow) by car versus public transport in the evening peak (Figure 2). Summing the number of inhabitants residing within these travelsheds produces an isochronic measure of relative accessibility to these major leisure destinations by mode. Modal ratios reveals that more than twice as many Paulistas can reach Praça de Sé by private car than public transport in the P.M. peak. If reducing the carbon footprint of the transport sector and promoting more balanced transportation are long-range goals of São Paulo's transportation planners, then shrinking this differential over time would signal progress. A smaller ratio would also better reflect benefits accrued from improving metrorail and metrobus services than would an estimate of transit travel-time savings.

The accessibility profiles of competing transportation modes was recently studied over time in San Diego using isochronic metrics (Cervero, 2005). Figures 3 and 4 present comparative levels of job accessibility of those residing in the fast-growth Mission Valley area of San Diego via auto-highway and transit modes, respectively. Cumulative employment counts for 15-minute isochrones are also shown in each figure. The visual scan reveals that the near-ubiquitous road network in San Diego County covers a much larger geographic territory, and thus opens up greater access to jobs, than does the region's bus, light-rail, and commuter-rail systems. Not only are the isochrones in Figure 4 more geographically contained, they are also noncontiguous and spotty, indicating large gaps in transit service coverage.

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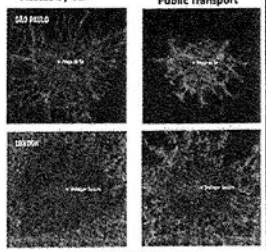
FIGURE 2. COMPARISON OF HOW FAR ONE CAN TRAVEL BY CAR VERSUS PUBLIC TRANSPORT IN 45 AND 90 MINUTES IN THE EVENING PEAK, LONDON AND SÃO PAULO. ISOCHRONIC MEASURES ARE MAPPED.



The Accessible City

How Far Can Travel in Evening Peak: São Paulo vs. London

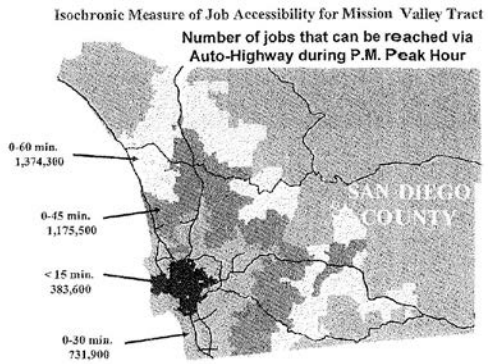
	Access by Car	Access by Public Transport	Differential Car vs. Public Transport	
			45 min.	90 min.
São Paulo			2.2	3.3
London			1.4	1.2

Green = 45 minutes
Yellow = 90 minutes

Source: Casiroli, *2009*

GL14 Continued

Beyond Travel Time Savings



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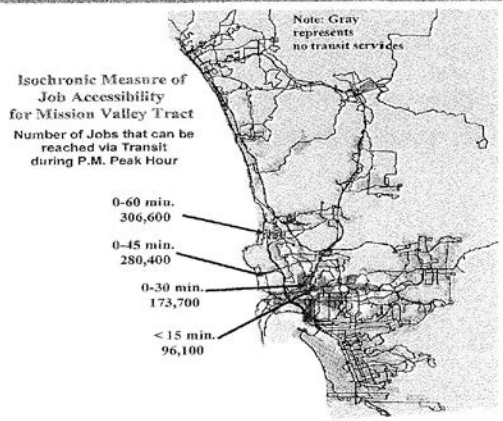
Alternative Measures



Time Isochrone	A.I. Auto	A.I. Transit	Accessibility Advantage: Auto to Transit	MAG[1]
< 15 Min.	383,600	96,100	3.99	-.0559
15-30 Min.	731,900	173,700	4.21	-0.616
30-45 Min.	1,175,500	280,400	4.19	-0.614
45-60 Min.	1,374,300	306,600	4.48	-0.635

[1] MAG (Modal Accessibility Gap) = $(A^P - A^C)/(A^P + A^C)$, where A^P = AI of public transport and A^C = AI of private transport.

The comparative job accessibility advantages of auto-highway travel over public transit for residents of Mission Valley are shown in Table 1. Over all four travel-time rings, drivers enjoy a four-to-one accessibility advantage over transit riders. In general, the farther out one goes from the center, the job-

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accessibility advantage enjoyed by motorists over transit users increases.[51] The comparative AI values were computed for 99 neighborhoods in San Diego in addition to the Mission Valley and averaged to derive a countywide comparative measure of job accessibility by mode. Also, smart-growth and business-as-usual plans for 2020 were compared not only in terms of conventional performance measures (like VKT and VHT) but also in terms of how they narrowed the accessibility disadvantages experienced by transit users. Transit-oriented growth could reduce the automobile's job-accessibility advantage by 60 percent in year 2020 compared to a business-as-usual scenario (Cervero, 2005).

In transit-oriented cities, the accessibility advantage enjoyed by motorists, such as in San Diego, would flip in favor of transit users. A recent study revealed that Hong Kong residents were far more accessible to jobs via the city's highly integrated network of public and private bus, metro-rail, tramway, ferry, and even funicular than via private car (Kwok and Yeh, 2004).[52]

Increasing Accessibility or Sprawl?

As discussed earlier, studies show that capital investments in roadways and transit lines appear to increase the number and length of trips more than reduce total travel times. Findings that people travel more and farther does not necessarily mean they do so by choice or derive utility in such behavior. Higher accessibility could reflect the impacts of sprawl — i.e., trip origins and destinations being farther apart, producing longer journeys, albeit at faster average speeds. Expanded travel-sheds can equate with increased benefits (e.g., productivity gains from better matching of firms' labor-input needs and workers' job preferences) but also high environmental and energy costs.[53] Accordingly to Siegel (2010), the yearly distance the average American drives doubles every few decades — from 4,009 miles per capita in 1960 to 9761 in 2000. Does this mean that levels of access or even quality-of-life for Americans have similarly doubled? It is for reasons like this that accessibility metrics should to be supplemented by others — including changes in vehicle miles traveled (VMT) and travel durations – in evaluating transportation proposals.

[51] Table 1 probably understates the accessibility advantages of automobile travel because out-of-vehicle times in accessing and waiting for transit are generally understated in the zone-to-zone travel time estimates of transit.

[52] The computed MAG level (defined in the Footnote of Table 1) for Hong Kong was 0.836 in 1996, down from 0.937, meaning the big accessibility edge enjoyed by public transport eroded some during the 1990s. Zero MAG values indicate equal accessibility among modes while values close to one (in absolute terms) denote extreme disparities.

[53] Similar arguments can be made about expanded housing choices. Under the theory of choice, households search to find the right combination of public services and accessibility so as to maximize their utility. Those seeking to minimize commuting are likely to pay higher real-estate prices for job-accessible locations (Alonso, 1964; Muth, 1969). Thus expanded accessibility can mean expanded residential choice sets.

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7.2 MONETIZING ACCESSIBILITY BENEFITS

While accessibility indicators are useful metrics for inter-modal comparisons and assessing likely impacts of transportation and land-use plans over time, they need to be expressed in monetary terms if they are to be of much use in economic appraisals. Consumers no doubt benefit from having more retail outlets to choose from. Employers similarly benefit from an enlarged laborshed from which to seek out new workers and fitness buffs benefit from having more recreational opportunities within a half hour of their residences. Assigning an economic value to such benefits, however, is challenging.

Willingness-to-Pay Approach

One approach to valuing access is to measure willingness-to-pay, applying stated preference techniques (Metz, 2008). Using various scenarios, residents might be asked how much they would be willing to pay for increased access to shopping choices. Or businesses might be asked about their willingness to pay for shaving an average of 5 minutes off the daily commute of their work forces. The willingness-to-pay approach, of course, relies on subjective responses to "what-if" scenarios. It presumes respondents have the capacities to carefully weigh and value options and to make informed choices, even if they have no first-hand experiences with those choices.

Land-Value Capitalization

The impacts of increased accessibility get expressed in land prices. There is a finite, limited supply of good, accessible locations in a city. In a reasonably well-functioning marketplace, those seeking accessible locations to open a shop or business will bid up the price for well-located, accessible properties. Land markets thus capitalize the benefits of accessibility.

To gauge capitalization benefits, hedonic price models are widely considered to be the best method available. Hedonic price theory holds that most consumer goods comprise a bundle of attributes and that the transaction price can be decomposed into the component (or 'hedonic') prices of each attribute (Rosen, 1974). Using estimation approaches like ordinary least-squares regression, hedonic price models apportion sales-transacted real-estate values among causal explainers, shedding light into the marginal contribution of factors like accessibility, land-use type, and neighborhood quality.[54] For purposes of gauging land-value benefits, hedonic models generally take the form: $PI = f(L, N, C)$, where PI equals the estimated price (per square meter) of parcel i; L is a vector of location and regional accessibility attributes (e.g., accessibility to jobs); N is a vector of neighborhood characteristics (e.g., presence of mixed land uses; median housing income); and C is a vector of

[54] Many studies use data on rents as opposed to sales prices for real-estate transactions (that are open, arms-length transactions). Rental data can be problematic, however, in that contract rents do not always capture the full array of concessions received by tenants. Even if contract rents are fairly accurate, they need to be adjusted for occupancy levels to reveal effective contract rates. Data limitations often preclude this. Focusing on sales transaction data avoids such problems.

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controls (e.g., fixed-effect variables).

Table 2 presents hedonic-price model findings on the impacts of accessibility on real-estate prices in San Diego (Cervero, 2004). This was part of a larger study on the capitalization effects of proximity to San Diego's light-rail transit line. Only the output pertaining to the impacts of Accessibility Indexes on single-family home prices are shown in the table. The model, which explained 60 percent of variation in housing prices, shows that single-family homes fetched more than $1,000 for every 1,000 additional jobs within 30-minutes peak travel time, all else being equal. Employment access via transit increased the value of single-family homes even more: for every 1,000 additional jobs within 15 minutes travel time by bus or rail, sales value rose by nearly $6,300, holding other factors constant. Clearly, home-buyers in San Diego placed a high premium on job access by public and private modes of commuting, consistent with residential location theory.

TABLE 2 Selected Results, Hedonic Price Model (DV)

Variable	Coefficient	Standard Error	Prob. Value
Accessibility			
Regional Job Accessibility, Highway: Number of jobs (in 1,000s, 1995) within 30 minute peak-period auto travel time on highway network	1,042.0	160.4	.000
Regional Job Accessibility, Transit: Number of jobs (in 1,000s, 1995) within 15 minute peak-period transit travel time on transit network	6,286.5	710.2	.000

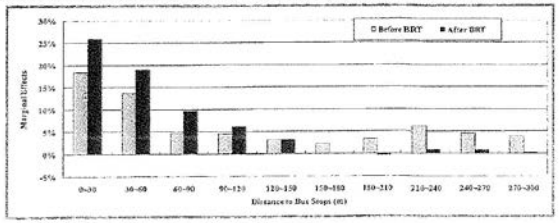
Control variables in model: attributes of property (e.g., size, location); attributes of buildings (e.g., size, number of bedrooms); attributes of neighborhood (e.g., median household incomes, school scores); municipal fixed effects.
N = 14,576
R^2 = .605
Source: Cervero (2004)

A more recent study of upgraded Bus Rapid Transit (BRT) services in Seoul, South Korea similarly relied on hedonic price modeling to assess impacts on both residential and commercial real-estate market performance (Cervero and Kang, 2011). The study focused on how changing from a modest BRT curbside-lane configuration to a more substantial dedicated center-lane operation got capitalized into retail-commercial land prices. Data were compiled for more than 37,000 commercial real-estate properties within an estimated impact zone of the BRT-upgrade project for two time periods: 2001-2004 (curbside operations) and 2005-2007 (center-lane operations). Multi-level modeling was used to estimate benefits of proximity, or access, to the BRT corridor before and after the upgrade. The coefficients on dummy variables that measured the shortest walking distance of commercial parcels to the nearest BRT indicated whether proximity affected land prices differently

GL14 Continued

before and after the BRT improvements. Figure 5 plots these coefficients, revealing the marginal effects of proximity on land prices, expressed in percentage terms and over 30 meter distance bands, relative to parcels more than 300 meters away (defined as the impact zone of the project). While access benefits accrued to those living near BRT corridors in both periods, the figure reveals the benefits were more prominently capitalized into land values in the post-period (2005-2007). Benefits were the greatest within 150 meters of the nearest BRT stop. A recent study of access to rail lines in Bangkok found similar results, with the premium of transit accessibility estimated to be $10 for every meter that a property lies closer to a station (Chalermpong, 2007).

FIGURE 5 Marginal Effects of Walk Access to BRT Bus Stops on Commercial Land Values in Seoul, South Korea (Cervero and Kang, 2011)



Hedonic modeling results such as those reviewed above express a monetary premium conferred by accessibility improvements. For purposes of estimating a total economic benefit, the per square-meter premium needs to be multiplied by the number of square meters within the estimated impact zone of a project.[15] If, for example, the mean land-value premium of a transportation improvement is $10 per square meter and this benefit extends over 100 hectares (or one million square meters), then the project's economic benefit could be set at $10 million. Values might be adjusted to reflect changes in capitalization impacts over time (e.g., over the service-life of a capital project) or over space (e.g., reflecting the fact that premiums vary geographically, such as shown in Figure 5).

The presence of land-value premiums should not be added to the monetary value of travel-time savings. To do so would be to double-count since land values embody travel time savings. If consumer benefits are measured as a function of hours of travel saved multiplied by value of time per hour, changes in land values, which capitalize these benefits, should not be included as a benefit (Mohring, 1961; Small, 1999; Banister and Berechman, 2000). Thus,

[15] For more on this method of estimating total economic benefits using hedonic-price model results, see Cambridge Systematics et al. (1998).

GL14 Continued

accessibility benefits should be treated as a supplement to travel-time metrics or an alternative perspective for gauging impacts, not an un-related add-on.[16]

Applying land-value capitalizations to measure accessibility might be problematic in many developing countries. The absence of well-functioning land markets in some poor countries could distort estimates. Informality, complex patterns of land tenure, and incomplete land registries pose further hurdles (Törhönen, 2004). One approach might be to estimate shadow land prices however doing so for a multitude of informal parcels within the impact zone of a transport project might be impracticable.[17] Chalermpong (2007) states that very few hedonic studies have been published on the effect of transit accessibility on property values outside North America and Europe because data are often unreliable or non-existent. It could be that land markets in developing countries engender so many distortions and misallocations that reliably imputing accessibility benefits from land price data is nearly impossible. For these reasons, the use of accessibility indices as comparative and longitudinal measures — and as supplements to travel-time savings estimates — might be the best one can hope for in many developing country settings.

7.3 Economic Development Impacts

The benefits of increased accessibility can also be expressed in terms of second-order effects on net economic growth in a region. This might be done using an input-output model that enumerates inter-industry production and linkages that occur as a consequence of, among other things, improved access to factor inputs (e.g., labor, raw materials) and markets. Economic forecasting and simulation models, such as REMI, can use accessibility along with other input metrics to predict changes in business output, sales, gross regional product, employment, and population over a specified time horizon.

Economic development impacts are typically treated as a second-order "add on" benefit of transportation projects in urban settings. In rural areas, however, they can very well be the chief economic benefit. In most rural parts of developing countries, traffic levels are too low for there to be any measurable benefit of a roadway investment using conventional consumer surplus measures. However the prospect of stimulating trade and increasing agricultural production might be substantial. A recent evaluation of a proposed road upgrade between northeast Congo and the Central African Republic used a gravity model to estimate that goods traded via this route

[16] Also, as with estimated travel-time savings, estimates of capitalized land values likely provide a lower-end range of benefits conferred by an improved road or transit facility. This is not only because accessibility improvements fail to capture external benefits (e.g., improved air quality) but also because they ignore some of the non-derived, psychological benefits of movement (Metz, 2008).

[17] This might be done by using sales-transacted prices of formal, registered properties with similar levels of accessibility (based on regional location and proximity to transport infrastructure) as an informal property of interest, adjusting for differences in site (e.g., presence of piped versus non-piped water supply) and neighborhood (e.g., median income) characteristics. For more on shadow pricing of land market responses to transport-sector interventions, see Arnott and MacKinnon (1978).

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would increase from a current value of US$16 million to US$142, nearly a 800 percent increase (Buysa et al., 2010). The study concluded that trade expansion promoted by the upgrading would exceed costs by about $220 billion over 15 years, while generating millions of construction and maintenance jobs in some of Africa's poorest regions. While trade volume expansion is not a direct measure of welfare improvement, estimates of the growth and income-inducing effects of increased trade can reflect generative (as opposed to redistributive) benefits and thus should be weighed in investment decisions (Frankel and Romer, 1999).

7.4 Cost-Effectiveness Measures

Rather than attaching a monetary value to transportation improvements, cost-effectiveness measures might be used instead. A cost-effectiveness metric might express the number of additional jobs that can be reached within one-half hour travel time per million dollar expenditure. Thus instead of attempting to assign a monetary value to benefits (e.g., increased access to jobs), only financial costs for project outlays are monetized. Combining data on financial expenditures with isochronic indices of accessibility can yield a reasonable performance measure that is free of such problems as valuing time or obtaining land valuation data.

Cost-effectiveness measures are likely better suited to many developing countries where reliable data are limited and outcomes are difficult to measure. Cost-benefit analysis is not used in evaluating public works projects — like a school building upgrade — when inputs cannot be easily translated to outcomes (e.g., higher student scores). Similar challenges in attributing transportation investments to accessibility outcomes argue for cost-effective measures as a second-best alternative in some instances.

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8 CONCLUSION

The widespread and indiscriminant use of travel-time reductions as a stand-alone indicator of success in World Bank appraisals of urban transport projects is inconsistent with economic and spatial theories of how cities grow and function. In congested, fast-growing cities with a pent-up demand for mobility, unchecked sprawl, and correspondingly high induced-demand elasticities, travel-time savings is likely a poor measure of welfare benefits from transport interventions, policy changes, and capital investments.

The established practice of relying on time savings as the principal measure of economic benefit of urban transport projects needs to be questioned. Metz (2008, p. 324) echoes this view: "Data on average travel time offer no obvious support to the idea that travel time savings comprise the dominant element of the benefits from investments in the transport system". There is stronger evidence that people take advantage of transport system expansion in the form of additional access to desirable destinations, made possible by faster speeds within the fairly fixed budgets of time available for travel. Metz (2008, p. 325) adds that "given the long-term invariance of average travel time, travel time savings would necessarily be a transient phenomenon, in a context in which individuals tend to use improvements in the transport system to maximize access". Time savings is thus largely a short-term benefit. Over time, people tend to make longer journeys, not extra trips. Weighing impacts on accessibility thus brings a longer term perspective to the analysis, something that is needed given the fifty-plus year service life of most capital-intensive transport investments.

Concerns over induced travel, global warming, and auto-dependent cities call for a more balanced, holistic approach to evaluating future urban transport projects. Framing evaluations in terms of accessibility, not just mobility, allows a shift from a traditional engineering focus on speed and efficiency to a more balanced perspective that weighs environmental and social concerns as well. Additionally, assessing impacts on accessibility elevates the importance of land-use and demand-management strategies in the evaluation of alternatives. Besides accessibility and mobility (e.g., speeds), a more robust and inclusionary framework for measuring performance might also weigh factors like sustainability (e.g., VKT and emissions per capital), livability (e.g., community ratings or commute delays per capita), safety (e.g., road fatalities per 100,000 inhabitants), and affordability (e.g., percent wages spend on commuting) in judging proposals.

To date, accessibility has been treated qualitatively in most project appraisals of World Bank urban transport sector loans. It is not examined with the same rigor as projected travel-time savings. An evaluation of BRT proposals in Accra, Ghana, for example, used a qualitative scoring approach, subjectively giving "accessibility for low-income populations" a weight of 21.4% in judging competing corridors (World Bank, Africa Region, 2007). Many appraisals simply mention improved access in a list of "social benefits" as an adjunct to economic appraisals based mostly on savings in travel time and vehicle operating costs. Separating mostly quantified "economic benefits" from non-quantified "social benefits" gives the impression that accessibility impacts are

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secondary and non-pecuniary.

Elevating the importance of accessibility and other performance measures like sustainability in project appraisals need to be done with equity concerns in mind. If improved access to jobs, shops, and hospital services are limited to car-owning households, little progress will be made in alleviating urban poverty. It is thus important that all performance metrics stratify results in ways that allow the likely distributional equity impacts of a project to be assessed. Additionally, measures of affordability should be directly used as an indicator, in and of itself.

Our choices for evaluation are fortunately not "either/or" — travel time savings or accessibility. In fairly homogeneous small-town settings where growth rates are modest thus few land-use adjustments might be expected, travel-time savings might be an appropriate way to gauge benefits. In others, say in fast-growing cities where induced demand phenomenon is alive-and-well, as much focus might be placed on measuring accessibility impacts. In tandem, travel-time savings and accessibility shifts provide a rich perspective for exploring the economic benefits of proposed transport projects. When supplemented by other outcome measures, like impacts on the environment, safety, and vehicle operating costs, the two can provide a fairly complete portrait of future economic benefits

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9 NEXT STEPS

This paper argues for an enlarged, more inclusive set of indicators for evaluating transportation proposals in the developing world, most notably elevating the role and importance of accessibility improvements as a metric. How might this theory be put into practice? Given the reality that current appraisal methods are deeply entrenched and institutionalized, small, measured steps should be taken. Accordingly, a pilot demonstration is proposed. The aim should be to develop, refine, and apply a practical "tool-kit" of indicators for evaluating alternative urban transport proposals.

By way of illustration, this tool-kit might involve the following set of indicators:

First-Tier Indicators (with and without induced travel/induced growth adjustments):

- Total travel times
- Vehicle operating costs
- Collisions and accident injuries/fatalities

First-tier indicators could be measured using conventional methods, with the exception that adjustments would be made for estimated induced travel/induced growth impacts. Such adjustments might occur through feedback loops in 4-step models or through post-processing (i.e., applying induced travel/induced growth elasticities derived from comparable projects or provided as meta-analysis averages) [See: Cervero, 2006]. First-tier indicators might be further stratified by time-period (e.g., peak; all-day) and modes-of-travel.

Second-Tier Primary Indicators (with and without induced travel/induced growth adjustments):

- Environmental conditions (air pollution, noise pollution, visual impacts)
- Economic development impacts (employment, businesses, monetary value of private investments)

Second-order impacts generally reflect longer-term, delayed responses to changes in the urban transportation system. Conventional methods might be used, such as translating VKT and VHT impacts to air pollution levels using emissions-diffusion models. Economic development impacts might be estimated by applying techniques like shift-share forecasting, regional input-output modeling, or econometric/structural-equation modeling. Due to data and modeling limitations, more qualitative methods (e.g., expert-Delphi scoring) might be used in many developing country contexts to get at such hard-to-measure second-order impacts. In gauging impacts on economic development, care must be taken to distinguish those that are redistributive or pecuniary in nature versus those that are truly generative and income-

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producing.

Second-Tier Supplemental indicators (with and without induced travel/induced growth adjustments):

- Accessibility (jobs; medical facilities; education; retail-commercial)
- Sustainability (e.g., change in VKT per capita; change in VKT per motorist)
- Livability (e.g., percent change in trips by non-motorized transport by income strata; percent of peak-period traffic > 40 kph; percent green-space per capita; ratio of public green space to public impervious surfaces (i.e., parking and roads);
  lineal kms of bikeways/sidewalks per 10,000 inhabitants)
- Affordability (e.g., percent daily earns spent on transport; mean monthly transit fare payments to mean monthly income)

These supplemental second-tier indicators round out the evaluation framework by accounting for a wider array of impacts that go beyond those affecting direct users of transport facilities or services. Depending on the availability of suitable data, accessibility impacts could be gauged using a isochronic cost-effectiveness measure (e.g., change in mean number of hospital and clinic beds that can be reached within 30 minutes by public transit — an indicator of "medical access by transit" — per $1 million in investment costs). Or accessibility impacts could be monetized using hedonic-price methods. Alternatively, subjective scoring approaches might be used. In general, qualitative methods will need to be relied on to the extent that network-based travel-demand forecasting tools are unavailable for estimating impacts on VKT and VHT.

These multiple tiers of impacts are not additive. They represent overlapping Venn diagrams. Accordingly, trying to combine and force these metrics into a Cost-Benefit Analysis framework would be futile and yield erroneous results. Rather, consideration might be given to assigning relative weights to the indicators, based on local circumstances and expert opinions.

In closing, consideration should be giving to pilot-testing and operationalizing the expanded evaluation framework presented in this paper. This would involve choosing a case site and project, identifying appropriate indicators based on local conditions and data resources, and carrying out the evaluation. Field testing is the best way to move the theories and ideas expressed in this paper one step closer to implementation.

GL14 Continued

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Cardiovascular health and particulate vehicular emissions: a critical evaluation of the evidence

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Abstract A major public health goal is to determine linkages between specific pollution sources and adverse health outcomes. This paper provides an integrative evaluation of the database examining effects of vehicular emissions, such as black carbon (BC), carbonaceous gasses, and ultrafine PM, on cardiovascular (CV) morbidity and mortality. Less than a decade ago, few epidemiological studies had examined effects of traffic emissions specifically on these health endpoints. In 2002, the first of many studies emerged finding significantly higher risks of CV morbidity and mortality for people living in close proximity to major roadways, vs. those living further away. Abundant epidemiological studies now link exposure to vehicular emissions, characterized in many different ways, with CV health endpoints such as cardiopulmonary and ischemic heart disease and circulatory-disease-associated mortality; incidence of coronary artery disease; acute myocardial infarction; survival after heart failure; emergency CV hospital admissions; and markers of atherosclerosis. We identify numerous in vitro, in vivo, and human panel studies elucidating mechanisms which could explain many of these cardiovascular morbidity and mortality associations. These include: oxidative stress, inflammation, lipoperoxidation and atherosclerosis, change in heart rate variability (HRV), arrhythmias, ST-segment depression, and changes in vascular function (such as brachial arterial caliber and blood pressure). Panel studies with accurate exposure information, examining effects of ambient components of vehicular emissions on susceptible human subjects, appear to confirm these mechanisms. Together, this body of evidence supports biological mechanisms which can explain the various CV epidemiological findings. Based upon these studies, the research base suggests that vehicular emissions are a major environmental cause of cardiovascular mortality and morbidity in the United States. As a means to reduce the public health consequences of such emissions, it may be desirable to promulgate a black carbon (BC) $PM_{2.5}$ standard under the National Ambient Air Quality Standards, which would apply to both on and off-road diesels. Two specific critical research needs are identified. One is to continue research on health effects of vehicular emissions, gaseous as well as particulate. The second is to utilize identical or nearly identical research designs in studies using accurate exposure metrics to determine whether other major PM pollutant sources and types may also underlie the specific health effects found in this evaluation for vehicular emissions.

Keywords Vehicular · Diesel · Cardiovascular · Exposure · Ambient · Epidemiology · Air pollution

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Introduction

Method of assessing effects of vehicular emissions on cardiovascular endpoints

A considerable literature base is now available relating cardiovascular (CV) health effects from exposure to ambient particulate matter (PM) deriving from various sources. Specific components of PM from such sources—

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which are heterogeneous physically and chemically—will likely have differential health impacts.

Vehicular emissions consist of particulate and gaseous emissions, with biologically active carbonaceous products present in both phases. Black carbon, mainly from diesels, is found in ultrafine and fine size fractions, mainly less than 1 μm in size and predominantly below 0.18μm (Mauderly and Chow 2008). Such vehicular particulates are often coated with condensed organic and inorganic compounds (Mauderly 2001; Health Effects Institute 1995). Approximately 75% of diesel $PM_{2.5}$ emissions consist of such carbon (Health Effects Institute 2003). While particulate vehicular emissions per se, notably in the ultrafine fraction, have been specifically associated with endpoints such as oxidative stress and mitochondrial damage (Li et al. 2003), lipid peroxidation (Pereira et al. 2007), upregulation of genes relevant to vascular inflammation (Gong et al. 2007), and early atherosclerosis and oxidative stress (Araujo et al. 2008), non-particulate emissions have also been specifically linked to a variety of health endpoints (Mauderly and Chow 2008).

Our evaluation begins with the considerable amount of epidemiological evidence which has become available mainly since 2002 linking vehicular emissions with a range of CV outcomes. We then examine in vitro, in vivo, and human panel studies to understand if biological mechanisms have been identified in such studies which would explain the epidemiological findings for each CV outcome. Many of these studies use diesel emissions or diesel emission particulates, or evaluate effects from ambient air collected near highways in major cities with associations found with black carbon, mainly a diesel emission. Thus, our assessment assesses the coherence of results across different methodologies for CV endpoints, related to vehicular emissions.

Interpretation of studies related to accurate exposure assessment

Before reviewing epidemiological evidence linking vehicular emissions with CV endpoints, it is important to understand how differences among studies in accuracy of subject exposure to spatially variable emissions such as vehicular emissions can affect the strength and biological significance of associations.

Many epidemiological and panel studies use data from central monitors to characterize exposure to pollutants which may have considerable local variability and thus do not accurately characterize subjects' exposure to these emissions (Ito et al. 2004). Using central monitors or other less precise exposure estimation methods will result in underestimates of risks (Zeger et al. 2000), including those from vehicular emissions (Adar and Kaufman 2007). In multi-pollutant models, differential exposure error may cause risks to be transferred from variables having more exposure error to those having less (Goldberg and Burnett 2003; Hennekens and Buring 1987). Thus, it is essential to understand to what extent currently available studies include accurate assessment information for pollutants that might be particularly harmful, and to assess how these exposures relate to the magnitude and significance of risk estimates. This type of evaluation is necessary to determine whether emissions from specific sources rather than others may be more critical to regulate so as to preserve public health. Even with subject exposure misclassification, positive significant associations are not ruled out; however, in such a case, they are likely understated (Zeger et al. 2000).

This paper attempts to address these issues for vehicular emissions as they relate to CV health endpoints, with emphasis on epidemiological investigations incorporating reasonably accurate subject exposure information. We define "reasonably accurate exposure" as that exposure metric resulting from a methodology in which the measured exposure concentration varies with and, therefore, reflects reasonably closely the actual exposure for the population that is being assessed for adverse health outcomes. Methodologies which meet this criteria would include (1) personal monitors, (2) monitors which follow subjects closely as they go about their daily activities, (3) studies which use a combination of wind trajectories and pollution measurements to understand what sources were influencing exposure in the time period(s) of interest, and (4) studies in which the monitor was in close proximity to a roadway, and the subjects of the study also lived in close proximity to the same roadway not far distant from the monitor (Grahame 2009). On the other hand, an epidemiological study using a central monitored concentration and using this concentration as an exposure metric for subjects living over a wide area represents inaccurate exposure for traffic-related emissions, because such emissions have substantial variance across a city (Ito et al. 2004) and even within 100 m of a major highway vs. further away (Zhu et al. 2002a, b). A fuller discussion of these issues is found in Grahame (2009), which considers formally whether health effect associations vary consistently among studies which use reasonably accurate subject exposure information for spatially variable emissions such as BC, vs. studies using centrally monitored concentrations as a proxy for exposure to such local emissions.

The vehicle/traffic emissions category was selected since there is a large and growing evidence base suggesting that traffic-related pollution likely plays an important role in adverse health outcomes associated with ambient pollution such as urban PM, including black carbon (BC; White et al. 2005; Samet 2007; Adar and Kaufmann 2007;

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Li and Nel 2005; Delfino et al. 2008), the latter derived primarily from diesel engines.

We first consider epidemiological studies which utilize information relating proximity of residence to major roads, to determine the extent to which such proximity may be associated with health outcomes such as all-cause or cardiovascular mortality and morbidity. Some of these studies examined associations of specific vehicular emissions, e.g., BC as a marker of diesel emissions, with such outcomes. Similar studies use modeled exposure to vehicular emissions (BC, or mainly outside the U.S., NO_2) at the residence, or use traffic density as a proxy for exposure to vehicular emissions (at county level or within 100 m of the residence).

We then consider studies which examine specific CV biological endpoints, e.g., oxidative stress, inflammation, change in EKG pattern (ST-segment depression), changes in heart rate variability (HRV), vasoconstriction and changes in blood pressure, arrhythmias, and lipoperoxidation/atherosclerosis. Such studies can vary considerably in accuracy of subject exposure; again, we emphasize findings from studies with more accurate exposure information. Toxicological evidence regarding specific biological mechanisms is also examined to understand if there might be common threads which extend from toxicological through panel studies to epidemiological evaluations.

Associations between vehicular emissions and lung cancer, and mutagenicity of vehicular emissions, have been reviewed elsewhere (Grahame and Schlesinger 2007) and will not be reviewed here. Similarly, the ample literature relating vehicular emissions and highway proximity to respiratory morbidity endpoints, such as asthma, will not be discussed.

Epidemiological evidence for association of vehicular emissions with adverse cardiovascular health outcomes

Investigating health effects specific to vehicular emissions in epidemiological studies has historically been problematic. Early studies did not monitor for pollutants most closely related to vehicular emissions (e.g., BC) and, thus, could not find associations with such emissions. Later reanalyses of the early studies were sometimes able to parse out such associations, despite the lack of vehicular pollution data (e.g., the Jerrett et al. 2005 reanalysis of the American Cancer Society cohort [Pope et al. 1995, 2002]). When studies began to monitor specifically for vehicular emissions such as BC, initial exposure assessment used central monitor data and associations were often not robust. NO_2 is also seen as a marker of vehicular emissions, particularly in European studies. Although NO_2 is emitted from sources other than vehicles, such as power plants and industry, vehicular NO_2 emissions usually dominate in busy urban centers lacking major industry. In some cases, where monitors were located in close proximity to major highways, even SO_2 and/or SO_4 from different sources, including diesels before the 2007 changeover to ultra-low sulfur diesel fuel, may be intermixed (Grahame and Hidy 2007a, b).

Studies using central monitoring for several different sources, including vehicles, did not always find daily mortality or morbidity associated with vehicular emissions. For example, Thurston et al. (2005) failed to find cardiovascular or non-accidental mortality associated with a traffic emissions factor in either Phoenix or Washington, DC, using different source apportionment models. However, the daily mortality study of Laden et al. (2000) found such associations, as did the Schwartz (2003) reanalysis of Laden et al. (2000), necessitated by problems in the original study with a statistical software package (which affected many other studies as well). Another multi-city study (Janssen et al. 2002) examined prevalence of air conditioning as an effect modifier, and found associations for daily morbidity (hospital admissions for CV disease) with diesel emissions, highway emissions, and vehicle miles traveled per square mile (traffic density). Two recent studies based in Atlanta (Samat et al. 2008; Tolbert et al. 2007) found significant associations between vehicular emissions and emergency department admissions for CV disease. However, Metzger et al. (2007), in a study also in the Atlanta area, failed to find associations between PM_{10}, $PM_{2.5}$, or vehicular emissions with daily morbidity (i.e., arrhythmias).

Four of these six multi-pollutant studies found CV health associations with vehicular emissions, but none of the studies utilized exposure measurements known to reflect subject exposure reasonably accurately, because all used pollution measurements from central monitors as a proxy for personal exposure. While these studies, taken as a whole, suggest the importance of vehicular emissions for the health endpoints examined, strength of effects may be underestimated (Ito et al. 2004), and results are not always consistent. Thus, the most credible studies linking spatially variable vehicular emissions to various health effect endpoints would be those which demonstrate that the ambient pollutant concentrations utilized relate reasonably well to actual exposure of populations examined for health effects.

Concentrations of vehicular emissions have been shown to drop by as much as an order of magnitude within 100 m of a major freeway. People living nearby major roadways will be exposed to greater amounts of vehicular emissions such as BC, ultrafine PM, and gaseous emissions, than will those living at a greater distance (Zhu et al. 2002a, b). As a result, the studies first to show large adverse cardiovascular effects clearly and consistently linked to vehicular emis-

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sions were "highway proximity studies." These are studies designed to isolate the health risks of living near a major road from the traditional risk factors typically examined in cohort studies.

Conducted first in Western Europe and Canada, and later in the US, highway proximity studies found significantly elevated risks for cardiovascular death or morbidity outcomes and for all-cause mortality, for people living in close proximity (usually 100 m to major roadways or 50 m to a major urban road), compared to those living farther away. Several utilized data from existing cohort studies, adding only the highway proximity variables. In different ways and to different degrees, these studies accounted for socioeconomic and other variables which could confound pollution–health associations. These studies include the following (statistically significant associations are indicated):

- Finkelstein et al. (2004, 2005; all-cause mortality [relative risk, RR=1.18] and circulatory disease mortality [RR = 1.40], respectively);
- Hoek et al. (2002; cardiopulmonary mortality [RR= 1.95]);
- Gehring et al. (2006; cardiopulmonary mortality, RR= 1.70);
- Tonne et al. (2007; acute myocardial infarction [MI], RR=1.04 to 1.06);
- Hoffmann et al. (2007; increased coronary artery calcification: RRs=1.63 and 1.34 for distances of less than 50 m and 51 to 100 m from highways, vs. more than 200 m distant); and
- Hoffman et al. (2006; incidence of coronary heart disease, RR of 1.85).

These RRs can be compared to RRs for all-cause and cardiopulmonary mortality of 1.04 and 1.06 (per 10 μg/m³ increase in $PM_{2.5}$) found in the American Cancer Society (ACS) study (Pope et al. 2002). Finkelstein et al. (2004) found a significant mortality rate advancement period of 2.5 years associated with residence near a major roadway.

Another method of associating mortality risks with proximity to traffic and highways utilizes different measures of traffic density (e.g., annual vehicle miles per square kilometer in a county, or daily vehicle kilometer within 100 m of a residence) as a proxy for exposure to vehicular emissions. Relevant studies finding significant health associations with traffic density measures include:

- Kan et al. 2008 (incidence of coronary heart disease [CHD]; significant increase in CHD incidence hazard ratio [HR] of 1.32 for those in highest quartile of traffic density vs. lowest quartile, HR of 1.38 for those in second highest quartile vs. lowest quartile);
- Janssen et al. 2002 (hospital admissions for CVD; one interquartile range [IQR] increase in vehicle miles traveled per square mile significantly associated with a 21.2% increase in CVD hospital admissions);
- Lipfert et al. 2006a, b (all-cause mortality; between these two studies, 30 of 33 tests of traffic density measures were significant, in single and multi-pollutant models, with two different ways of stating risks, with RRs centering around 1.16 in Lipfert et al. 2006a[1]); and
- Medina-Ramon et al. 2008 (survival after heart failure; an IQR increase in daily traffic within 100 m of home significantly associated with a mortality HR of 1.12 after adjustment for SES, and with a HR of 1.30 for those living within 50 m of a bus route).

The Medina-Ramon et al. (2008) study found that a measure of traffic density (vehicle km within 100 m of residence) was a stronger predictor of survival time after heart failure than were other measures, such as similar distance to a major roadway. This finding makes intuitive sense—ideally, exposure should be a product of both proximity and of the amount of pollution produced within that proximity. Just as proximity of a residence to a major highway is a better proxy for exposure to traffic emissions than is centrally monitored PM concentrations, traffic density within 100 m of a residence is likely a better proxy than distance of 100 m from a major road. Distance to a bus route was also an important predictor of survival in Medina-Ramon et al. (2008), suggesting the importance of diesel emissions.

Results of Kan et al. (2008) parallel findings of Hoffmann et al. (2006), in that both studies controlled for hypertension, a mechanism by which noise might cause stress and, thus, by which traffic might cause coronary heart disease via noise pollution rather than chemical pollution. As a result, findings associating mortality and morbidity risks to proximity to busy highways and traffic likely can be attributed primarily to chemical pollution rather than to noise.

Using geographic modeling systems to relate individual residences to either traffic emissions concentrations, distance to major roads, or traffic intensity, other studies also found elevated levels of vehicular pollutants to be associated with adverse cardiac-related health outcomes. Examples include:

- Rosenlund et al. (2006; NO_2 modeled to home significantly associated with out-of-hospital deaths, OR of 2.17 for a 5% to 95% increase in NO_2 [in Stockholm, Sweden]);

[1] The traffic density was insignificant only when EC was also included in a multi-pollutant model; in these cases, both variables came close to significance, but traffic density appeared to be the stronger of the two.

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- Maynard et al. (2007; significant 2.3% increase in all-cause mortality per IQR increase in BC modeled to home);
- Beelen et al. (2008; significant RR of 1.05 for all-cause mortality for a 5% to 95% increase in black smoke); and,
- Nafstad et al. (2004; significant RR of 1.11 for ischemic heart disease mortality associated with a 10 μg/m^3 increase in NO_2 at home [in Oslo, Norway]).

Finally, Peters et al. (2004) found that a first MI was significantly associated with being in traffic 1 h prior to the event (odds ratio 2.92).

What all of these studies have in common is a demonstration that people exposed to the higher levels of traffic emissions found close to major urban roads or freeways, or modeled to their homes, have higher long-term risks for ischemic heart disease, acute MI morbidity and mortality, and all-cause mortality, or increased risks of a first-time MI with short-term exposure to traffic pollution. These studies, with reasonably accurate subject exposure information for traffic emissions, have results which often (but not always) contrast with studies using central monitors.

Several studies noted above also associated BC or its near equivalent, black smoke, with increased morbidity and mortality risks. Hoek et al. (2002) found risks of cardiopulmonary mortality significantly associated with black smoke (local plus background, RR=1.71; background black smoke, RR=1.34), suggesting the greater effects of fresh, local roadway black smoke. Maynard et al. (2007) found that an increase of one IQR (interquartile range) in previous days BC exposure was associated with a significant increase of 2.3% in all-cause mortality in single-pollutant models, and of 2.2% in two pollutant models. Beelen et al. (2008) found significant increases in all-cause and respiratory mortality associated with black smoke and/or NO_2 but not with $PM_{2.5}$ or SO_2. Nafstad et al. (2004) found a 10 μg/m^3 increase in nitrogen oxides at the home to be associated with significant increases in all-cause and ischemic heart disease mortality of 1.08 and 1.11, respectively. Relative risks of cardiopulmonary mortality of 1.57 and of all-cause mortality of 1.17 were related to near-highway NO_2 exposure in Gehring et al. (2006). Rosenlund et al. (2006) found an odds ratio for out-of-hospital death of 2.17 related to NO_2 exposure.

Mechanistic bases for adverse cardiovascular health outcomes from vehicular emissions-derived PM

In order to provide mechanistic plausibility for the epidemiological findings noted above, it would be helpful to have information about specific conditions or biological responses which could lead to these reported health outcomes. Such information can be derived from in vitro and in vivo toxicology studies, as well as from human panel studies using vehicular emissions or ambient air.

Personal monitors would provide better exposure assessment than would a proxy for personal exposure, such as distance of residence from a major road, or modeled exposure at one's home. Although each of these proxies provides far better exposure differentiation than would a central monitor reading applied to all residents in a locality, there will still be differences in daily activity patterns and, thus, exposures, among similarly situated people. For obvious reasons, cohort studies of mortality and of many morbidity outcomes such as hospital admissions for CV disease could not utilize personal monitors. However, for certain short-term morbidity outcomes with fairly high frequencies, such as change in HRV, ST-segment depression, and arrhythmias, the use of personal pollution monitors or their equivalent may be possible.

Oxidative stress

Oxidative stress is a mechanism postulated to be involved in various PM-induced cardiovascular health effects, including chronic heart failure (McMurray et al. 1993), acute heart failure (especially when patients had atrial or ventricular arrhythmia [Charniot et al. 2008]), and atrial fibrillation (AF; Neuman et al. 2007). Kim et al. (2003) found in AF patients that gene expression profiles for reactive oxygen species were upregulated, while those for anti-oxidants were downregulated. Iravanian and Dudley (2006) suggest a unifying hypothesis that there are multiple triggers for oxidative stress and that oxidative stress, whatever the origin, causes AF. Furthermore, AF itself can result in further oxidative stress, creating a positive feedback loop.

Chahine et al. (2007) found that individuals lacking genes protective against oxidative stress (GSTM1 and the short repeat variant of HMOX-1), but not those with such genes, are vulnerable to HRV changes due to pollution exposure. Insufflation of urban air particles and inhalation of concentrated ambient air particles caused oxidative stress in the heart in vivo, as well as reduction in HRV (Rhoden et al. 2005); increases in heart oxidant levels were demonstrated by increases in chemiluminescence or TBARS. Oxidant effects were abolished by the anti-oxidant, NAC. When oxidative stress was abolished, HRV returned to normal (Rhoden et al. 2005). Thus, findings of both Chahine et al. (2007) and Rhoden et al. (2005) suggest that reductions in HRV appear to be due to increased oxidative stress. If this is true, then lack of HRV changes may indicate lack of oxidative stress in some to many cases.

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Given the evidence that oxidative stress can be mechanistically linked to cardiac pathophysiology, we next review studies which find that exposure to vehicular emissions generally, and to diesel emissions specifically, are linked to oxidative stress.

Pereira et al. (2007) found that in vivo exposure to ambient emissions taken adjacent to a busy road in Porto Alegre, Brazil caused oxidative stress and lipid peroxidation in rat lungs. Similarly, Huang et al. (2003) found that $PM_{1.0}$ was more likely to cause lipid peroxidation in human bronchial epithelial cells than either $PM_{1.0-2.5}$ or $PM_{2.5-10}$, and that the components of $PM_{1.0}$ associated with increased lipid peroxidation were organic carbon (OC) and elemental carbon (EC), but not various ions.

A number of studies suggest that diesel emissions, most specifically ultrafine PAH, appear to be associated with increased levels of cellular oxidative stress. As reviewed in Grahame and Schlesinger (2007), a series of studies demonstrated the ability of both diesel emissions and of ambient air in Los Angeles to cause oxidative stress in vitro in bronchial epithelial cells. These effects were highly correlated with organic carbon and PAH content. Briefly, Li et al. (2002a) found that organic diesel emission particles (DEP) caused oxidative stress in vitro (marked by increases in heme oxigenase-1, HO-1), and Li et al. (2002b) found that concentrated emissions from Los Angeles air, collected from near a major freeway, also caused increases in oxidative stress, e.g., in HO-1. Ultrafine (UF) fractions of Los Angeles air stimulated higher production of HO-1 than did larger PM fractions (Li et al. 2003). Production of HO-1 was correlated with the organic and PAH content of the ultrafine PM. Electron microscopy showed these UF particles penetrated into subcellular structures more easily than did larger particles, and damaged mitochondria. Taken together, these in vitro studies of Los Angeles air suggest that the ultrafine fraction of diesel emissions in Los Angeles air, likely including ultrafine BC coated with a mix of organic compounds, appear to be causally related to the increases in oxidative stress also found to be caused by organic DEP.

Findings of oxidative stress were confirmed in vivo, in a study where HO-1 levels in mice exposed to the exhaust of a normally running newer diesel increased significantly vs. filtered air control (McDonald et al. 2004). Furthermore, when a new catalytic trap was retrofitted on the diesel, most of the carbonaceous emissions were reduced by large percentages, BC was entirely oxidized, and the HO-1 levels were no longer elevated.

The panel study of Delfino et al. (2008) used indoor and outdoor monitors at the residences of 29 non-smoking elderly subjects with coronary artery disease living in Los Angeles. Decreased levels of an anti-oxidant enzyme were significantly associated with increased concentrations of BC, primary OC of outdoor origin, NO_2, and ultrafine PM.

Mills et al. (2005) exposed healthy human volunteers to diluted diesel exhaust (300 μg/m^3) or to filtered air for 1 h in a double-blind, randomized, crossover study. The authors found that inhalation of diesel exhaust impaired the regulation of vascular tone and endogenous fibrinolysis. Net release of "clotbusting" t-PA antigen was significantly reduced 6 h after exposure. The authors postulated that effects might be caused by reduced availability of nitric oxide (NO) in the vasculature due to oxidative stress induced by the ultrafine particle fraction of diesel exhaust, providing a mechanistic link for associations between PM and acute MIs. Consistent with this supposition, previous work has found that the ultrafine fraction of diesel emissions (likely with adsorbed carbonaceous species) causes greater levels of oxidative stress than larger fractions (Li et al. 2002a, b, 2003; Araujo et al. 2008). The results of Mills et al. (2005) suggest one possible explanation for the significant finding of an initial myocardial infarction in 1 h after being in traffic (as a driver or on public transit) noted by Peters et al. (2004), and for increases in cardiovascular mortality linked to traffic emissions on high pollution days (Schwartz 2003).

Because of its potential to be involved in various specific aspects of CV pathophysiology, further discussion of the role of oxidative stress in pollutant-related health outcomes is provided in discussions of individual CV endpoints below.

Alteration in heart rate variability

Many recent studies assess HRV, which refers to alterations in the beat to beat heart rate and is regulated by the autonomic nervous system. While normal sinus rhythm is characterized by regular R–R intervals in the EKG, the heart does normally show some variability from beat to beat, which can be measured by examination of these intervals. HRV changes appear to be predictive of MI for those who have had a previous MI (Tapanainen et al. 2002), or who have chronic congestive heart failure (Bilchick et al. 2002). Schwartz et al. (2005a) found that in those lacking the allele for glutathione-S-transferase M1 (*GSTM1*), a component of the cellular defense against oxidative stress, $PM_{2.5}$ effects on HRV (a decrease in high-frequency component, HF) is mediated by reactive oxidant species. Use of statins, which have anti-oxidant effects, eliminated the effects of $PM_{2.5}$ on HRV. Thus, while changes in HRV may be a cause of cardiac mortality, in particular for those who have had a previous MI, it also appears to be another possible sequela of oxidative stress in the heart (Rhoden et al. 2005; Schwartz et al. 2005a), which has broader health implications than change in HRV alone.

Several recent studies with accurate exposure information suggest that either vehicular emissions specifically, or

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urban emissions generally, are associated with changes in HRV. A literature search was performed to find studies of HRV which used ambient air and human subjects in the US, and which monitored for at least two of the three pollutants ($PM_{2.5}$, BC, sulfate).

Adar et al. (2007) used a mobile monitor, which followed 44 non-smoking elderly residents of a seniors' home who were going about daily activities, and found significant associations between increased BC exposure for the entire period and changes in six measures of HRV (see Table 1), for two different time periods, a total of 12 significant associations in 12 tests. When the subject boarded a bus and BC concentrations rose by about an order of magnitude, changes in most HRV measures were similar.

Schwartz et al. (2005b) examined HRV in 27 seniors living in close proximity to a busy urban road in Boston. The monitor, located about 0.5 km distant from the living quarters and also adjacent to the same road, recorded BC and PM concentrations which would mirror concentrations at the residences reasonably well (because of similar close proximity to the major urban road). The investigators found in six of eight tests (four HRV measures, two time frames), that increased BC was significantly associated with changes in different measures of HRV (a seventh test was borderline significant). $PM_{2.5}$ was significantly associated in two of eight tests. When an algorithm was used to remove BC from $PM_{2.5}$ on an hourly basis and thus obtain a measure of what the authors viewed as regional $PM_{2.5}$ without fresh BC and correlated emissions, no associations were found between $PM_{2.5}$ and HRV measures (Fig. 1). These findings appear to show that previous studies which did not monitor for BC and found associations with $PM_{2.5}$, may have been detecting unmeasured BC (i.e., vehicular) effects, and that $PM_{2.5}$ was associated with various changes in HRV only when $PM_{2.5}$ was highly correlated with BC, another finding of Schwartz et al. (2005b).

Creason et al. (2001), in a study of 56 non-smoking seniors with a mean age of 82, used wind trajectories to determine which air masses (containing different types of pollution) were associated with changes in HRV. The authors initially found a "U-shaped" association between increasing $PM_{2.5}$ levels and decreasing HRV—as PM concentrations increased from the lowest levels, HRV reductions occurred with increasing $PM_{2.5}$, but toward the highest $PM_{2.5}$ concentrations, HRV reductions reversed, and the HRV measure returned to where it was at the lowest $PM_{2.5}$ levels (null effect). Inclusion of a 2-day air mass with high $PM_{2.5}$ (highest and third highest of 24 days) had caused the reversion. On these 2 days, the investigators found, wind trajectories showed that the air masses had come from rural north-central Pennsylvania. When these 2 days were removed from the analysis, there was a monotonic decrease in HRV with increasing PM, similar to the monotonic decrease in PM found in Schwartz et al. (2005b) when the PM was highly correlated with urban BC. The authors noted that HRV reductions were found when the emissions reflected urban or industrial activity, but that there was no toxicity in the 2 days with high PM from rural areas.

Similar effects were noted by Park et al. (2007), a study of 487 male veterans. The authors found that trajectories reflecting urban emissions (either a stagnant local air mass in Boston or an air mass transported from the Washington, DC through New York City corridor) were associated with changes in several HRV measures. Two other trajectories reflecting mostly rural air masses were not so associated, even though monitored levels of sulfate, BC, and $PM_{2.5}$ were very similar among the air masses. Finally, Ebelt et al. (2005) used personal monitors in a panel study of 16 non-smoking COPD patients, and found that local urban particles, but not sulfates, were associated with HRV changes.

All these above-studies are characterized by reasonably accurate exposure information, whether for BC (Adar et al. 2007; Schwartz et al. 2005b), for PM in urban/industrial air masses vs. rural air masses (Creason et al. 2001; Park et al. 2007) or for urban emissions vs. sulfate (Ebelt et al. 2005). The two studies which monitored for BC (Adar et al. 2007; Schwartz et al. 2005b) showed consistently significant associations between changes in HRV measures and BC concentrations, with virtually no insignificant associations. Further, HRV changes were essentially monotonic with increasing BC levels in these studies.

Since the main contributor to "urban excess" $PM_{2.5}$ is vehicular emissions marked by carbonaceous species (Rao et al. 2002), the urban vs. rural air mass results are consistent with results of exposure to higher BC and vehicular emissions in an urban area. Furthermore, Anselme et al. (2007) exposed Wistar rats (ten healthy, ten with chronic ischemic heart failure, CHF) to diluted diesel emissions. Immediate decreases in a HRV measure (RMSSD) were observed in both healthy and CHF rats following exposure, a finding which parallels the reductions in HRV found in Schwartz et al. (2005b) and Adar et al. (2007) in association with increased BC exposure.

Other extant studies lacking accurate exposure information for locally variable emissions because they used central monitor readings for subjects living over a wide area, generally showed weak (Wheeler et al. 2006; Park et al. 2005) or non-existent (Luttmann-Gibson et al. 2006) associations for locally variable BC (Table 1), while some studies with central monitor readings still found associations with vehicular emissions (de Hartog et al. 2009). The exposure assessment for Luttmann-Gibson et al. in particular, uses a monitor several hundred feet in the air, adding

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Table 1 Vehicular emissions and heart rate variability changes

Study	Subject exposure method	Characterization of HRV changes	BC levels
A. In vivo animal study			
1. Anselme et al. (2007)	Healthy and CHF rats exposed to diesel emissions	Immediate decrease in RMSSD in both CHF and healthy rats immediately after exposure, returning to baseline after 2.5 h	BC not measured
B. Human studies with accurate exposure			
1. Schwartz et al. (2005b)	Subjects lived adjacent to same urban road to which monitor was adjacent, less than 1 km distant	Monotonic decrease in SDNN with increase in BC exposure; significant BC associations in seven of eight tests (SDNN, RMSSD, PNN50, LF/HF, 1 and 24-h averages); no significant associations in eight tests for $PM_{2.5}$ without BC ("non-traffic secondary particles")	BC mean=1.2 μg/m³
2. Adar et al. (2007)	Monitor followed subjects during activities, in residence at night	For change of one IQR, BC significantly associated with changes in all six measures of HRV, for both 5-min and 24-h means; sharply increased exposure to BC when subjects on buses associated with changes of similar magnitude in all six HRV measures (decreases in SDNN, PNN50+1, RMSSD, LF, and HF; increase in LF/HF), similar to Schwartz et al. (2005b)	BC mean not given; BC IQR for all periods was 330 ng/m³; for bus periods, IQR was 2911 ng/m³
3. Riediker et al. (2004b)	Presence of young patrol officers in vehicle for 9 h before tests	Significant increases in SDNN, PNN50 associated with "speed change" source factor, (braking and diesel emissions), but not "crustal," "steel wear" or gasoline factors	BC not measured
4. Ebelt et al. (2005)	Personal monitors in panel study in Vancouver	Estimated non-sulfate urban $PM_{2.5}$ associated with decreased RMMSD, sulfate not associated	BC not measured
C. Human studies using central monitors not far from street level (horizontal exposure misclassification)			
1. Wheeler et al. (2006)	Central monitor for greater Atlanta area subjects	BC associated with SDNN changes in only one of four tests, NO_2 in only 4 of 13 tests; authors discuss exposure error due to spatial variability of NO_2, note "this greater exposure error is consistent with the fact that traffic, which varies spatially over short distances, is a significant source of outdoor NO_2."	BC mean=1.6 μg/m³
2. Park et al. (2005)	Central monitor for subjects living within 40 km of monitor	BC associated with one of four measures of HRV changes; exposure discussed in context of $PM_{2.5}$ (little exposure error) but not discussed for BC	BC mean=0.92 μg/m³

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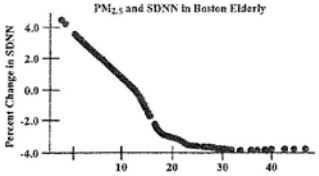
Table 1 (continued)

Study	Subject exposure method	Characterization of HRV changes	BC levels
D. Studies using highly elevated central monitors (horizontal and vertical exposure misclassification)			
1. Luttmann-Gibson et al. (2006)	Central monitor elevated 400 feet above town where subjects lived, a mile from monitor	For IQR change in $PM_{2.5}$ or sulfate, significant reductions in SDNN, RMSSD, HF, and LF (sulfate borderline for LF), no associations for BC; exposure error not discussed	BC mean=1.0 μg/m³

SDNN standard deviation of normal-to-normal intervals, *RMSSD* square root of mean squared difference between adjacent normal-to-normal intervals, *PNN50* percentage of adjacent normal-to-normal intervals differing by more than 50 ms, *HF* high-frequency power, *LF* low frequency power, *LF/HF* ratio LF to HF, *RR* risk ratio, *OR* odds ratio, *IQR* interquartile range increase, *SD* standard deviation

substantial vertical exposure misclassification (Restrepo et al. 2004) to the horizontal exposure misclassification (Ito et al. 2004) found in Wheeler et al. (2006) and Park et al. (2005). We are unaware of any study with reasonably accurate exposure information for BC or for urban emissions which fails to find associations between such emissions and HRV alteration when the latter was examined. A detailed review of US HRV studies utilizing ambient air and human subjects concludes that results of these studies appear to vary consistently with accuracy of exposure to vehicular emissions (Grahame 2009), with consistently strong BC associations with changes in various measures of HRV, almost always significant, only when BC exposure measures are reasonably accurate.

In a study of 643 healthy men and women aged 55 to 75 and with no prior history of heart disease or stroke,



Smoothed plot of the percentage deviation from predicted SDNN (based on the model with all other covariates) versus $PM_{2.5}$ concentrations in Boston. The association flattens out at high concentrations where the correlation between $PM_{2.5}$ and black carbon disappears. (Wording in original).

Fig. 1 SDNN monotonically decreases with increased $PM_{2.5}$ when $PM_{2.5}$ is highly correlated with BC, but is not affected by rising levels of $PM_{2.5}$ when $PM_{2.5}$ is higher and correlated with regional PM, but not BC [from Schwartz et al. (2005b), reproduced with permission]

Sajadieh et al. (2004) suggested the possibility of interactions between HRV changes (imbalance in sympathetic system) and subclinical inflammatory processes in promoting atherosclerosis. Thus, there are likely linkages between various aspects of cardiopulmonary pathophysiology related to pollutant exposure.

ST-segment changes

The ST interval in the EKG represents the period during which the ventricles depolarize. A depression in the ST-segment is associated with increased risk for future cardiac events; those with undetected ST-segment depression have significantly greater risk of death from cardiovascular disease and stroke (Kurl et al. 2003). Pekkanen et al. (2002) found elevated levels of $PM_{2.5}$ mass in urban areas to be associated with ST-segment depression, but could not determine which specific components of $PM_{2.5}$ resulted in such a response. On the other hand, Gold et al. (2005), in a study with the same reasonably accurate exposure protocol as its companion study (Schwartz et al. 2005b), found BC strongly associated with ST-segment depression. Total $PM_{2.5}$, which would include a mixture of both regional and local pollution, was not associated with ST-segment depression in this study.[7] Lanki et al. (2006) found that of several local and regional pollutants, only a traffic factor marked by absorbance coefficient (ABS, similar to black carbon) was associated with ST-segment depression. Subject exposure in Lanki et al. (2006), however, was based on central monitor readings.

[7] Another vehicular emission, CO, was also so associated, but in a two pollutant model with BC was no longer significant. In studies from the 1970s and 1980s, CO was found to be significantly associated with various health endpoints, but CO levels were more than an order of magnitude higher in the 1970s than they are today.

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Although Lanki et al. (2006) did not have as accurate exposure characterization as did Gold et al. (2005), both of these studies came to the same conclusion, namely, that vehicular emissions marked by BC or ABS were associated with ST-segment depression. This endpoint, as well as HRV/oxidative stress in the heart and arrhythmias, is among the likely causes for a first-time MI 1 h after being in traffic (Peters et al. 2004).

In a double-blind, random crossover study (Mills et al. 2007), subjects with coronary heart disease were exposed for 1 h to diluted diesel exhaust or filtered air (alternating 15 min of mild exercise with 15 min of rest). ST-segment depression occurred in both sets of subjects, but the average change in ST-segment depression was twice as great in subjects exposed to diluted diesel exhaust. This result with diesel emissions parallels results of the two epidemiological studies of this endpoint reviewed above, which found associations with BC or its equivalent, ABS.

Yan et al. (2008) examined left ventricular function in healthy rats exposed to diesel exhaust particles (NIST standard) and in those subjected to isoproterenol-induced injury as a model for congestive heart failure. Diesel exhaust particles impaired left ventricular functioning, such as end diastolic diameter, in healthy mice, and this was further impaired in the myocardial injured animals. This suggests that acute exposure to these particles may result in exacerbation of congestive heart failure, which supports epidemiological findings of an association between PM components, fine PM, OC, and EC, and hospital admissions for congestive heart failure (e.g., Metzger et al. 2004).

Cardiac arrhythmia

Although some studies have associated measures of air pollution with arrhythmias monitored by implantable cardioverter-defibrillators (ICDs), none to date have utilized either personal pollution monitors or ambient monitors which follow residents of a seniors' home, or the specific exposure protocol of Schwartz et al. (2005b) and Gold et al. (2005). Thus, the available database having good spatial exposure information, and which would also allow evaluation of those pollutants that may be important for triggering arrhythmias, is limited.

Albert et al. (2007) examined risks of an ICD shock during and after driving, finding increased risk in the hour after driving (significant RR=2.24). The risks were specific for ventricular tachycardia or ventricular fibrillation (VT/VF), which occurred primarily in the half hour after driving (RR=4.46, CI=2.92 to 6.82). These risks are similar to but higher than the risks for a first MI found by Peters et al (2004) in the first hour after being in traffic (odds ratio 2.92; 95% CI=2.22 to 3.83). Charniot et al. (2008) found that oxidative stress in the heart was linked to acute heart failure when a subject had a ventricular arrhythmia. Thus, ventricular arrhythmias and oxidative stress, both of which are linked to exposure to vehicular emissions, together appear to contribute to acute heart failure. However, the role of oxidative stress as a specific cause of such arrhythmias is not yet fully understood. If oxidative stress were to be the cause of VT/VF, then the studies linking BC to HRV/oxidative stress (e.g., Schwartz et al. 2005b; Adar et al. 2007) would point to BC as a primary cause of arrhythmias as well. The actual cause of the oxidative stress could be BC itself, emissions adsorbed onto the BC, and/or emissions highly correlated with BC.

Riediker et al. (2004a, b) examined 11 different health endpoints, including changes in supraventricular ectopic (SVE) beats, an arrhythmia variable, in healthy young patrol officers. Measurements for this endpoint took place 10 h after a 9-h duty shift on roads and highways. Using the suite of emissions measured, the authors established three different factors of emissions, reflecting PM on road surfaces, gasoline emissions, and a "speed change" factor reflecting accelerating diesels and brake wear. Increases in SVE beats were associated only with the speed-change factor.

Ebelt et al. (2005) also found, in a study using personal monitors, increases in SVE beats associated with ambient urban PM and ambient non-sulfate PM, but not with sulfate, in a panel study in the Vancouver area. Table 2 shows results of studies of vehicular emissions and arrhythmias, stratified as in Table 1 by accuracy of exposure.

Peters et al. (2000) examined the incidence of arrhythmias among 100 patients in eastern Massachusetts in relation to various air pollutants (PM_{10}, $PM_{2.5}$, BC, NO_2, SO_2, CO, O_3) measured in South Boston. Associations were found with $PM_{2.5}$, BC, CO, and NO_2 with a 2-day lag. The strongest associations were found for BC and NO_2, which the authors took as evidence of effects of local traffic. However, because of exposure misclassification, BC and NO_2 effects were likely underestimated, a possibility suggested by others (Zeger et al. 2000; Ito et al. 2004) and discussed by authors of several studies with exposure error (Tables 1 and 2). As Peters et al. (2000) noted, "…we would expect any exposure misclassification [for a centrally monitored emission] to…bias the estimates toward the null."

Dockery et al. (2005) followed 203 cardiac patients with implanted ICDs living in metropolitan Boston for an average of 3.1 years each between 1993 and 2002. Pollution ($PM_{2.5}$, BC, SO_4, particle number, NO_2, CO, SO_2, O_3) was monitored at several sites in the metropolitan area. Average concentrations were derived for pollutants with multiple measurements. No significant associations for ventricular tachyarrhythmias were found for an interquartile range increase in any pollutant, for a 2-day pollution mean. However, when stratifying by a recent arrhythmia, significant associations were found for $PM_{2.5}$, BC, NO_2, CO and

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Table 2 Vehicular emissions and arrhythmia risks

Study	Subject exposure method	Risks of arrhythmia
A. In vivo animal study		
1. Anselme et al. (2007)	CHF rats exposed to diesel emissions; no effect in healthy rats	200% to 500% increase in ventricular premature beats, persisting up to 5 h after exposure
B. Human studies with accurate exposure		
1. Albert et al. (2007)	Presence in vehicle before ICD events	RR of ICD shock in hour after driving =2.24; RR of ventricular tachycardia or ventricular fibrillation in half hour after driving =4.46
2. Riediker et al. (2004b)	Presence of young patrol officers in vehicle for 9 h before tests	~ 40% increase in SVE beats per change of one SD in "speed change" source factor (braking and diesel emissions), but not in "crustal," "steel wear" or "gasoline" factors
3. Ebelt et al. (2005)	Personal monitors in panel study in Vancouver area	Ambient and estimated $PM_{2.5}$, non-sulfate $PM_{2.5}$ each associated with ~ln 0.2 SVE effect estimate; sulfate not associated[a]
C. Human studies using central monitors not far from street level (horizontal exposure misclassification)		
1. Peters et al. (2000)	Central monitor for eastern Massachusetts area subjects	Risks highest for NO_2 and BC, then $PM_{2.5}$; results seen by authors as related predominantly to traffic emissions; OR of ICD shock 2 days later =1.8 for 26 ppb increase in NO_2; due to single monitor, authors' expectation would have been to bias estimates of gaseous emissions toward null
2. Dockery et al. (2005)	Central monitor for subjects living within 40 km of monitor in Boston	Ventricular tachyarrhythmias associated with BC, NO_2, CO, and $PM_{2.5}$ for those with an arrhythmia in previous 3 days, authors see these as indicative of vehicular emissions; for BC, OR=1.74 for increase of 0.74 μg/m³ IQR exposure, for NO_2, OR=1.34 for 7.7 ppb IQR increase; exposure misclassification discussed, thought to weaken associations observed
3. Metzger et al. (2007)	Central monitor data for patients living in metro Atlanta area	No associations with ICD events with $PM_{2.5}$, NO_2, CO, EC, OC, SO_4; exposure misclassification discussed, study "does not contribute evidence regarding whether personal exposure may be a determinant of ventricular tachyarrhythmia"
4. Rich et al. (2006)	Central monitor for subjects living within 40 km of monitor in Boston	No risk associations for paroxysmal atrial fibrillation episodes with $PM_{2.5}$, NO_2, BC, CO, or SO_2; associations only with ozone; small number of episodes, thus reduced statistical power discussed, but exposure misclassification not discussed
D. Studies using highly elevated central monitors (horizontal and vertical exposure misclassification)		
1. Samet et al. (2006)	Central monitor elevated 400 feet above town where subjects lived, a mile from monitor	For 5-day moving average in pollution concentration, OR for having an SVE=1.42 for $PM_{2.5}$; 1.70 for sulfate; no associations for BC[a]

RR risk ratio; *OR* odds ratio; *IQR* interquartile range increase; *ICD* implantable cardioverter-defibrillators; *SVE* supraventricular ectopy; *SD* standard deviation

[a] Association taken from Fig. 2 in Ebelt et al. (2005). Association in Ebelt et al. also reported [in Samet et al. (2006)] as a 22% increase in rate of SVE for subjects whose mean rate of SVE was 33 bph

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SO_2, and a borderline significant association for SO_4, for an interquartile increase in the 2-day pollution mean; this finding suggests that the most at-risk patients in general may also be most at risk for a pollution-related ventricular tachyarrhythmia. The authors took the associations with $PM_{2.5}$, CO, NO_2, and BC as indicative of a link with motor vehicle emissions, and the sulfate association as evidence of a link with regional fossil fuel emissions. SO_2 was highly correlated with vehicular emissions and was seen as local in origin. In light of the findings of Albert et al. (2007), the lack of an association in this study with particle number, which is considerably higher in the 100 m nearest a major road (Zhu et al. 2002a, b), suggests that exposure misclassification may also have occurred in this study, perhaps understating effects of local vehicular emissions and transferring health associations to other emissions (Goldberg and Burnett 2003). The authors note that "… improved estimate of subject specific air pollution exposures would be expected to find stronger, more statistically significant associations."

Another study having exposure misclassification is that of Metzger et al. (2007), conducted in the Atlanta area and involving 518 patients with ICDs; there were found to be no associations with tachyarrhythmias for any of the emissions monitored (PM_{10}, ozone, NO_2, CO, and SO_2 for 10 years, $PM_{2.5}$ and oxygenated hydrocarbons for 4 years). Metzger et al. also discussed exposure misclassification, stating that the study "does not contribute evidence regarding whether personal exposure may be a determinant of ventricular tachyarrhythmia."

Samat et al. (2006) examined pollutant associations with supraventricular and ventricular arrhythmias. This was a companion study to that of Luttmann-Gibson et al. (2006), who examined pollution associations with reduced HRV in Steubenville, Ohio during summer and fall 2000. Both studies used a monitor several hundred feet higher than the living quarters of the subjects, and about a mile distant. Like Luttmann-Gibson et al., Samat et al. found associations with sulfate, but not with BC, although the companion study also found associations with $PM_{2.5}$. Exposure misclassification for locally variable emissions such as BC is particularly severe, as with the companion study, due to the monitor's height.

Anselme et al. (2007) found an immediate 200% to 500% increase in ventricular premature beats in CHF rats compared to healthy rats exposed to diluted diesel emissions. This finding is similar that of Dockery et al. (2005), in which the significant pollution associations for ventricular arrhythmias were only for those who had had a previous arrhythmia in the previous 3 days vs. more healthy people. The increase in arrhythmias following exposure to diesel exhaust in Anselme et al. (2007) appears to have its strongest parallels in the findings of Albert et al. (2007), e.g., increases in VT/VF in subjects half an hour after being in traffic, and of Riediker et al. (2004a, b), which found that the "speed change" factor, marked by diesel emissions and brake wear, was associated with significant increases of about 40% in SVE beats. Of the four epidemiological studies, none of which had good exposure information for spatially variable local vehicular emissions, two nevertheless suggest that traffic emissions are associated with arrhythmias, and three discussed exposure misclassification as a possible reason for results being smaller and weaker than had exposure information been more accurate.

The rapid initiation of arrhythmias after exposure to diesel emissions may suggest a direct effect on the myocardium. Anselme et al. (2007) state that such a quick response supports the idea that agents such as ultrafines, gasses, or soluble PM do cross the pulmonary epithelium into the circulation. However, rapid initiation might instead support the findings of Rhoden et al. (2005), who found that antagonists of both the sympathetic and parasympathetic nervous systems prevented oxidative stress in the heart caused by instillation of urban PM or inhalation of CAPs. In this second case, it might not be necessary for pollution to enter the bloodstream; oxidative stress in the heart due to exposure to PM (Rhoden et al.) or diesel emissions (Anselme et al.) might cause arrhythmias via direct modulation of the vagal nerve.

Inflammation

Initiation of an inflammatory response is another potential mechanism underlying PM-induced cardiovascular effects. Ridker et al. (2008) demonstrated that reducing systemic inflammation, initially marked by levels of high-sensitivity C-reactive protein (CRP), resulted in significant reduction of cardiovascular events (MI; revascularization or unstable angina; stroke; combined end point of MI, stroke, and death from any cardiovascular cause; and death from any cause) among those with low LDL cholesterol levels (<130 mg/dL) but initially high CRP (>2.0 mg/L). CRP itself is not the cause of progression of disease, however, but rather an indicator of inflammation (Schunkert and Samani 2008). Thus, elevated chronic systemic inflammation appears to be a cause of increased cardiovascular mortality and morbidity, even among apparently healthy people without hyperlipidemia. Systemic inflammation as marked by interleukin-6 (IL-6) is also associated with higher risks of mortality among older female CVD patients (Volpato et al. 2001) and with higher risks of a future MI among apparently healthy men (Ridker at al. 2000).

Bonvallot et al. (2001) exposed human bronchial epithelial cells to DEP and to DEP organic extracts, both of which induced activation of pro-inflammatory NF-κB, but the stripped carbonaceous core induced less intense

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responses. NF-κB is involved in inducement of inflammatory cytokines such as TNF-α, IL-6, and IL-8. Bonvallot et al. showed that DEP induced expression of a cytochrome P-450 specifically involved in PAH metabolism. This finding suggests the importance of PAH organic compounds in diesel emissions in causing inflammatory responses.

McDonald et al. (2004) found that diesel emissions from a relatively new diesel engine operating in steady state caused significant increases in several biological endpoints in mice, including inflammatory cytokines IL-6, TNF-α, and INF-γ (as well as oxidative stress, as marked by HO-1), with exposures of 200 μg/m^3 (6 h/day, 7 days). Use of a catalyzing trap eliminated virtually all the black carbon and a large percentage of many carbonaceous emissions, and also abolished the significant increases in cytokines and HO-1.

Tornquist et al. (2007) exposed 15 healthy men to diesel exhaust or filtered air for 1 h. In those exposed to diesel emissions, there were significant increases in TNF-α and IL-6, paralleling in vitro and in vivo findings just reviewed.

Seaton et al. (1999) estimated exposure to PM_{10} in 108 elderly subjects in Belfast and Edinburgh, modeling estimated personal exposures based upon activity diaries and multiple monitoring sites. Increased CRP was significantly associated with city center measurements of PM_{10}, but IL-6 was not. Another European multi-city study (Ruckerl et al. 2007) found in pooled results a significant increase in IL-6 per interquartile range increase (IQR) of particle number count 12–17 h before blood withdrawal, and per same day IQR increase in NO_2 (primarily a marker for vehicular emissions in European cities); no such association was found with CRP.

Riediker et al. (2004a), Riediker (2007), and Delfino et al. (2008) are examples of studies with excellent exposure assessments. Both of the Riediker et al. studies examined effects of 9 h of exposure to in-vehicle pollution on various cardiovascular parameters in healthy young male patrol officers. In Riediker et al. (2004a), elevated CRP was significantly associated with in-vehicle $PM_{2.5}$, but not with roadside $PM_{2.5}$. In Riediker (2007), IL-6 levels were significantly increased by about 20% for a one-standard-deviation increase in in-vehicle $PM_{2.5}$. Although IL-6 was not measured in the 2004 study, and CRP was not measured in the 2007 study, we can reasonably conclude that both CRP and IL-6 are elevated when healthy young men are exposed to several hours of vehicular emissions at levels found inside on-road vehicles.

Delfino et al. (2008) examined biomarkers of inflammation, anti-oxidant activity, and platelet activation in a panel study of 29 non-smoking elderly with CHD in retirement homes in Los Angeles. Using monitors just outside and inside the residences, the authors modeled concentrations of outdoor emissions inside the homes, where subjects spent most of their time. Delfino et al. (2008) found that several biomarkers of inflammation (CRP, IL-6, and soluble receptor-II for TNF-α) increased significantly with increasing exposure to various vehicular emissions (current day and multi-day averages). Reduced anti-oxidant activity was found for all but three subjects with several different traffic emissions. Among PM size fractions, only the smallest particles ("quasi-ultrafines," $PM_{0.25}$) were significantly associated with these biomarkers, paralleling findings regarding particles in Los Angeles taken close to freeways with regard to oxidative stress, as reviewed above. Particle number, BC, EC, CO, and primary OC were also associated with one or more of the biomarkers. Interestingly, secondary organic carbon showed no associations.

Thus, three studies of humans exposed to ambient air with accurate exposure monitoring found elevated levels of inflammatory indicators CRP and IL-6 associated with increased in-vehicle $PM_{2.5}$, or with several vehicular emissions. Of the other two studies (Seaton et al. 1999 and Ruckerl et al. 2007), one found elevated CRP in subjects in relation to modeled central city PM_{10}, while the other found IL-6 was elevated relative to centrally monitored particle number and NO_2 concentrations. Tornquist et al. (2007) found in healthy human volunteers significant increases in IL-6, TNF-α, and soluble P-selectin 24 h after inhalation (1 h) of 300 μg/m^3 diesel exhaust, suggesting the role of diesel emissions in the epidemiological findings noted above. Findings of these studies are in concert with the in vitro (Bonvallot et al. 2001) and in vivo (McDonald et al. 2004) studies reviewed above as well. Bonvallot et al. establishes a possible biological mechanism of inflammation involving PAHs.

Zeka et al. (2006) studied 710 members of the VA Normative Aging Study cohort living in the greater Boston area, with air pollution measured at a central monitor. Despite the potential exposure misclassification, the authors found an association for elevated CRP with an increase in one standard deviation in BC (for those with a BMI over 30, e.g., obese). Risks of elevated CRP were approximately four times higher for obese than for non-obese. Significant associations were not found for CRP with other types of PM. Those lacking a measure of genetic protection against oxidative stress, e.g., *GSTM1*-null subjects, were significantly more likely to have increased levels of CRP associated with increased BC concentrations. The authors discuss exposure misclassification, noting that a limitation of the study was the inability to measure personal exposure to different types of PM, and that they "would expect an underestimation of the effects of air pollution observed in the present study."

Atherosclerosis

Atherosclerosis refers to a thickening of the luminal wall of arteries that, depending upon the specific type of condition,

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may or may not result in reduction in blood flow. Atherosclerosis may be considered an inflammatory disease which progresses in concert with oxidation of LDL lipids (Steinberg 2002). Thus, initiation or exacerbation of inflammation, associated with pollutant exposure, may be a mechanism for some of the health outcomes noted herein.

Studies reviewed above show links between vehicular emissions and acute HRV reductions/oxidative stress reactions. A study of 1,133 non-smokers in a Swiss cohort (Probst-Hensch et al. 2008) found that those with glutathione-*S*-transferase polymorphism deletions (which reduce anti-oxidant defenses) have altered autonomic control, as marked by reduced HRV. The authors conclude that their results are consistent with an important pathological role for systemic, chronic oxidative stress among the general population. Although unexplored in this study, these findings may suggest as well that vehicular emissions which cause acute oxidative stress and thus change in HRV may be causally related to increases in arterial plaque formation via oxidation of LDL cholesterol. In this regard, Romieu et al. (2008) examined residents of a Mexico City nursing home for 6.5 months. Mexico City's elevated pollution levels contain high levels of vehicular emissions, likely resulting in increased oxidative stress. Subjects were treated with anti-oxidants (fish oil and soy oil supplements). Both supplements increased antioxidant activity, as measured by biomarkers of response to oxidative stimuli [glutathione (GSH) and Cu/Zn superoxide dismutase (SOD) activity]. Those treated with fish oil supplements, but not soy oil, also had 72% less lipoperoxidation. These results suggest that chronic oxidative stress caused by urban pollution is linked to increased lipoperoxidation, likely enhancing development of atherosclerotic plaques.

In the panel study of elderly non-smoking subjects reviewed above, Delfino et al. (2008) also examined associations of platelet activation, marked by soluble P-selectin, with various emissions. P-selectin is an adhesion molecule which plays an important role in atherosclerosis via leukocyte recruitment (Woollard and Chin-Dusting 2007). Delfino et al. (2008) found increased levels of soluble P-selectin significantly associated with increased levels of EC of outdoor origin and primary OC, suggesting that these emissions can produce platelet activation and, thus, advance atherosclerosis.

Araujo et al. (2008) showed that inhalation of concentrated ultrafine PM from close to a Los Angeles freeway, enriched in PAHs, caused significantly larger early atherosclerotic lesions in genetically susceptible (apolipoprotein E-deficient) mice inhaling concentrated $PM_{2.5}$ or filtered air. Exposure to ultrafine PM also resulted in inhibition of anti-inflammatory capacity of plasma HDL and greater systemic oxidative stress, in part as evidenced by upregulation of Nrf2-regulated anti-oxidant genes. The atherosclerotic lesions were likely caused by the combination of oxidative stress and inflammation, as both appear to be necessary for development of atherosclerosis (Steinberg 2002).

Studies reviewed noted above found ambient levels of traffic emissions PM to be associated with both oxidative stress and inflammation. Findings of Araujo et al. (2008), with a sensitive murine model, are in concert with both the findings of Delfino et al. (2008) and the epidemiological results of Kuenzli et al. (2005), i.e., that people exposed to higher annual levels of ambient air in Los Angeles had higher prevalence of atherosclerotic plaque or of important precursors of such plaque. The results of Araujo et al. (2008) are also consistent with the findings of Romieu et al. (2008), who found that lipoperoxidation in residents of a highly polluted city was reduced by use of a common anti-oxidant. Findings of these studies are also consistent with findings of studies in the sections on oxidative stress and inflammation, with regard to exposure to diesel emissions, urban pollution, and specific emissions such as BC.

Gong et al. (2007) examined exposure to ambient ultrafine particles that were highly enriched in redox cycling organic chemicals in terms of promotion of atherosclerosis in mice. The investigators found that an interaction between diesel exhaust particles and oxidized LDL lipids synergistically affected gene expression corresponding to pathways relevant to vascular inflammatory processes such as atherosclerosis. This study suggests how the lipid peroxidation found in the Huang et al. (2003) and Pereira et al. (2007) studies could lead to atherosclerosis such as found by Kuenzli et al. (2005) and lipoperoxidation as noted by Romieu et al. (2008). Similarly, Sharman et al. (2002) found that people regularly occupationally exposed to vehicular emissions (auto mechanics) had greater plasma susceptibility to oxidation, and, thus, a greater risk of developing atherosclerosis than did matched controls.

Kuenzli et al. (2005) and Jerrett et al. (2005) utilized a modeled $PM_{2.5}$ "surface" created for Los Angeles by interpolating data from 23 fixed-site monitors, creating within-city gradients for exposure to $PM_{2.5}$. Motor vehicles are the major source of emissions in Los Angeles, since other potentially major stationary sources of pollution (e.g., coal-fired power plants, steel mills, and coke industries) are absent. Thus, $PM_{2.5}$ in the Los Angeles basin as a whole is related primarily to vehicular emissions, although near ports shipping emissions may also be important.

Using the ACS data base for Los Angeles, Jerrett et al. (2005) found the relative risks for all-cause and cardiovascular mortality three to four times larger than in the original ACS study, which examined inter-city differences in $PM_{2.5}$, vs. intracity differences. Kuenzli et al. (2005) found higher levels of $PM_{2.5}$ within the Los Angeles airshed to be associated with higher levels of atherosclerotic plaques in

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the carotid artery (associations were strongest for women 60 years old or older.). These results, suggesting that mainly vehicular-derived $PM_{2.5}$ in Los Angeles may be causally related to the development of atherosclerosis, parallel those of Hoffmann et al. (2007), noted above, who found that people living close to major roads had significantly higher levels of coronary atherosclerosis as measured by coronary artery calcification.

Vascular function and blood pressure

Another potential mechanism by which vehicular-derived PM could cause cardiovascular injury involves changes in vascular tone. Urch et al. (2004, 2005) exposed healthy human volunteers to ozone plus CAPs (concentrated ambient particles) obtained in close proximity to a major Toronto freeway. The resultant increase in vasoconstriction of the brachial artery (2004 study) was associated with EC and OC, but not with any of the other 23 components of $PM_{2.5}$ examined, suggesting traffic emissions as a likely causal source. Diastolic blood pressure (2005 study), possibly related to the vasoconstriction findings of the first study, increased with increased levels of organic carbon and was attributed to traffic emissions.

Miller et al. (2009) exposed rat aortic rings in vitro to diesel exhaust particles (DEP) to explore mechanisms of effects on vascular function. The authors found that oxidative stress caused by DEP reduced the bioavailability of endothelium-derived nitric oxide "without prior interaction with the lung or vascular tissue."

Bartoli et al. (2009) examined the effects of CAPs collected adjacent to a major urban road on blood pressure of dogs. Increases in systolic blood pressure (SBP), diastolic BP (DBP), mean BP, heart rate, and rate times pressure were all associated with an IQR increase in $PM_{2.5}$, BC, and particle count, with the size of the effect increasing in that order (BC marginally significant for systolic pressure). As with the studies of Urch et al. the CAPs were taken from next to a major road, exposure was accurately known, and the BC, carbonaceous and/or ultrafine PM (emitted from traffic) were highly associated with the increases in BP.

Subjects in the multi-city study of Auchincloss et al. (2008) were aged 45–84 and clinically free of CVD. The authors found several associations between $PM_{2.5}$ and pulse pressure (PP), with only one model (which included traffic emissions) finding associations with SBP. Further analysis showed that when $PM_{2.5}$ exposure for subjects was stratified by either of three traffic variables (NO_2 levels above median; residence within 300 m of highway; or high density of roads nearby residence), a 10-$\mu g/m^3$ increase in $PM_{2.5}$ was associated with increased PP (all three cases) and SPB (two or three cases) when the traffic variable was "positive," but not when the traffic variable was "negative." Thus, $PM_{2.5}$ exposure was not associated with either endpoint unless exposure level to traffic emissions was stratified as "high." Using different methods of assessing exposure to vehicular emissions in a multi-city study, these investigators found similar SBP results to the studies above using CAPs taken from nearby major roads.

Findings have been inconsistent with regard to elevated blood pressure associations among studies lacking reasonably accurate information for exposure to locally variable emissions, such as those from vehicles. Ibald-Mulli et al. (2004) examined 131 subjects with coronary heart disease in three European cities, used centrally monitored $PM_{2.5}$, accumulation mode, and ultrafine particle mass concentrations. Results were controlled for temperature, barometric pressure, and relative humidity. Very small negative, but significant, associations were found for both SBP and DBP with particles of different sizes. However, the authors cautioned against inferring clinical relevance from these findings. Zanobetti et al. (2004), in a study of residents of greater Boston, found positive and significant $PM_{2.5}$ associations (mean level for 5 days before physician visits) with resting SBP, DBP, and mean arterial BP (MAP). In addition, for those with resting heart rate >70 bpm, mean $PM_{2.5}$ level for the 2 days preceding the visit were associated with increases in DBP and MAP during exercise. Temperature, dew-point temperature, and barometric pressure, as well as standard socioeconomic variables, were controlled for. Pollutants were measured at central sites. Associations were found with SO_2, O_3, BC, but not with NO_2 or CO in single-pollutant models, but only $PM_{2.5}$ remained associated with elevated DBP in multi-pollutant models.

Thus, it appears that when exposure to vehicular emissions are reasonably well characterized—as when ambient air is from near a major road, or when results are stratified by whether someone lives near major roads or has a high density of roads near their residence—increased blood pressure effects are consistently found associated with vehicular emissions. However, in the absence of reasonably well-characterized exposure information for vehicular emissions, associations become inconsistent, and vehicle-specific emissions are less likely to be associated with change in blood pressure.

Lai et al. (2005) found that toll workers exposed to traffic exhausts had significantly higher levels of plasma NO, an agent affecting vascular tone, than similar workers not so exposed, suggesting another pathway by which vehicular emissions could adversely influence vascular tone.

Peretz et al. (2008) exposed 27 adult volunteers (ten healthy, 17 with metabolic syndrome) to diluted diesel exhaust (100 or 200 $\mu g/m^3$ $PM_{2.5}$) or filtered air. The authors examined brachial arterial diameter change, and

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collected systemic blood samples for endothelin-1 (ET-1), a vasoconstrictor. Reduction in brachial artery diameter was linearly related to increasing exposure concentration of the exhaust, paralleling the findings of Urch et al. (2004), which used CAPs from nearby a Toronto freeway, and suggesting the importance of diesel emissions specifically for this endpoint. Plasma levels of ET-1 were increased only at the highest concentration of exposure.

Campen et al. (2005) found that fresh diesel emissions can cause vasoconstriction in the blood vessels of mice ex vivo, but that filtering diesel exhaust to remove particles did not change the vasoconstrictive properties of the emissions. Further analysis suggested that two specific gaseous emissions, aldehydes and alkanes, appeared to be responsible for these effects, suggesting a potential biological mechanism for the findings of Urch et al. (2004, 2005).

Changes in vascular homeostasis may be due to oxidative stress on endothelial cells or to systemic inflammation that affects the endothelium. Peretz et al. (2007) exposed healthy adults to diluted diesel exhaust and used microarray techniques to assess effects in peripheral blood leukocytes, since these cells are involved in inflammation and control of vascular homeostasis, including development of atherogenesis (Kristovich et al. 2004; Libby et al. 2002). They noted that the diesel exhaust exposure preferentially modulated genes involved in oxidative stress, inflammation, leukocyte activation, and vascular homeostasis, mechanisms by which adverse health effects may be modulated.

Research recommendations

Different types of particles have different biological effects, and some are likely to be more harmful than others; for example, some might cause more oxidative stress. Additional effort is needed to move closer to the goal of regulating those specific types of particles and emissions which may have the greatest health relevance. Research recommendations are made with this goal in mind.

First, although we suggest, based upon the data base discussed, that creation of a black carbon PM standard under the National Ambient Air Quality Standards may serve to protect public health, there is still much research to be done with regard to the different components of vehicular emissions. Non-PM carbonaceous components of vehicular emissions have adverse health effects (Mauderly and Chow 2008), but relatively little research has been done to date on them. Even if a black carbon standard were regulated under the NAAQS, and even if as a consequence of such a standard, many VOC and SVOC emissions would be controlled simultaneously, gasoline engines emit many of the same VOCs as diesels, and many different ones as well.

Several toxicology studies of gasoline emissions, using genetically engineered mice, have generated hypotheses about their effects. Lund et al. (2007), in a study using atherosclerosis-prone genetically modified $ApoE^{-/-}$ mice, showed that the gaseous fraction of gasoline emissions were associated with increased markers of vascular oxidative stress and transcriptional upregulation of factors associated with vascular remodeling important to the development of atherosclerosis. Campen et al. (2006), using the same mouse model, found that fresh gasoline emissions, but not paved road dust, altered cardiac repolarization. Should research establish that these emissions also cause serious harm to public health, technology solutions will have to be found for these as well.

More health endpoints appear to have been examined for diesel than for gasoline engine exhaust at this point, especially when using ambient air or human subjects or both; thus, further research is needed. To establish a comprehensive and consistent basis of comparison of gasoline with diesel emissions, ways should be found to test gasoline emissions in protocols using human subjects parallel to those of Mills et al. (2005, 2007), for example.

A second research recommendation is also quite important to determining which emissions need to be controlled to protect public health. It may be reasonable to think that today, there are two widespread types of air pollution of public health concern: those from vehicles and those from power plants, especially those using coal. Two to three decades ago, use of residual oil use was much more widespread than now, and the oil also contained higher amounts of metals (V, Ni) and sulfur (Thurston and Spengler 1985). With less than 3% of electric generation from residual oil today vs. 17% three decades ago, today's residual oil emissions are lower and more localized. Similarly, there were formerly more coking and non-electric arc steel plants, and these plants did not face the emission regulations they face today. Thus, epidemiological studies of the 1970s and 1980s would have had to be attentive to specific emissions from these sources in more locations and on a more regional scale than more recent studies.

Many early studies of PM did not recognize, as we now do, either the importance of monitoring specifically for emissions from vehicles, or the need to have reasonably accurate exposure information for such emissions. Now that methodologies rectifying these deficiencies are available, we recommend they be used to examine whether cardiovascular effects found to be associated with vehicular emissions, as in the studies above, are also found with emissions representing coal emissions (secondary sulfates and coal fly ash) as well as associated products of atmospheric chemistry involving such emissions.

Thus, one recommendation would be to perform tests utilizing ambient air masses, as with the work of Schwartz

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Table 3 Summary of effects of vehicular emissions and black carbon on CVD health endpoints

Health endpoint	In vitro studies	In vivo studies	Human panel studies
1. Oxidative stress	Li et al. 2002a (increases in HO-1, diesel PM)	McDonald et al. 2004 (diesel emissions, increased HO-1 in normal mice; oxidative stress abolished with use of catalyzing trap which totally eliminated black carbon, largely eliminated most organics, including many PAHs)	Mills et al. 2005 (diesel emissions, healthy human volunteers; reduction in t-PA, impairment of vascular tone, postulated by authors to be related to oxidative stress; also see HRV Alteration [HRV changes often caused by oxidative stress])
	Li et al. 2002b (increases in HO-1, Los Angeles air)		Delfino et al. 2008 (decreased levels of anti-oxidant enzyme activity, in panel of 29 non-smoking elderly subjects with history of coronary artery disease associated with BC, NO_2, primary OC of outdoor origin, and ultrafine PM, for current day and multi-day averages, in study with excellent exposure characterization, using both indoor and outdoor monitors at Los Angeles residences)
	Li et al. 2003 (increases in HO-1, most harm caused by ultrafines in Los Angeles air, correlated with organics and PAHs)		
2. HRV alteration	NA	Anselme et al. 2007 (diesel emissions, HRV decreases in healthy and CHF rats immediately after exposure)	Adar et al. 2007 (changes in six different types of HRV associated with BC exposure; when subjects on bus with high BC levels, larger HRV changes roughly correspond with larger changes in BC; monitor followed subjects wherever they went)
			Schwartz et al. 2005b (changes in 4 types of HRV associated with BC concentrations, but not with concentrations of non-BC regional $PM_{2.5}$; subjects live on same road as monitor is located, both in close proximity to road, 0.5 miles apart)
			Creason et al. 2001 (HRV changes monotonically associated with increasing $PM_{2.5}$, after two days with high $PM_{2.5}$ from only rural sources eliminated from regression)
			Ebelt et al. 2005 (HRV associations found for ambient urban PM, not found for sulfate; personal monitors used)
			In studies using central monitors, Wheeler et al. (2006) and Park et al. (2005) show associations with BC in only one fourth of tests; Lutzmann-Gibson et al. (2006) find no BC associations.
			Park et al. (2007) is same study as Park et al. (2005), but uses wind trajectories to determine sources, thus has better exposure information than Park et al. (2005); HRV associations found for urban air masses, not for rural air masses

GL14 Continued

Table 3 (continued)

Health endpoint	In vitro studies	In vivo studies	Human panel studies
3. ST-segment Depression	NA	Yan et al. 2008 (diesel exhaust particles impaired left ventricular functioning in healthy rats, with further impairment in rats with myocardial injury)	Mills et al. 2007 (ST-segment depression in subjects with CHD exposed to diesel emissions twice as great as for subjects without CHD, suggesting how diesel emissions could harm susceptible subjects)
			Gold et al. 2005 (in parallel study to Schwartz et al. 2005b HRV study, e.g., with accurate exposure information, ST-segment depression associated with BC but not with $PM_{2.5}$)
			Lanki et al. 2006 (in study of several local and regional pollutants lacking good exposure information, ST-segment depression associated with ABS [EU equivalent of BC] but not with sulfate or other pollutants)
4. Cardiac Arrhythmia	NA	Anselme et al. 2007 (diesel emissions, 200% to 500% increase in ventricular premature beats in CHF rats, but not in normal rats)	Albert et al. 2007 (risks of ICD shock elevated in hour after driving, RR=2.24; risks for ventricular fibrillation or tachycardia elevated in half hour after driving, RR=4.46)
			Riediker et al. 2004a, b (~40% increase in SVE beats for change of one SD in "speed change" factor reflecting diesel emissions and brake wear)
			Ebelt et al. (2005) (SVE associations found for ambient urban PM, non-sulfate ambient urban PM, not found for sulfate; personal monitors used)
			Peters et al. (2000), Dockery et al. (2005), Metzger et al. (2007), and Sarnat et al. (2006) are extant studies of arrhythmias using central monitor concentrations as proxies for subject exposure over large metropolitan areas, causing exposure misclassification; first study finds larger associations with vehicular emissions (BC and NO_2) than with $PM_{2.5}$; second study finds traffic emissions more likely cause of arrhythmias; third study finds no associations; associations in fourth study are with sulfate but not with BC; the first three studies discuss exposure misclassification as possible reason for underestimates of associations
5. Vascular Function	Miller et al. 2009 (diesel particles reduce bioavailability of endothelium-derived NO in aortic rat rings in vitro via oxidative stress, without prior interaction with lung or vascular tissue)	Bartoli et al. 2009 (increases in mean, systolic and diastolic blood pressure found in dogs exposed to CAPs taken from near major urban roadway; BC, carbonaceous particle count associated with increases in blood pressure)	Urch et al. 2004 (significant increase in vasoconstriction in healthy human volunteers exposed to CAPs taken from near freeway associated only with EC and OC among 25 components of $PM_{2.5}$ analyzed)
	Campen et al. 2005 (fresh diesel emissions and filtered diesel exhaust cause vasoconstriction in mice ex		Urch et al. 2005 (significant increase in blood pressure in healthy human volunteers exposed to CAPs taken

GL14 Continued

Table 3 (continued)

Health endpoint	In vitro studies	In vivo studies	Human panel studies
	vivo, aldehydes and alkanes most likely involved)		from near freeway, possibly associated with increase in vasoconstriction in 2004 study, related to traffic emissions) Auchincloss et al. 2008 (in subjects aged 45–84, systolic blood pressure and pulse pressure associated with increased $PM_{2.5}$ only when traffic variables (NO_2 levels above median value; residence within 300 m of highway; or high density of roads near residence) were "positive," not when traffic variables were "negative") Lai et al. 2005 (toll workers exposed to traffic exhaust had significantly higher levels of plasma NO, which affects vascular tone) Peretz et al. 2007 (in healthy adult volunteers, diesel exhaust preferentially modulated genes involved in oxidative stress, inflammation, leukocyte activation and vascular homeostasis) Peretz et al. 2008 (in adult volunteers exposed to diesel exhaust, reduction in brachial artery diameter linearly related to increasing concentration of exhaust; plasma levels of endothelin-1, a vasoconstrictor, significantly increased only at 200 $\mu g/m^3$ of diesel exhaust, but not at 100 $\mu g/m^3$)
6. Inflammation	Bonvallot et al. 2001 (diesel emissions and diesel organic extracts induced increased levels of pro-inflammatory NF-κB in human bronchial epithelial cells; less intensive effects induced by stripped carbonaceous core)	McDonald et al. 2004 (increased levels of three inflammatory biomarkers (TNF-α, IL-6, and INF-γ) associated with exposure to diesel emissions, effects abolished with use of new catalyzing trap which eliminated BC completely, largely eliminated most organics, including many PAHs)	Delfino et al. 2008 (several biomarkers for inflammation [CRP, IL-6, TNF-α receptor] significantly increased with increased concentrations of BC, EC, CO, primary OC, and with increased particle number) Riediker et al. 2004a (CRP elevated with increased in-vehicle PM, in study of patrol officers after 9-h shift) Riediker 2007 (IL-6 elevated with increased in-vehicle PM, in study of patrol officers after 9-h shift) Tornqvist et al. 2007 (diesel emissions increased TNF-α, IL-6 levels in healthy human volunteers, vs. filtered air) Zeka et al. 2006 (elevated BC levels, recorded at central monitor, associated with increased CRP levels in the obese, and in those lacking a measure of genetic protection against oxidative stress, e.g., GSTM1-null subjects. Authors discuss exposure misclassification, note that they would expect larger risks with better exposure assessment)

GL14 Continued

Table 3 (continued)

Health endpoint	In vitro studies	In vivo studies	Human panel studies
7. Atherosclerosis and lipoperoxidation	See oxidative stress and inflammation sections for in vitro work relevant to atherosclerosis, caused in large part by systemic interaction of oxidative stress and inflammation Gong et al. 2007 (interaction between oxidized LDL lipids and organic diesel emission extracts affects gene expression relevant to vascular inflammation and atherosclerotic pathways in human microvascular endothelial cells; work then replicated in vivo, with similar findings – see in vivo, next column) Huang et al. 2003 (PM1.0 more likely to cause lipoperoxidation in human lung cells than larger fractions, OC and EC but not various ions associated with this effect)	Araujo et al. 2008 (increased early atherosclerotic lesions in ApoE$^{-/-}$ mice breathing CAPs ambient in PAHs from near LA freeway, exposure to ultrafine PM inhibited anti- inflammatory capacity of plasma HDL) Gong et al. 2007 (interaction between oxidized LDL lipids and concentrated ultrafine diesel exhaust particles in Los Angeles air affects gene expression corresponding to atherosclerotic pathways in mice, viewed by authors as confirming in-vitro findings in column to left)	Sharman et al. 2002 (auto mechanics, regularly exposed to higher levels of vehicular emissions than controls, had significantly higher susceptibility of plasma to oxidation) Delfino et al. 2008 (levels of soluble P-selectin, important for platelet activation in atherosclerosis, significantly associated with increased levels of EC of outdoor origin, primary OC, in study of seniors in Los Angeles)

et al. (2005b), Gold et al. (2005), and Creason et al. (2001), in regions such as north-central Pennsylvania or in central New York State, where on most days emissions would reflect little industrial or vehicular emissions relative to urban locations. To be consistent with many of the studies reviewed above, recruitment of those living in a retirement center would be recommended. Would days with higher total $PM_{2.5}$, and/or with higher levels of sulfate, exhibit similar changes in inflammatory indicators (CRP, IL-6), levels of anti-oxidant enzyme activity, or adhesion molecules (soluble P-selectin), as in Delfino et al. (2008)? Such proposed studies should also examine blood pressure and vasoconstriction, as in Auchincloss et al. (2008) and Urch et al. (2004, 2005). ST-segment depression, oxidative stress, and arrhythmias should also be examined in studies paralleling those reviewed above.

Wind trajectory analysis, such as used in Park et al. (2007) and Creason et al. (2001), and which Lippmann et al. (2006) used to demonstrate associations with Ni from Canadian nickel smelters on reduced HRV in mice housed in a rural location in New York State, should also be used to see if on days with elevated measures of health effects the air masses might come from an unsuspected source, as in Lippmann et al. (2006).

These studies would allow a direct comparison with the studies examined in this assessment, and thus would enable researchers to see if ambient coal emissions, including reaction products, would cause the same cardiovascular health effects as diesel and/or vehicular emissions. Recommendation of research of this type, however, is not to recommend that more innovative research is any less important. For instance, the "highway gradient" studies are an example of the kind of innovation that caused researchers to focus on biological mechanisms of vehicular emissions.

More generally, the use of new personal monitoring tools, such as vests being developed by EPA which are easy to wear and monitor many different emissions, may broaden the endpoints which can be examined with regard to pollution associations. Arrhythmias would be one primary endpoint, since up to now, central monitors have been used to provide pollution data in studies of arrhythmias. Since this health endpoint has not yet apparently been examined in studies using accurate exposure information for vehicular emissions, arrhythmias would be an excellent candidate for use in studies with better monitoring, perhaps using the protocols of Schwartz et al. (2005b) and Gold et al. (2005). Furthermore, although V and Ni now tend to be relatively local emissions (e.g., near major ports as shipping fuel and in a few Northeastern locales), it is still important to separate effects of metals from carbonaceous materials.

Conclusions

Epidemiologic studies with good exposure information for locally variable levels of particulate emissions from motor vehicles consistently find associations between such exposure and cardiopulmonary disease mortality, circulatory disease mortality, ischemic heart disease mortality, and all-cause mortality, and with many CV morbidity endpoints, such as cardiovascular hospital admissions, markers of atherosclerosis, survival after heart failure, incidence of

GL14 Continued

coronary heart disease, initial myocardial infarction, and acute myocardial infarction. For each of the cardiovascular health endpoints reviewed herein—oxidative stress, HRV changes, ST-segment depression, inflammation, arrhythmia, vascular function and blood pressure, and atherosclerosis—there are mechanistic studies supporting a pathophysiological basis for how diesel and/or vehicular emissions could cause such outcomes. The mechanistic studies for each endpoint are briefly summarized in Table 3. These cardiovascular health endpoints, in turn, provide multiple biological mechanisms with explanatory value for the mortality and morbidity findings in the epidemiology studies.

A number of the studies reviewed in this paper examined human subjects breathing ambient air. Such studies are likely to provide information most relevant to regulations designed to protect public health. Studies using genetically modified animals and highly concentrated components of ambient air, or using artificial atmospheres, are useful in generating hypotheses, but if these hypotheses are not verified in people exposed to ambient atmospheres, they may not provide an adequate basis for regulation. The database of ambient air studies does provide substantial evidence that the cardiovascular health effects associations with vehicular emissions likely reflect causality, rather than just statistical correlation.

Studies have shown that emissions from diesel engines may be especially potent in producing adverse health outcomes (U.S. Environmental Protection Agency 2002). As of January 2007, EPA regulations require a new catalyzing trap on all new on-road diesels. These devices reduce BC levels virtually completely, while also reducing emissions of many carbonaceous species by large percentages (McDonald et al. 2004). BC is likely an important causal agent of effects with which it has been associated in many studies, both intrinsically and because many carbonaceous species co-emitted from diesels and other vehicles can be adsorbed onto the surface of BC. In addition, BC is also likely a marker for harmful carbonaceous gasses which may be co-emitted with but not adsorbed onto the particles.

The EPA regulations do not extend to retrofits, however, and older diesels are the worst emitters. Several states are taking action to reduce such diesel emissions. In California, there are now proposals to restrict diesels from prior to a particular vintage year from operating in the ports of Los Angeles and Long Beach, unless retrofitted with the new catalyzing trap. Several localities are now requiring retrofit programs on certain classes of vehicles, e.g., school buses, or are advancing the replacement date for older diesel buses. A "speciated" BC standard would be more comprehensive than a patchwork of state requirements, and would likely cause many states to require retrofits of catalyzing traps on older diesels. This would reduce not just BC, but also the associated carbonaceous emissions which adsorb onto BC and also may cause health effects per se. Further, a speciated BC standard would require states to deal with BC in areas not in violation of standards for $PM_{2.5}$, but where diesel health effects would be of consequence to public health. If it made sense to require new technology on new on-road and off-road diesels—and we agree that it does—then it makes even more sense to control emissions from the older, dirtier diesels which will be in operation for perhaps another 30 years.

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Review

A review of commuter exposure to ultrafine particles and its health effects

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ABSTRACT

Ultrafine particles (UFPs, <100 nm) are produced in large quantities by vehicular combustion and are implicated in causing several adverse human health effects. Recent work has suggested that a large proportion of daily UFP exposure may occur during commuting. However, the determinants, variability and transport mode-dependence of such exposure are not well-understood. The aim of this review was to address these knowledge gaps by distilling the results of 'in-transit' UFP exposure studies performed to-date, including studies of health effects.

We identified 47 exposure studies performed across 6 transport modes: automobile, bicycle, bus, ferry, rail and walking. These encompassed approximately 3000 individual trips where UFP concentrations were measured. After weighing mean UFP concentrations by the number of trips in which they were collected, we found overall mean UFP concentrations of 3.4, 4.2, 4.5, 4.7, 4.9 and 5.7×10^4 particles cm^{-3} for the bicycle, bus, automobile, rail, walking and ferry modes, respectively. The mean concentration inside automobiles travelling through tunnels was 3.0×10^5 particles cm^{-3}.

While the mean concentrations were indicative of general trends, we found that the determinants of exposure (meteorology, traffic parameters, route, fuel type, exhaust treatment technologies, cabin ventilation, filtration, deposition, UFP penetration) exhibited marked variability and mode-dependence, such that it is not necessarily appropriate to rank modes in order of exposure without detailed consideration of these factors. Ten in-transit health effects studies have been conducted and their results indicate that UFP exposure during commuting can elicit acute effects in both healthy and health-compromised individuals. We suggest that future work should focus on further defining the contribution of in-transit UFP exposure to total UFP exposure, exploring its specific health effects and investigating exposures in the developing world.

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1. Introduction

The study of commuter exposure to traffic-related air pollutants is not a particularly new field of research. Among the first researchers to recognise its significance was Professor Arie Haagen-Smit, who is best-known for his pioneering and enduring work related to characterising photochemical smog and ozone. In 1966, he performed a series of carbon monoxide measurements on heavily trafficked Los Angeles roads (Flachsbart, 2007; Haagen-Smit, 1966). Given population growth and increased motor vehicle use since that time, coupled with the high degree of proximity to vehicle emissions when commuting, the issue of 'in-transit' exposure to air pollutants is of equal if not greater relevance 45 years later.

Previous reviews of in-transit pollutant exposure, of which there are few, have focussed on CO inside vehicles (El-Fadel and Abi-Esber, 2009), particle mass concentrations and composition in metro (subway) systems (Nieuwenhuijsen et al., 2007) and various pollutants in multiple transport modes (Weisel, 2001). Only the work of Kaur et al. (2007) included a review of ultrafine (<100 nm) particle (UFP) concentrations in several transport modes.

At present, although gaseous pollutants are still the focus of numerous in-transit exposure studies, UFPs are beginning to attract significant attention. They are produced in large quantities by fuel combustion, and have been identified as a causal component of various negative health effects in humans (Knol et al., 2009; Hoek et al., 2010). UFPs typically constitute ~90% or more of particle number count (PNC) in areas influenced by vehicle emissions (Morawska et al., 2008), and we use UFP to describe PNC throughout this article.

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The primary aim of this review is to distil the results of work performed to-date in order to improve understanding of the measurement, characteristics and determinants of in-transit exposure to UFPs, prior to a discussion of gaps in knowledge and suggestions for future research. Here, we extend the work of Kaur et al. (2007) by confining our focus to UFPs and incorporating the substantial body of relevant work that has appeared in the 4 years since its publication, which now constitutes the large majority of available literature. Like Kaur et al. (2007), we restrict our investigation to UFP exposure concentrations, rather than average or integrated exposure for a given time period. We note that dose assessment, which is a complementary yet distinct concept to that of exposure (Ott, 1985), is not the main focus of this review.

This review begins with an overview of the nature of commuter travel prior to a description of the general characteristics of UFPs. This is followed by a detailed analysis of in-transit UFP exposure studies, a discussion of determinant factors, health effects, and suggestions for future research.

1.1. Commuting in modern society

The nature of modern society in many countries both affords and expects a high degree of personal mobility. Time-activity patterns define how people apportion their time across a range of environments, and are a keystone of effective exposure analyses. Time-activity pattern studies of varying magnitude performed in different regions have reported that time spent in-transit typically constitutes between about 5 and 10% of the day (Klepeis et al., 2001), depending on location. The transport microenvironment(s) within which this time is spent varies more substantially between regions than the occupancy time, and has a greater dependence on local factors, such as the availability and desirability of various transport options.

In general, there are scant 24 h time-activity pattern data for developing countries. Saksena et al. (2007) reported that time spent travelling among 4311 Delhi residents ranged from 0.8 to 10% of the day, and varied markedly depending on age, sex and occupation, as did the mode of transport used. It is likely that the time-activity patterns of people in rural areas differ significantly from those of their urban counterparts.

1.2. Children's and adult's travel choices

Children are particularly susceptible to negative health effects caused by exposure to air pollutants (Gauderman et al., 2004; Brugge et al., 2007; Ashmore and Dimitroulopoulou, 2009), and many millions are required to commute between home and school each weekday. The choice of which transport mode school children utilise is normally at the discretion of others. Whilst children and young people have been reported to possess informed and responsible opinions regarding transport choices and a clear ideal towards cycling and walking, their parent's choices are guided primarily by safety concerns, and place substantial reliance on private automobiles (Lorenc et al., 2008).

Unlike children, adults generally make their own travel choices. A recent survey of 745 employed adults in Queensland, Australia, found that while about half of respondents felt that exposure to air pollutants in-transit negatively affected their overall health and increased their risk of cardiovascular disease, only 13% indicated that exposure to pollutants was a barrier to their adoption of walking or cycling to work, and that other factors were more responsible for their high level (82%) of dependence on private transport (Badland and Duncan, 2009). Furthermore, Badland and Duncan (2009) found that adults who were better educated and lived in urban areas were most cognisant of the negative health effects of air pollutant exposure during transit. Marshall et al. (2009) reported that the optimum balance between high walkability and low pollution was identified sporadically and typically in higher income neighbourhoods in urban Vancouver (Marshall et al., 2009). Evidently, there may be a significant socio-economic component involved in air pollution exposure during transit, particularly for active transport modes, and this may reflect wider socio-economic and environmental inequalities reported for several traffic pollutants (Marshall, 2008; Tonne et al., 2008; Su et al., 2009). It should be noted that both children and adults in developing countries are unlikely to be afforded the luxury of a travel choice, *per se*, and a relatively high degree of dependency on walking and public transport may result from this (Saksena et al., 2007).

2. Characteristics of ultrafine particles

2.1. General

UFP concentrations reflect the contribution of anthropogenic processes to a pre-existing background concentration (Morawska et al., 2008). Background concentrations are ascribed to natural processes, such that in most environments free from the immediate influence of anthropogenic activities, UFPs are present and their concentrations readily measured. Despite the numerous natural sources of UFPs, vehicular fossil fuel combustion has repeatedly been shown to be their dominant source in urban areas, with heavy-duty diesel powered vehicles making a disproportionately large contribution to UFP concentrations (Morawska et al., 2008).

An important distinction is between primary and secondary UFPs. The primary variety are emitted from their source as particles, whilst secondary particles are formed following homogenous nucleation of gases (Koutrakis and Sioutas, 1996; Jacobson, 2002). This occurs when a gas, or gases, nucleate in the absence of a pre-existing surface (Jacobson, 2002).

UFPs from vehicles can be emitted as primary particles or generated as a secondary aerosol, such as following homogenous nucleation of SO_2, NH_3 and NO_x into SO_4^{2-}, NH_4^+ and NO_3^- (Koutrakis and Sioutas, 1996; Morawska et al., 2008). The ratio of primary to secondary particles varies substantially according to fuel type and operating and environmental conditions, but nucleation mode particles can comprise approximately 90% or more of UFPs in diesel exhaust (Kittelson, 1998). However, more recent research indicates that the number of nucleation mode particles in diesel exhaust can be reduced to 40–50% when ultra-low sulphur diesel fuel is used (Ristovski et al., 2006), which is more representative of modern vehicle fleets in many countries.

2.2. Typical concentrations

Morawska et al. (2008) performed a meta-analysis of 71 UFP studies performed across a diverse range of environments. They found mean concentrations of 2.6, 4.8, 7.3, 10.8, 42.1, 48.2, 71.5 and 167.7×10^3 particles cm^{-3} for clean background, rural, urban background, urban, street canyon, roadside, on-road and tunnel environments, respectively. This indicates that greater proximity to vehicles is associated with increased UFP concentrations, and underscores their importance as a UFP source.

2.3. Health significance

Once inhaled, UFPs can reach with the alveolar region of the human lung with greater efficiency than larger particles due to their smaller size, and can deposit in alveoli with greater efficiency as a consequence of their rapid diffusion (Daigle et al., 2003; Phalen

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et al., 2006; Frampton, 2007). Due to their content of reactive oxygen species (ROS) and large combined surface area, UFPs from vehicle emissions have the potential to damage pulmonary cells (Delfino et al., 2005). Transition metal components in UFPs are believed to play a role in producing ROS, along with pro-oxidative organic hydrocarbons (Li et al., 2003). Additionally, target cells, such as airway epithelial cells and macrophages, produce ROS during biologically catalysed redox reactions occurring in the mitochondria in response to UFP uptake (Li et al., 2003; Nel, 2005). UFPs can evade alveolar macrophage clearance from the lung and enter lung cells, the interstitium and possibly the vascular bed (Geiser et al., 2005; Frampton, 2007), and can travel from the lung via blood and lymphatic circulation to other organs (Elder et al., 2006; Samet et al., 2009). UFPs are more proatherogenic than larger particles due to their greater bioavailability of reactive compounds, content of redox-active compounds, high number concentration and increased lung retention (Araujo and Nel, 2009).

Epidemiologic investigations of UFPs have been constrained by the scarcity of UFP monitoring sites and the substantial spatial heterogeneity of concentrations (Brook et al., 2010). Studies performed to-date in Erfurt, Germany, have indicated that UFP effects on daily mortality may be of comparable magnitude to, yet independent of, those of fine particles (i.e. $PM_{2.5}$), albeit with greater time lag between UFP concentrations and their effects (Wichmann and Peters, 2000). More recent results from the same long-term study have shown statistically significant associations between UFP concentrations and both total and cardio-respiratory daily mortality with a four day lag period (Stölzel et al., 2007). Interestingly, this study found no association between $PM_{2.5}$ mass concentration and mortality. Mortality from stroke amongst aged residents of Helsinki during summer was associated with both $PM_{2.5}$ and UFP concentrations on the previous day, and effects were mostly independent (Kettunen et al., 2007).

The effects of UFP concentration on mortality and morbidity due to various causes are less well understood than those of larger particles. A recent elicitation of European experts found that short-term UFP exposure was rated to variously possess a medium to very high likelihood of causality for all-cause mortality, and a low to high likelihood for cardiovascular and respiratory hospital admissions (Knol et al., 2009). Long-term UFP exposure was generally rated to possess a slightly lower likelihood of causality for all-cause mortality, owing mainly to the lack of long-term studies (Knol et al., 2009). The same group of experts estimated that a permanent decrease in annual average UFP concentration of 1000 particles cm^{-3} across Europe would lead to median decreases of 0.3%, 0.2% and 0.16% in all-cause mortality, and cardiovascular and respiratory hospital admissions, respectively (Hoek et al., 2010). The relatively small number of epidemiological studies (14) and absence of long-term studies, however, resulted in most experts indicating a substantial degree of uncertainty in their estimates (Hoek et al., 2010).

3. Studies of UFP concentration in transport modes

3.1. Methods

We searched combinations of the terms "ultrafine particle", "transport mode", "commuter", "exposure" "public transport", "microenvironment", "vehicle", "car", "automobile", "bus", "cyclist", "bicycle", "train", "metro", "subway" on PubMed, ISI Web of Knowledge and Google Scholar until October, 2010. The reference lists of studies identified by this method were reviewed for links to additional literature. Furthermore, the authors' own literature collections were utilized.

We restricted our investigation to studies that presented numeric values of UFP concentrations, and identified 47 that fulfilled this requirement. Tables S1–S7 in the Supplementary Information file contain detailed information on the various studies. These spanned 6 distinct transport modes: automobile, bus, cycling, ferry, rail and walking. Some studies dealt with multiple transport modes, whilst others focussed on a single mode. Of the studies we identified, only 7/47 (15%) had previously been reviewed by Kaur et al. (2007), which highlights the rapid progression of research related to in-transit UFP exposure since publication of their work.

The mean concentrations extracted from the studies identified were weighted by the corresponding number of trips taken, and overall trip-weighted mean UFP exposure concentrations were calculated for each transport mode (see Tables S1–S7 in the Supplementary Information file). The overwhelming majority of studies (93%) reported the number of trips associated with a given mean; the means reported by those that did not report trip number were weighted by a conservative factor of 1 trip. Most studies reported arithmetic mean UFP concentration, while several reported geometric mean and one gave median values. Where possible, data were disaggregated to permit analyses of the effect of variables such as fuel type, presence of exhaust-treatment devices and route.

Given the range of conditions under which they were collected, we did not assess the statistical significance of differences in measured mean UFP concentrations between modes, and instead sought to identify general trends in the data. This is discussed further in sections 4 and 5.

3.2. Results

Across all modes, we identified approximately 3000 individual trips where UFP measurements were performed. There was an uneven distribution of measurement trips; very few have been performed in ferry (13) and rail (49) modes, while a substantial number have been undertaken in bus (505), walking (524), cycling (599) and automobile (1310) modes. The automobile mode was split into non-tunnel (977) and tunnel (333) trips, as previous results indicate that tunnels are a discrete UFP exposure microenvironment distinct from open air roadways (Kaminsky et al., 2009; Knibbs et al., 2010).

Fig. 1 shows the trip-weighted mean UFP concentrations for each mode, and the number of trips on which they were based. Error bars indicate the trip-weighted standard deviation (Bland and

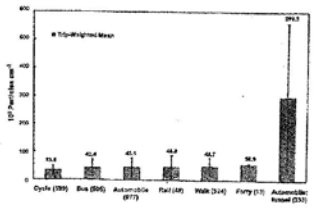

Fig. 1. Trip-weighted mean UFP concentrations in each transport mode, shown as bold numbers. The number of trips taken in each mode is shown in brackets. Error bars denote the trip-weighted standard deviation. The studies from which the data were extracted are listed in the Supplementary Information file.

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Kerry, 1998). The range of mean UFP concentrations spanned one order of magnitude, with the lowest measured whilst cycling and the highest in automobiles during tunnel travel; 3.4×10^4 (s.d. = 1.8×10^4) and 3.0×10^5 (s.d. = 2.6×10^5) particles cm^{-3}, respectively. Means and standard deviations calculated for the automobile (non-tunnel), bus, ferry, rail and walk modes were 4.5 (3.3), 4.2 (3.1), 5.7 (0.5), 4.7 (4.1) and 4.9 (3.2) $\times 10^4$ particles cm^{-3}, respectively.

4. Comparison between modes

Considering the diversity of studies from which they were drawn, the trip-weighted concentrations measured in automobile (non-tunnel), cycle, bus, rail and walking modes exhibited notable coherence, with a maximum to minimum ratio (walk:cycle) of 1.5. A limited number of studies that measured concentrations in different modes simultaneously or near-simultaneously have been reported, and Briggs et al. (2008) found a walk:automobile ratio of 1.4, which is higher than the value of 1.1 presented here. Boogaard et al. (2009) found an automobile:cycle ratio of 1.05, whilst we found a value of 1.3, which was also higher than the value of approximately 1.0 reported by Int Panis et al. (2010).

While the above studies highlighted the relative concentrations encountered in each mode in the absence of bias due to fluctuating UFP concentrations, observed inter-mode contrasts were specific to the conditions of the study (e.g. the ventilation settings in an automobile, or the proximity to traffic on a bike route) and are should therefore not be extrapolated beyond the conditions under which they were collected without appropriate caution.

In studies that measured UFP concentrations in multiple modes non-simultaneously, the mode in which highest concentrations were recorded vacillated between automobiles and buses, whilst those in other modes were markedly lower (Levy et al., 2002; Kaur et al., 2005b; Weichenthal et al., 2008; Cattaneo et al., 2009; Kaur and Nieuwenhuijsen, 2009; Pattinson, 2009; Shrestha, 2009; Knibbs and de Dear, 2010). It is therefore noteworthy that our analysis found that UFP concentrations in buses and automobiles (non-tunnel) were relatively low. We pooled a large number of reported UFP measurements performed under a wide range of conditions, and while the ability to differentiate the observed differences is limited by the level of detail given by the various studies, such an approach is indicative of mean values and general trends. However, the mode in which highest exposures are experienced depends strongly on the determinant factors discussed in the following two sections, and generalisation of results may be of limited value (Int Panis et al., 2010); that is, within mode variability is likely to be substantial.

5. Determinants of UFP concentration in-transit

Despite the convenience it may provide, it is not necessarily appropriate to rank transport modes in order of UFP exposure without certain caveats. For example, Fig. 1 shows the trip-weighted mean UFP concentration in an automobile is higher than the equivalent for cycling. However, an occupant of a relatively air-tight automobile in which air is recirculated and filtered will likely experience markedly lower exposure concentrations than a cyclist on a high traffic route. Disentangling the relative roles of determinant factors, their interactions and variability in each mode is a key element required to advance understanding of in-transit UFP exposure. The data reviewed here suggest that while the relationship between UFP concentration and its determinants is often mode-dependent, exposure in all mode types is the result of interplay between multiple factors. These can be viewed as comprising two stages: the first determines the outdoor or on-road UFP concentration, and the second determines what proportion of this is able to come into contact with a commuter. These factors are addressed, in turn, in the following sections.

5.1. Meteorological variables

Temperature has been variously reported to be positively and negatively correlated with UFP concentrations, although in vehicle-dominated areas the correlation is more likely to be negative due to condensation of volatile compounds in emissions (Morawska et al., 2008). In-transit studies that assessed this relationship uniformly found a negative correlation between temperature and UFP concentration (Krausse and Mardaljevic, 2005; Vinzents et al., 2005; Thai et al., 2008; Weichenthal et al., 2008; Kaur and Nieuwenhuijsen, 2009; Pattinson, 2009; Laumbach et al., 2010). Among studies that reported correlation coefficients, those measured for cycling studies (Vinzents et al., 2005; Thai et al., 2008) were quite high (−0.62 and −0.76, respectively). Multi-mode and automobile studies reported correlations of −0.77 and −0.37, respectively (Kaur and Nieuwenhuijsen, 2009; Laumbach et al., 2010).

Wind speed, which affects dilution and transport of vehicle emissions, was also found to be negatively correlated with UFP concentration in-transit (Krausse and Mardaljevic, 2005; Vinzents et al., 2005; Briggs et al., 2008; Thai et al., 2008; Weichenthal et al., 2008; Kaur and Nieuwenhuijsen, 2009; Pattinson, 2009; Shrestha, 2009; Knibbs and de Dear, 2010), which is in agreement with results reported for various outdoor locations (Morawska et al., 2008). However, the results were not always statistically significant, indicating that temperature may be more consistently and strongly correlated with UFP concentrations. Correlations observed for active transport modes were −0.20 (walk), −0.52 (cycle) and −0.81 (cycle) (Briggs et al., 2008; Vinzents et al., 2005; Thai et al., 2008). Multi-mode and automobile studies reported correlations of −0.14 to −0.49 (Briggs et al., 2008; Kaur and Nieuwenhuijsen, 2009; Knibbs and de Dear, 2010).

For both temperature and wind speed, stronger correlations were generally observed for cycling compared to non-active modes, perhaps reflecting reduced influence of other factors on exposure concentrations encountered when cycling (and walking). The strength of the association between UFP concentration and both temperature and wind speed appears to be mode and location-dependent, and its variability is not well characterised.

While temperature and wind speed are the most frequently reported, other meteorological parameters may affect UFP concentration. The depth of the mixed layer within the atmosphere was found to be negatively correlated with in-transit UFP concentration (Weichenthal et al., 2008), which reflects the tendency of a shallow mixed layer to concentrate pollutants.

5.2. Traffic volume and composition

Very few studies have reported the relationship between traffic volume and in-transit UFP concentrations. Fewer still have examined the effect of traffic composition (i.e. gasoline vehicles, diesel vehicles). Briggs et al. (2008) observed statistically significant correlations between car and truck density and UFP concentrations encountered while walking ($r = 0.41$–0.48) or in an automobile ($r = 0.43$–0.47) in London. In their London-based study, Kaur and Nieuwenhuijsen (2009) similarly found a significant correlation ($\rho = 0.27$) between total traffic count and UFP concentrations in automobile, bus, cycle, taxi and walking modes. Krausse and Mardaljevic (2005) reported road link end description (e.g. signal, left turn, right turn etc.) was a significant determinant of total UFP exposure of car occupants. On-road studies have shown strong

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associations ($R^2 \sim 0.85$) between heavy diesel traffic volume and UFP concentrations (Fruin et al., 2008; Knibbs et al., 2009b). Other studies have reported more qualitative assessments of traffic effects; for example, that mean in-transit UFP concentrations increased on high traffic routes and vice-versa (Zhu et al., 2007; Thai et al., 2008; Strak et al., 2010; Zuurbier et al., 2010).

Vehicle emissions are the dominant source of UFPs in urban areas, and heavy diesel vehicles make a contribution that is disproportionate to their volume (Morawska et al., 2008). Coupled with the limited but consistent findings of in-transit studies, this suggests that traffic parameters (volume, density) and composition (gasoline vehicles, heavy diesel vehicles) are an important determinant of in-transit UFP exposure. It should be considered, however, that effects are likely to depend on mode, and that short-term traffic patterns not represented in hourly or daily average data, such as the impact of passing traffic, may be important (Fruin et al., 2008; Boogaard et al., 2009).

5.3. Route choice: active transport modes

There are generally fewer mode-specific variables that may affect pedestrians and cyclists compared to other transport modes; that is, traffic and meteorological conditions may be of greater importance as determinants. Most cycling studies were performed on or proximate to major urban roads, however, some studies compared measurements on high and low traffic routes, with the latter typically comprised of a dedicated cycle path. Separating the data into these two categories revealed that 18% of trips were undertaken on low traffic routes, and mean UFP concentrations were 2.6×10^5 particles cm^{-3}. The mean for high traffic routes was 3.5×10^5 particles cm^{-3}, suggesting that route selection, within the context of the few studies to address it, can affect cyclist UFP exposure (Pattinson, 2009; Strak et al., 2010; Zuurbier et al., 2010).

Route choice, as a proxy for traffic volume, is likely to be an important determinant of exposure (McCreanor et al., 2007; Hertel et al., 2008), and personal factors (e.g. walking or cycling patterns) may also exert an effect (Kaur et al., 2007). Microscale variations in UFP concentration proximate to roadways may result in higher exposures on the road side of the sidewalk/footpath compared to the building side (Kaur et al., 2005a). Also, the effect of roadway factors on pollutant dispersion (i.e. whether open to the environment or prone to trap pollutants due to geometry of urban canyons) has been shown to be a statistically significant determinant of UFP exposure concentrations encountered when walking (Briggs et al., 2008). Further work focussed on evaluating the effects of these local and microscale route phenomena on UFP exposure is required.

5.4. Cabin ventilation

Ventilation rates, whether driven by fans, natural leakage or open windows (Ott et al., 2008; Knibbs et al., 2009a), describe how rapidly outdoor air is capable of entering passenger cabins. Evidence suggests that ventilation is a key determinant of in-cabin UFP concentrations in automobiles, buses (Hammond et al., 2007; Rim et al., 2008; Knibbs and de Dear, 2010; Zhang and Zhu, 2010), ferries (Hill and Gooch, 2007; Knibbs and de Dear, 2010) and rail modes (Hill and Gooch, 2007; Cheng et al., 2009; Knibbs and de Dear, 2010). Quantitative studies support these observations, but are scarce and limited to automobiles (Xu and Zhu, 2009; Knibbs et al., 2010).

Knibbs et al. (2009a) found that air exchange increased linearly with vehicle speed in a group of six test automobiles operating under four distinct ventilation settings, which was in agreement with results obtained by Ott et al. (2008) based on tests performed in four vehicles. Knibbs et al. (2009b, 2010) found that the primary determinant of on-road UFP concentration in a tunnel bore was hourly heavy diesel vehicle volume ($R^2 = 0.87$), and that cabin ventilation rates explained 81% of the variation in the proportion of on-road UFPs reaching the occupants of 5 automobiles. The proportion reaching the cabin varied from 0.08 (recirculation) to ~1.0 (non-recirculation) depending on vehicle and ventilation setting. Thus, ventilation rates controlled the extent to which in-cabin exposure concentrations reflected on-road levels in the tunnel bore, which were largely determined by heavy diesel vehicle volume. Xu and Zhu (2009) reported that cabin ventilation and leakage were predominant factors in their model-based analyses of variables affecting in-cabin/on-road (I/O) UFP ratios, and explained up to ~60% of on-road UFP ingress. I/O ratios when windows are open can reach 1 due to higher air exchange, and such conditions may also occur when windows are closed but ventilation fan settings are high (Ott et al., 2008; Knibbs et al., 2009a).

Some investigators have successfully performed in-cabin UFP size distribution measurements during transit in automobiles (Zhu et al., 2007) and buses (Zhang and Zhu, 2010). These studies have shown that while in-cabin particle size distributions follow the general shape of those on-roads, the ability of on-road particles to reach the cabin is dependent on particle size and ventilation settings (Zhu et al., 2007). Particle penetration is discussed in section 5.6.

5.5. Filtration

Where a vehicle is fitted with a cabin air filter, its efficiency is a key determinant of what proportion of on-road UFPs reach the cabin, and efficiency varies substantially amongst the filters available. Standard automobile cabin filters afford single-pass UFP reductions of between approximately 30 and 60% (Pui et al., 2008; Qi et al., 2008), while this can increased by employing more advanced filtration technologies (Burtscher et al., 2008). It should be noted that filtration efficiency is affected by the ventilation rate; as filter face velocity increases with mechanical or natural ventilation rates, filtration efficiency decreases due to the reduced time available for particle diffusion inside the filter (Pui et al., 2008; Qi et al., 2008). When air is recirculated in an automobile, Qi et al. (2008) found that UFP concentrations decayed most rapidly in a vehicle capable of filtering recirculated air (single pass efficiency = 46%) than in a vehicle lacking this feature, where UFP removal efficiency without a filter was 27% per recirculation of cabin air. In the former and latter cases, on-road UFP concentrations were reduced to those typical of an office building (4000 particles cm^{-3}) in 3 min and 9–10 min, respectively, indicating the value of recirculation as a simple exposure minimisation mechanism. However, some older, less-airtight vehicles are characterised by outdoor air exchange rates up to 47 h^{-1} when air is recirculated (Knibbs et al., 2009a), and the benefit of recirculation in such cases can be substantially diminished (Knibbs et al., 2010).

5.6. UFP penetration and deposition

The penetration of UFPs through automobile envelopes is dependent on their size, the number and geometry of cracks, and the pressure difference across these and other ingress pathways (Xu et al., 2010). A recent study reported that penetration efficiency close to 100% was observed for diesel exhaust particles between 100 and 287 nm, and declined to ~70% for 10 nm particles due to diffusion; although penetration of 10 nm particles increased to ~90% when pressure differentials reached 200 Pa (Xu et al., 2010). No difference was observed in penetration efficiency amongst different materials.

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Given the high surface to volume ratios of many automobile cabins, deposition can be an important UFP removal mechanism, especially under low ventilation conditions (Gong et al., 2009). Gong et al. (2009) found in-cabin deposition rates in automobiles exceed those of indoor environments by a factor of 3–20.

Studies describing UFP filtration, penetration and deposition in bus and rail modes are scarce and the limited data to-date is strongly skewed towards automobiles. Future studies addressing this knowledge gap will be of considerable value.

5.7. Fuel type and presence of an emission control device

5.7.1. Automobile

The effect of fuel type on UFP concentration in automobiles was assessed by Zuurbier et al. (2010), who found no significant difference in mean levels in diesel and gasoline-powered vehicles (diesel:gasoline concentration ratio = 0.96) based on 14 simultaneous trips under a standard ventilation setting. Their study focussed only on newer vehicles (<6 months) and its relevance to the wider passenger vehicle fleet is unknown. Additionally, it is difficult to separate the effects of fuel type from those due to differences in ventilation under a standard setting between vehicles of different manufacturer (e.g. Knibbs et al., 2009a). Further studies involving test vehicle groups more representative of the heterogeneity present in wider vehicle fleets are required.

5.7.2. Bus

Due to their frequency of door opening and the 'stop-start' nature in which they travel, buses have a tendency to self-pollute (Behrentz et al., 2004; Hill et al., 2005; Rim et al., 2008; Liu et al., 2010; Zhang and Zhu, 2010; Zuurbier et al., 2010). Accordingly, the variables most frequently reported by UFP exposure studies were fuel type and the presence of an exhaust or crankcase emission control device. We therefore disaggregated bus trips into 8 categories: diesel, biodiesel, compressed natural gas (CNG), electric, diesel with oxidation catalyst (DOC), diesel with diesel particulate filter (DPF), diesel with crankcase filtration system (CFS), and diesel with combined control (i.e. any combination of two or more of DOC, DPF, CFS and ultra low sulphur diesel). About 70% of trips were performed in diesel buses, with the remainder approximately evenly distributed across the other categories. Five percent of bus trips (26/505) were excluded due to lack of detailed data on fuel type or control device.

Fig. 2 shows the trip-weighted mean UFP concentrations for each category. The lowest mean (1.7×10^4 particles cm^{-3}; $SD = 0.8 \times 10^4$) was recorded in CNG-powered buses, and the highest (4.9×10^4 particles cm^{-3}; $SD = 2.6 \times 10^4$) was measured in diesel buses fitted with a CFS, although the latter result was based on a very limited number of trips (13). A similar mean was recorded in diesel buses with no control device (4.8×10^4 particles cm^{-3}; $SD = 3.2 \times 10^4$). Means and standard deviations calculated for the biodiesel, combined control, DPF, DOC and electric categories were 1.7 (–), 2.0 (1.8), 2.4 (0.9), 2.8 (2.0) and 2.9 (0.8) $\times 10^4$ particles cm^{-3}, respectively. With the exception of the electric bus category, lowest concentrations were measured in buses powered by alternative fuels. Concentrations inside diesel-powered buses were generally lower when fitted with an emission control device.

Differentiating the effects of self-pollution from those of other factors on in-bus UFP concentrations is challenging. Previous work has shown that self-pollution can be the dominant source of vehicle emissions in the cabin when windows are closed, and constituted 0.01 to 0.3% of air in the cabins of 1975 through 2002 model school buses (Behrentz et al., 2004). Liu et al. (2010) found that self-pollution contributed an overall average of 1.8×10^4 particles cm^{-3} in two school buses (2000 and 2003 model); the average

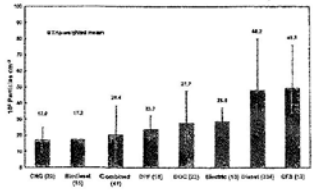

Fig. 2. Trip-weighted mean UFP concentrations measured in buses of different fuel type and emission control device. The number of trips taken in each category is shown in brackets. Error bars denote the trip-weighted standard deviation. See text for abbreviations.

contribution when windows were closed (1.0×10^4 particles cm^{-3}) was less than that when they were open (2.6×10^4 particles cm^{-3}). However, this trend was not in keeping with their results for other measured pollutants, and was attributed to UFP fluctuations due to unidentified non-vehicle sources on the low-traffic routes they studied. Generally, if on-road concentrations are low relative to those in-cabin, open windows will dilute self-pollution (Liu et al., 2010). The reverse can exacerbate its effects.

The relatively small number of trips taken in most categories we analysed and the lack of specific information regarding other possible determinants limits the conclusions that can be drawn, and precluded detailed statistical analyses. However, the results generally suggest that UFP concentrations are greatest in diesel-powered buses, and that reductions may be possible through use of alternative fuels or emission control devices, with best results achieved for diesel buses when two or more of the latter are combined.

5.7.3. Rail

In most rail studies we identified, trips were undertaken in vehicles driven by electricity. About 29% of trips were taken in diesel-powered trains, and the weighted mean UFP concentration during these was 9.0×10^4 particles cm^{-3}. The mean during travel in electric-powered vehicles was 3.0×10^4 particles cm^{-3}. Based on the limited data available, the power source of the rail vehicle therefore appears to markedly affect UFP exposure concentrations. Moreover, in diesel trains, the position of the locomotive relative to the passenger compartments can affect UFP concentrations: when a locomotive was located in front of passenger cabins, its emission plume can reach the cabin ventilation system intake Hill and Gooch, 2007.

There was insufficient data to investigate the effect of underground and above ground travel on UFP concentrations. Whilst there are numerous mechanical processes that can generate and resuspend particulate matter in electric-powered subway/metro systems, these are more likely to elevate levels of particle mass rather than UFP number count (Nieuwenhuijsen et al., 2007). The limited number of studies reporting UFP measurements on underground platforms tend to support this (Aarnio et al., 2005; Seaton et al., 2005; Raut et al., 2009; Cheng et al., 2009; Nystrom et al., 2010).

6. Correlation with other air pollutants

Several in-transit studies measured UFPs and other pollutants simultaneously. A summary of these is provided in Table S8 in the

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Supplementary Information file. The correlation between UFP and $PM_{2.5}$ concentrations is generally reported to be positive, weak and not statistically significant, although stronger associations have been observed; correlation coefficients range from −0.07 to 0.69 (Aarnio et al., 2005; Kaur et al., 2005a,b; Seaton et al., 2005; McCreanor et al., 2007; Zhu et al., 2008; Berghmans et al., 2009; Boogaard et al., 2009; Knibbs and de Dear, 2010; Laumbach et al., 2010). Although correlation in the rail mode is moderate and relatively consistent across studies, in general there is no clear relationship between the strength of correlation and transport mode. The results are likely to be somewhat location-dependent, in keeping with those for outdoor environments, and the generally poor correlation reflects differences in the sources of particle number and mass and temporal scales involved in their dynamics (Morawska et al., 2008).

Black carbon (BC) and elemental carbon (EC) are often well-correlated with UFP concentrations in urban air, given their shared provenance in vehicle emissions and the large extent to which EC and EC contribute to UFP chemical composition (Morawska et al., 2008). On-road and subway platform studies have shown very good correlation between UFPs and BC; 0.88 and 0.84, respectively (Aarnio et al., 2005; Westerdahl et al., 2005). Correlations were relatively weak in automobile and bus studies (mean = 0.1–0.2), although in-bus relationships were strongly dependent on window position, and mean correlation improved (mean = 0.62) when windows were kept open, which the authors ascribed to self-pollution under the closed window setting (Zhu et al., 2008; Zhang and Zhu, 2010). Very good correlations between UFPs and EC (0.70 and 0.84) have been reported in walking studies (Kaur et al., 2005a; McCreanor et al., 2007).

The correlation between UFP concentrations and those of NO_x vary extensively from −0.33 to 0.90, and no clear relationship with transport mode is apparent (Westerdahl et al., 2005; McCreanor et al., 2007; Zhu et al., 2008; Laumbach et al., 2010). The relationship with CO concentrations is similarly variable; −0.16 to 0.70 (Kaur et al., 2005a,b; Westerdahl et al., 2005; McCreanor et al., 2007; Zhu et al., 2008; Laumbach et al., 2010). The specifics of the measurement location in terms of local emission sources are likely to explain the observed variation, and it is important to consider that in-transit measurements of particle and gaseous pollutants may exhibit poor temporal correlation due to the varying emission strength of proximate vehicles (Morawska et al., 2008; Zhu et al., 2008).

In summary, the relationship between in-transit UFP concentrations and those of other pollutants is generally inconsistent. Mode, location and environmental factors may all contribute to the observed variability, and the results gathered here from the limited pool of available studies require further validation in order to develop a more complete understanding of the associations. Currently, there is no data to support prediction of UFP concentrations from those of other pollutants, and such an approach is likely to be insufficient.

7. Relationship with fixed site monitors

Since the 1970s (Ott and Eliassen, 1973; Cortese and Spengler, 1976), numerous studies have investigated the ability of fixed site pollutant monitoring stations to estimate personal and commuter exposure. Generally, the ability of fixed site monitors to represent the substantial spatial and temporal variability of in-transit exposures has been sub-optimal, and carries with it numerous attendant limitations, the most important of which is underestimation of exposure (Kaur et al., 2007). UFPs are not a regulated pollutant, and are therefore not routinely monitored outside of research studies. Some investigators have assessed the association between fixed site UFP concentrations and those measured concurrently in-transit.

Aarnio et al. (2005) reported good correlation ($R^2 = 0.59$) between UFP concentrations in subway stations and those measured at an urban background site, while Seaton et al. (2005) found that the ratio of UFP concentrations measured on London Underground platforms to those above ground ranged from 0.38 to 0.68. These results are likely to reflect the absence of strong local UFP sources in subways (Aarnio et al., 2005). For above ground transport microenvironments, however, this is unlikely to be the case. Vinzents et al. (2005) reported a moderate correlation ($r = 0.49$) between UFP measurements performed at a fixed roadside location and those measured while cycling, but found that the only significant variables in a linear mixed effects model to predict cyclist exposure were temperature and concentrations of CO ($R^2 = 0.60$) and NO_2 ($R^2 = 0.74$) measured at urban background and roadside stations, respectively. Asmi et al. (2009) found that the ratio of UFP concentration in the driver's cabin of buses to that measured at an urban background site varied from 1.2 to 6.9 and was dependent on the age of the bus, time of day and route. Zuurbier et al. (2010) systematically evaluated the relationship between bus, car and bicycle UFP exposures and urban background concentrations in Arnhem, the Netherlands. They reported median mode to background ratios of 1.6 (diesel car, electric bus) to 2.5 (diesel bus) and correlations between 0.01 (diesel bus) and 0.87 (bicycle on low-traffic route).

The limited data available to-date indicates that fixed-site monitors may offer some ability to estimate UFP exposure of commuters in areas less affected by vehicle emissions, such as those using subways or low-traffic bike paths. However, depending on location, such persons are likely to constitute only a minor proportion of the commuting population. In the absence of widespread UFP monitoring networks, the utility of routinely monitored particle and gaseous pollutants or individual UFP monitors to represent in-transit UFP exposure appears significantly constrained (Krausse and Mardaljevic, 2005; Vinzents et al., 2005).

8. Health effects of in-transit UFP exposure

Studies of health effects due to commuter UFP exposure are summarised in Table S9 in the Supplementary Information file.

8.1. Healthy individuals

Nystrom et al. (2010) showed that while a cellular response in the airway epithelium was not elicited, minor biological responses such as increased systemic markers of inflammation and signs of lower airway irritation were observed in 20 healthy individuals exposed to subway air (mean UFP concentration 1.1×10^4 particles cm^{-3}) for 2 h while alternating between exercising on a bicycle ergometer and resting. However, road tunnel air (median UFP concentration 1.1×10^5 particles cm^{-3}) elicited an inflammatory response in the lower airways and elevated levels of T-lymphocytes and alveolar macrophages in brochoalveolar lavages from 16 healthy individuals who followed the same protocol (Larsson et al., 2007). The particle mass concentrations that subjects were exposed to in the two above studies were similar, while UFP and NO_x concentrations were an order of magnitude higher in the road tunnel study than in the subway study due to the presence of proximate vehicle emissions. Although it is not possible to ascribe the disparity in the results of the two studies to differences in UFP concentration alone, the results are suggestive of a causative role for UFP and NO_x in airway inflammation observed following exposure to vehicle emissions.

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Thirty-eight healthy volunteers who cycled parallel to a major traffic corridor for 20 min (mean UFP concentration 2.9×10^4 particles cm^{-3}) experienced a minor increase in blood inflammatory cell distribution compared to cycling in a clean air environment, although the role of UFPs as distinct from $PM_{2.5}$ was not clear (Jacobs et al., 2010). UFP and EC exposure in 12 healthy non-smoking individuals cycling in traffic (mean UFP concentration 2.8 to 4.1×10^4 particles cm^{-3}) for 1 h was weakly associated with acute effects; decreased lung function and increased exhaled NO (as a marker of airway inflammation) were observed 6 h post-exposure (Strak et al., 2010). Oxidative DNA damage observed in 15 healthy subjects was positively correlated with cumulative UFP exposure, to which 1.5 h of cycling during rush hours (mean UFP concentration 3.2×10^4 particles cm^3) contributed substantially and resulted in greater damage compared to indoor cycling on an ergometer (Vinzents et al., 2005). Concentrations of other pollutants (PM_{10}, NO_x, CO) measured at fixed-sites were not associated with oxidative DNA damage.

UFP exposure resulted in modest effects among 34 healthy subjects that commuted by automobile, bus or bicycle for 2 h (median UFP concentration 2.7 to 4.4×10^4 particles cm^{-3}); peak expiratory flow decreased slightly and airway resistance increased immediately following exposure, and a significant increase in exhaled NO was observed 6 h post-exposure for automobile and bus commuters, but not cyclists (Zuurbier et al., 2011).

As the respiratory minute ventilation of cyclists is 2–4.5 times that of automobile and bus passengers (Zuurbier et al., 2009; Int Panis et al., 2010), the potential dose of inhaled UFPs received during active transport may be significantly higher than that in non-active modes, and recent health effects studies have already begun to adopt a more dose-oriented approach to reflect this (Zuurbier et al., 2011).

8.2. Health-compromised individuals

8.2.1. Asthmatics

Asthma exacerbations can be triggered due to oxidative stress and inflammation caused by UFPs in the lungs of susceptible individuals (Weichenthal et al., 2007). Reductions in lung function and increased daily symptoms in asthmatics and COPD patients attributable to elevated UFP concentrations have been observed in epidemiologic studies, with more immediate effects seen first in the respiratory system, and a delayed response of cardiovascular effects (Wichmann and Peters, 2000; Ibald-Mulli et al., 2002).

Consistent asymptomatic reductions in lung function (FEV_1, FVC) and increases in both inflammatory biomarkers and airway acidification were observed in 60 persons with mild or moderate asthma who walked for 2 h along a busy London street affected by diesel exhaust (median UFP concentration 6.4×10^4 particles cm^{-3}) (McCreanor et al., 2007). The effects were more frequently associated with UFP and EC concentrations than those of $PM_{2.5}$ and NO_2. Significantly reduced respiratory effects were observed when subjects walked along a route less affected by traffic emissions (median UFP concentration 1.8×10^4 particles cm^{-3}).

Fourteen mild asthmatics exposed to road tunnel air (median UFP concentration 2.3×10^5 particles cm^{-3}) for 2 h while alternating between exercising on a bicycle ergometer and resting experienced no changes in bronchial responsiveness and most lung function parameters, although peak expiratory flow decreased, and minor indications of inflammation were measured in nasal lavages, but not blood samples (Larsson et al., 2010).

8.2.2. Diabetics

Exposure to pollutants (median UFP concentration 4.3×10^4 particles cm^{-3}) during 1.5–1.8 h automobile highway trips made by 21 type 2 diabetics was shown to elicit a decrease in high-frequency heart rate variability the day after exposure, which was more associated with the interquartile range of UFP concentration compared to those of $PM_{2.5}$, NO_2 and CO, albeit not significantly (Laumbach et al., 2010). An increased low frequency to high frequency heart-rate variability ratio was observed immediately post-exposure that was not consistent with other observations, although confounding effects not present in the aforementioned finding may have influenced this result.

8.2.3. Elderly persons

Nineteen elderly subjects that were exposed to unfiltered and filtered air during 2 h automobile trips on Los Angeles freeways (mean unfiltered UFP concentration 0.78 to 1.1×10^5 particles cm^{-3}) experienced a 20% decrease in the incidence of atrial ectopic heartbeats and 30% decrease in cardiopulmonary stress biomarkers under the filtered compared to the unfiltered condition (Cascio et al., 2009; Hinds, 2010). Other measured parameters (lung function, indicators of inflammation, blood pressure) did not vary significantly between the two conditions. The observed atrial arrhythmia was ascribed to increased intra-atrial pressure, and was associated with UFP concentrations rather than gases or particle mass (Cascio et al., 2009; Hinds et al., 2010). The significance of such events is related to their role in causing more sustained arrhythmias.

8.3. Summary

Commute-time exposure to traffic and attendant pollutant emissions, noise and stress has been associated with increased risk of serious adverse health effects such as myocardial infarction (Peters et al., 2004). The specific role of UFPs as a causative agent of such effects is not clear, and the findings of the limited number of health effects studies addressing commuter exposure to vehicle emissions are mixed. However, some initial trends are emerging. While it is inherently difficult to separate the effects of UFPs from those other pollutants within the real-world exposure scenarios employed by the studies described above, the observed health effects were generally associated most strongly with UFP concentrations. Furthermore, the use of filtered air exposure scenarios in the Los Angeles freeway study (Cascio et al., 2009; Hinds, 2010) reduced particle concentration by >95% compared to the unfiltered condition but did not affect the level of gaseous pollutants, yet there was a marked difference in the cardiac effects observed between the two scenarios. The effects observed by McCreanor et al. (2007) were greater in those with moderate compared to mild asthma, and the degree to which this is true of other susceptible groups (i.e. increasing effects with increasing disease severity) is unclear. The 10 commuter health effects studies performed to-date have yielded valuable information; however, it is clear that further studies are required in order to better elucidate the role of UFPs.

9. Modelling exposure

9.1. Approaches employed to-date

The ability to accurately model in-transit UFP exposure concentrations has numerous attractive applications in urban planning, transport and policy development. The majority of published studies that developed models employed a multivariate regression approach that incorporated meteorologic, traffic or other pollutants as independent variables (Krausse and Mardaljevic, 2005; Vinzents et al., 2005; Weichenthal et al., 2008; Boogaard et al., 2009; Kaur and Nieuwenhuijsen, 2009). Given the potential for variability in the strength of associations between the independent variables and measured UFP concentrations discussed in sections 5, the external validity of these models is unknown. However, the models were of the explanatory type, and were developed in order to assess the effect of various parameters on UFP concentration measured in a specific location. Their ability to predict exposure concentrations varied from fair ($R^2 = 0.35$) to very good ($R^2 = 0.74$). The influence of mode-dependent parameters like ventilation were either included in a qualitative sense (e.g. ventilation setting or window position) or not included at all. This limitation was raised by both Briggs et al. (2008) and Weichenthal et al. (2008).

Several recent studies (Fui et al., 2008; Xu and Zhu, 2009; Knibbs et al., 2010) have sought to overcome the limitations described above by adopting a more mechanistic, mass-balance modelling approach for automobiles. This has been based on measurements of the effects of cabin ventilation, filtration, particle penetration or deposition on in-cabin concentrations (Qi et al., 2008; Gong et al., 2009; Knibbs et al., 2008a; Xu et al., 2010). These studies have generally shown very good results when validated with experimental data. The main limitation of such approaches is that they require the input of an initial on-road or in-cabin UFP concentration. Therefore, there is a clear need to couple models capable of predicting outdoor or on-road concentrations with those focussed on predicting what proportion of these concentrations reach occupants, and how particle dynamics will affect concentrations through time. Moreover, further refinement of models for predicting exposure in active transport modes will be of significant utility. In summary, there is both substantial need and scope for development of models capable of accurate prediction of UFP exposure concentrations in-transit.

9.2. Spatial and temporal aspects of exposure

Efforts to improve understanding of the spatial and temporal nature of UFP exposures during transit have benefited greatly from the use of Global Positioning Systems (GPS) and Geographic Information Systems (GIS), usually at the measurement and analytical stages, respectively. Gulliver and Briggs (2005) described the development and use of a GIS-based model for predicting exposure to PM_{10} (particles < 10 μm) during transit, however, the application of spatial technologies to UFPs has to-date been limited to a handful of in-transit studies (Hvidberg, 2006; Thai et al., 2008; Berghmans et al., 2009; Boogaard et al., 2009; Pattinson, 2009; Int Panis et al., 2010). Synchronised video recordings have been included in some studies (Kaur et al. 2006; Berghmans et al., 2009), which affords an additional perspective from which analyses can be performed.

Given the good level of spatial data quality obtainable from even the more basic mobile telephones at present, the integration of such data into exposure studies will assist data interpretation and help to form a more complete and accurate assessment of pollutant exposure and dose for large study populations (Jerrett, 2010). The appropriateness and capability of mobile telephones to record spatial data and photographs during commuting has already been established by Pooley et al. (2010), and Pattinson (2009) collected such data in addition to UFP measurements when commuting by bicycle.

Land use regression (LUR) is an application of GIS that is gaining momentum as a tool with which to predict exposure to a variety of pollutants (see Hoek et al., 2008). The utility of LUR techniques to predict UFP concentrations and spatial variability is not well-established due to absence of extensive UFP monitoring networks; other (mainly gaseous) pollutants have been the focus of most work performed to-date. However, a recent study has reported reasonable performance of LUR when applied to UFP concentrations in Amsterdam, and comparable predictive utility was observed between the LUR model for UFPs and those for other pollutants (Hoek et al., 2011). LUR is an emerging technology that will increasingly find applications in prediction of personal exposure to a range of pollutants, albeit with an attendant need for validation based on measurements (Hoek et al., 2008). This highlights the need for high-quality databases of concomitant in-transit UFP and spatial measurements.

10. Further research needs

10.1. In-transit contribution to daily exposure

The significance of in-transit UFP exposure is highly dependent on personal, demographic and occupational context. UFP concentrations encountered on the commute to and from work will exert much greater influence on the total daily exposure of a non-smoking office worker than a smoker or someone who experiences high occupational exposure. Likewise, the health effects of the same exposure on an adult and child are likely to vary. Without better understanding of the characteristics of 24 h UFP exposure for numerous demographic groups, knowledge of in-transit exposure alone is of reduced utility. However, it is useful to be able to determine, for a given location, the transport mode in which highest concentrations occur and the factors that determine this. Such information has numerous valuable planning and policy applications.

A handful of studies have estimated the influence of measured in-automobile UFP concentrations on total exposure. Two were based on Los Angeles residents (Zhu et al., 2007; Fruin et al., 2008), and their estimates ranged from 10 to 50% and 33 to 45%, respectively. Wallace and Ott (2011) measured UFP concentrations in a wide range of microenvironments in two US cities and estimated the in-automobile contribution to total exposure to be 17%, which they attributed to the relatively low density of traffic and diesel trucks on the roadways they measured compared to LA. In all cases, the time spent in automobiles was assumed to be about 90 min per day. The applicability of the estimates reached by these studies to other regions is unknown, but they have established a range within which automobile commutes in urban areas may be expected to contribute to daily UFP exposure. These estimates have flagged this topic as one requiring further investigation, preferably including several transport modes.

It is important to consider the distinction between UFP concentration and exposure (Krausse and Mardaljevic, 2005). A high concentration experienced for a brief duration can result in a lower exposure than a low concentration for a longer period. This underscores the need for both accurate time-activity pattern data across broad demographic groups and representative UFP measurements within the various microenvironments in which time is spent. Until more expansive UFP exposure studies that follow large groups of people of varying time-activity patterns are completed, the ability to discern the range of commute-time's specific contribution to total exposure is constrained.

10.2. High exposure professions

The magnitude of UFP exposures incurred by people whose occupation requires them to spend extended period in-transit is poorly understood. Professional drivers, bicycle couriers, police officers and other groups whose work day is constituted by long periods in transport microenvironments may all be at risk of substantially elevated exposure compared to the general population. Riediker et al. (2004) reported the negative health effects of

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in-vehicle $PM_{2.5}$ exposure on young and healthy police officers during 9 h shifts in patrol cars. Similar studies focussed towards UFPs are required.

10.3. Exposure-health effects link

Various acute human health effects caused by UFP exposures have been investigated in controlled exposure studies using a range of subject groups. However, their relevance to in-transit exposures is unclear. There have been precious few studies that measured the effects of in-transit exposures on health end points, and these were described in section 8. There is a significant need for further studies in this area, as they will serve to bolster the link between exposure and health effects, and this will have implications across policy, planning and public health arenas (de Nazelle and Nieuwenhuijsen, 2010). Furthermore, given the substantial variability in minute ventilation between occupants of different modes (Zuurbier et al., 2009; Int Panis et al., 2010), the transition from an exposure to dose-oriented approach is likely to yield data of greater relevance to studies of health effects.

10.4. Data from the developing world

A striking feature of the English language literature we searched is the almost complete absence of studies performed in developing regions; with the exception of only the cycling study performed in Bogota, Columbia by Fanara (2003) and cited by Kaur et al. (2007), no other studies from developing countries were identified. This shortcoming is compounded by the generally poor air quality experienced in these regions (Han and Naeher, 2006) and their large populations and urban density. The effect of this combination of factors is that very high UFP exposures are likely to occur for large numbers of people, but the magnitude of such exposures is unknown. Studies of commuter exposure to particulate mass (RSP, PM_{10}) performed in Delhi and Hanoi have reported exceptionally high concentrations (Saksena et al., 2007, 2008). Moreover, in addition to walking, the most popular modes of transport, such as bicycles, scooters, motorcycles and 3-wheelers (tuk-tuks, auto-rickshaw etc), are unlikely to afford significant protection from the emissions of proximate traffic, which can include a substantial proportion of high emitting two-stroke vehicles. There is a clear need to redress the scarcity of research in this area.

10.5. Other needs

Major needs in future in-transit UFP exposure studies have been outlined above, and numerous other aspects requiring additional research have been suggested throughout this review. Further investigation of the variability inherent in the determinants of exposure discussed in section 5 is required to permit better appreciation of their effects. There is also an obvious need for improved modelling techniques, incorporating GIS, and for further comprehensive assessments of the health risk-benefit balance for active transport modes (de Nazelle et al., 2009; de Hartog et al., 2010).

11. Conclusions

In our analysis of 47 studies comprising approximately 3000 trips undertaken in 6 transport modes, we found that highest trip-weighted mean concentration occurred in automobile cabins during tunnel travel (3.0×10^5 particles cm^{-3}), and the lowest whilst cycling (3.4×10^4 particles cm^{-3}). Mean concentrations in bus, automobile (non-tunnel travel), rail, and walk modes were generally comparable. However, UFP exposure (and dose) during time spent in-transit is strongly dependent on a range of mode-specific and more general determinants, including, but not limited to, the effects of: meteorology, traffic parameters, cabin ventilation, filtration, deposition, UFP penetration, fuel type, exhaust treatment technologies, respiratory minute ventilation, route and microscale phenomena. Therefore, direct comparison of concentrations measured in different modes highlights general trends, but should not be extrapolated without detailed consideration of the above factors. Characterising the variability in the effects of these determinants will be an important aspect of future work.

There is preliminary evidence to suggest that time spent in-transit can contribute substantially to total daily exposure, and future studies require comprehensive assessment of 24 h UFP exposures across a broad demographic spectrum. Moreover, the range and variability of acute health effect associated with in-transit exposures are not well understood, and further studies are required to supplement the findings of the limited number performed to-date.

Transport is a ubiquitous component of life, and initial evidence suggests that UFP exposures incurred during this time can contribute substantially to daily exposure and be associated with adverse health effects in susceptible and healthy persons. Further research to better define this link is therefore well-justified, and will be of considerable benefit to urban planning, policy development and public health.

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Appendix. Supplementary information

Supplementary data associated with this article can be found in the online version, at doi:10.1016/j.atmosenv.2011.02.065.

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Study of ultrafine particles near a major highway with heavy-duty diesel traffic

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Abstract

Motor vehicle emissions usually constitute the most significant source of ultrafine particles (diameter <0.1 μm) in an urban environment. Zhu et al. (J. Air Waste Manage. Assoc., 2002, accepted for publication) conducted systematic measurements of the concentration and size distribution of ultrafine particles in the vicinity of a highway dominated by gasoline vehicle. The present study compares these previous measurements with those made on Interstate 710 freeway in Los Angeles. The 710 freeway was selected because more than 25% of the vehicles are heavy-duty diesel trucks. Particle number concentration and size distribution in the size range from 6 to 220 nm were measured by a condensation particle counter and a scanning mobility particle sizer, respectively. Measurements were taken at 17, 20, 30, 90, 150, and 300 m downwind and 200 m upwind from the center of the freeway. At each sampling location, concentrations of carbon monoxide (CO) and black carbon (BC) were also measured by a Datibi CO monitor and an Aethalometer, respectively. The range of average concentration of CO, BC and total particle number concentration at 17 m was 1.9–2.6 ppm, 20.3–24.8 μg/m^3, 1.8×10^5–3.5×10^5/cm^3, respectively. Relative concentration of CO, BC and particle number decreased exponentially and tracked each other well as one moves away from the freeway. Both atmospheric dispersion and coagulation appears to contribute to the rapid decrease in particle number concentration and change in particle size distribution with increasing distance from the freeway. Average traffic flow during the sampling periods was 12,180 vehicles/h with more than 25% of vehicles being heavy-duty diesel trucks. Ultrafine particle number concentration measured at 300 m downwind from the freeway was indistinguishable from upwind background concentration. These data may be used to estimate exposure to ultrafine particles in the vicinity of major highways.

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1. Introduction

Epidemiological data from air pollution studies have shown a consistent relationship between increases in particulate matter (PM) exposure and contemporary increases in mortality and morbidity (Schwartz, 1991; Dockery et al., 1993; Pope et al., 1995; Vedal, 1997). However, the underlying biological causes of the health effects of PM exposure and the correct measurement metric are unclear. For example, it is not clear whether the mass concentration (Osunsanya et al., 2001) or the number concentration (Peters et al., 1997; Penttinen et al., 2001) is most important in causing these adverse

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PM health effects. Currently, there are several hypotheses used to explain the association of PM and observed adverse health effect. One argues that particle surface contaminants, such as transition metals, contribute towards ill health (Fubini et al., 1995; Gilmour et al., 1996), wherein the ultrafine particles are thought to act as vehicles for those contaminants, initiating local lung damage when the particles deposit on the epithelial surfaces. Another hypothesis is that the physical characteristics (e.g. number, size, shape, aggregation properties) are important in producing health effects (Bérubé et al., 1999). Particle shape and size are critical factor controlling where the inhaled particles deposit in the various regions of human respiratory system by the complex action of aerosol deposition mechanisms (Hinds, 1999).

Recent toxicological studies have concluded that ultrafine particles (diameter <100 nm) are more toxic than larger particles with the same chemical composition and at the same mass concentration (Ferin et al., 1990; Oberdörster, 1996, 2001; Donaldson et al., 1998, 2001; Churg et al., 1999; Brown et al., 2000). Currently, however, only the mass concentration of PM <10 μm in aerodynamic diameter (PM_{10}) and <2.5 μm ($PM_{2.5}$) are regulated. Information about ultrafine particles is usually not available. In fact, even though ultrafine particles represent over 80% of particles in terms of number concentration in an urban environment (Morawska et al., 1998a, b), the less numerous but much heavier particles of the accumulation (0.1–2 μm) and coarse (2.5–10 μm) modes dominate mass concentration measurements. Thus, number concentration, together with the size distribution of ultrafine particles, is needed to better assess ambient air quality and its potential health effects.

Emission inventories suggest that motor vehicles are the primary direct emission sources of fine and ultrafine particles to the atmosphere in urban areas (Schauer et al., 1996; Shi et al., 1999; Hitchins et al., 2000). Although traffic-related air pollution in urban environments has been of increasing concern, most studies have focused on gaseous pollutants, total mass concentration, or chemical composition of particulate pollutants (Kuhler et al., 1994; Clairborn et al., 1995; Williams and McCrae, 1995; Janssen et al., 1997; Roorda-Knape et al., 1998a, b; Wrobel et al., 2000). Booker (1997) found that particle number concentration was strongly correlated with vehicle traffic while PM_{10} was essentially uncorrelated with traffic. Since the majority of particle number from vehicle exhaust are in the size range 20–130 nm for diesel engines (Morawska et al., 1998a, b) and 20–60 nm for gasoline engines (Ristovski et al., 1998), it is important and necessary to quantify ultrafine particle emission levels, and to determine ultrafine particle behavior after emission as they are transported away from the emission source—busy roads and freeways.

Morawska et al. (1999) measured the horizontal and vertical profiles of submicrometer particulates (16–626 nm) near a major arterial route in the urban area of Brisbane, Australia. They found, with the exception of measurements in close proximity to the road (about 15 m), that the horizontal ground-level profile measurements did not show statistically significant differences in fine particle number concentration for up to 200 m distances away from the road. Hitchins et al. (2000) examined the particle size distribution and concentration in the size range from 15 nm to 20 μm at distances from a road ranging from 15 to 375 m at two sites in Australia. They conducted measurements under different wind conditions and found that when the wind is blowing directly from the road, the concentration of the fine and ultrafine particles decayed to about half of their maximum at a distance of 100–150 m from the road. Shi et al. (1999) measured ultrafine particle number concentrations and size distributions at a busy roadside and at nearby urban background sites in Birmingham, United Kingdom. They observed a faster decline of particle number concentration than mass concentration. In a recent study, Shi et al. (2001) reported that the fraction of particles <10 nm represents more than about 40% of the total particle number concentrations at 4 and 25 m from the roadside curb.

While there have been recent studies of ultrafine particles from traffic in other countries, except for Zhu et al. (2002), no comparable work has been done in the Los Angeles basin, a home to more than 15 million individuals and 10 million vehicles contributing to daily traffic. Previous studies have shown that meteorological conditions may affect substantially the characteristics of PM emitted from vehicles. Kittelson et al. (2001) found in their on-road PM measurements that the concentration of particles in the nuclei mode increases by nearly a factor of 10 as the (air) temperature is reduced from 25°C to 15°C. This observation suggests that there could be significant differences in the tendency to form semi-volatile nanoparticles between, for example, northern Europe and Southern California.

Zhu et al. (2002) conducted a systematic ultrafine particle study near one of the busiest freeways in the Los Angeles basin, Interstate 405. Traffic on that freeway was dominated by gasoline-powered cars and light trucks, with <5% of vehicles being heavy-duty diesel trucks. In the US, spark ignition vehicles usually account for most of the vehicles operating on highways. However, since diesel vehicles emit more PM on a fleet averaged, gram-per-vehicle mile mass basis (Kittelson et al., 2001), and that diesel engine exhaust has been proposed as carcinogen in animals and probably carcinogenic for humans (IARC, 1989), it is necessary and timely to conduct a comprehensive study of ultrafine particles in the vicinity of a diesel vehicle dominated freeway. Thus, the aim of the present paper is

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to systematically evaluate ultrafine particles in the vicinity of the 710 freeway in the Los Angeles basin, a freeway where more than 25% of vehicles are heavy-duty diesel trucks. Particle number concentration and size distribution in the size range from 6 to 220 nm are measured along with CO and black carbon (BC) as a function of distances upwind and downwind the 710 freeway. The results from the current study are compared to those by Zhu et al. (2002) which were obtained near the 405 freeway.

2. Experimental

2.1. Description of sampling site

This study was conducted in the City of Downey along Southern Avenue between 30 August and 27 October 2001. The location was chosen for its proximity to the freeway and the lack of other nearby ultrafine particle emission sources. Southern Avenue is located perpendicular to Interstate 710 Freeway and Garfield Avenue near the Los Amigos Country Club. Freeway 710 runs generally north and south near the sampling site and parallels the Los Angeles River.

This location is ideal for this study for several reasons. First, there are no other major roadways near the sampling sites along Southern Avenue. Second, businesses along Southern Avenue generally have large open land areas with little activities during the day. Thus, there is minimal local traffic influence at the sampling locations. Third, the freeway is at the same elevation as Southern Avenue. The only separation between the freeway and Southern Avenue is a metal chain link fence along the freeway. This allowed measurements as close as 3 m from the edge of the freeway. Fourth, a nearby residential area approximately 200 m upwind from the freeway was easily accessible for sampling.

During the sampling period, a fairly consistent eastward wind developed each day starting at approximately 11:00 AM. This wind carried the freeway vehicular emissions directly to the sampling location. The 710 freeway has eight lanes, four north bound and four south bound. It is approximately 26 m wide including a 1-m-wide median strip. Measurement site locations for this study were designated by their distance from the center of the median strip. Thus, the distance from each sampling location to the nearest traffic lane is 13 m less than the indicated distance.

Freeway 710 is a major truck route in Southern California with a large percent of the traffic consisting of heavy-duty diesel trucks. During the sampling period, traffic density ranged from 180 to 230 vehicles/min passing the sampling site, total for both directions, with approximately 25% of the vehicles being heavy diesel trucks.

2.2. Sampling and instrumentation

Wind speed and direction were measured at a fixed site 6 m above the ground level 20 m downwind of 710 freeway, which also served as a particle number concentration control site. Wind data were averaged over 1 min intervals and logged into a computerized weather station (Wizard III, Weather Systems Company, San Jose, CA). Throughout each measurement period, the traffic strength on the freeway, defined as number of vehicles passing per minute, was continuously monitored by a video recorder (camcorder), which captures all eight lanes of the freeway. After each sampling session, the videotapes were replayed and traffic density counted manually. Three 1-min samples were randomly selected from each 10-min interval. Cars, light trucks, and heavy-duty trucks were counted separately to estimate the traffic density by type of vehicle.

Particle number concentration and size distribution in the size range from 6 to 220 nm were measured by a condensation particle counter (CPC 3022A; TSI Inc., St. Paul, MN) and a scanning mobility particle sizer (SMPS 3936, TSI Inc., St. Paul, MN). The sampling flow rate of the SMPS was adjusted to 1.5 lpm in order to measure particles as low as 6 nm as well as to minimize the diffusion losses of ultrafine particles during sampling. Flexible, conductive tubing (Part 3001940, TSI Inc., St. Paul, MN) was used for sampling to avoid particle losses due to electrostatic forces. The sizing accuracy of the SMPS was verified in the laboratory by means of monodisperse polystyrene latex spheres (PSL, Polysciences Inc., Warrington, PA). Data reduction and analysis of the SMPS output was done by the Aerosol Instrument Manager software (version 4.0, TSI Inc., St. Paul, MN). Measurements were taken at 17, 20, 30, 90, 150, and 300 m downwind and 200 m upwind from the center of the freeway 710. At each location, three size distribution samples were taken in sequence with the SMPS. Scanning time for each was 180 s.

In addition to size distribution and the total number concentration, the concentrations of BC and carbon monoxide (CO), were monitored simultaneously at each sampling location. Before each measurement session, all instruments were time synchronized. Data were averaged after collection over the time periods corresponding to the scanning intervals of the SMPS. A Dual Beam Aethalometer (Model AE-20, Andersen Model RTAA-900, Andersen Instruments Inc., Smyrna, GA) was used to measure the BC concentrations every 5 min. Concentrations of CO were measured by a near-continuous CO monitor (Dasibi Model 3008, Environmental Corp., Glendale, CA) every minute. The CO monitor was calibrated by means of standard CO gas (RAE systems Inc., Sunnyvale, CA) in the laboratory and automatically zeroed each time the power was turned on.

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Electric power for the control site CPC and Weather Station was obtained by an extension cord to a nearby office. Electric power for other sampling instruments at the sampling locations was supplied by a 1.2 kW gasoline-powered portable power generator (Model EU 1000i, Honda Motor Co., LTD., Tokyo, Japan). The generator was placed approximately 50 m downwind of each sampling location. Both total particle number and CO concentrations were measured at the control site with the generator turned on and with it turned off. No detectable difference was observed.

Table 1 gives the sampling dates and times and summarizes the instruments that were used on each date. The weather station and control CPC were placed at the 20 m downwind control site and sampled throughout the sampling period each day. All other applicable instruments were moved together and sampled simultaneously at each sampling location. It takes about 10 min to complete sampling at each location and 120 min to complete a set, all six locations. Three to four sets were performed on each sampling date.

3. Results and discussion

The results presented below include measurements of total particle number concentrations by a control CPC, wind velocity by a Weather Wizard III, both positioned at a fixed location 20 m downwind of the freeway; and CO, BC concentration, and ultrafine particles size distributions upwind and at six downwind distances from freeway 710.

3.1. Wind effects

Changes in wind conditions have been reported to modify dramatically the pattern of total particle number concentration versus distances from a major road (Hitchins et al., 2000). Consistency in wind speed and direction allows data from different days to be averaged together (Zhu et al., 2002). Wind speed and direction were measured, averaged and logged over every 1-min interval throughout each sampling period. One hundred wind data points were randomly selected out of more than 5000 observations from all the sampling dates and plotted in Fig. 1. The orientation of freeway 710 and the sampling road, Southern Avenue, are also shown in the Fig. 1. The Weather Wizard III instrument recorded wind direction at a 22.5° interval (e.g. 11.25° on either side of N, NNE, etc.) and wind speed at 0.4 or 0.5 m/s intervals. In the figure, duplicate observations were spread out slightly in both directions to better illustrate how strong the wind was and how often the wind came from certain directions. Based on all 5000 observations, the percent of sampling time that the wind came from each 22.5° segment is also shown in Fig. 1. As shown in Fig. 1, about 80% of the time, the wind was coming directly from the freeway towards the sampling road with a speed <3 m/s. The consistency of observed wind direction and speed is a result of a generally low synoptic wind velocities and a consistent sea breeze in the sampling area.

In this study, we found that not only wind direction, but also wind speed, played an important role in determining the characteristics of ultrafine particles near the 710 freeway, similar to the observations made by Zhu et al. (2002) near the 405 freeway. However the pattern of total particle number concentrations as a function of wind speed is somewhat different for the two studies. Fig. 2 shows total particle number concentrations measured by the control CPC, located 20 m downwind of the 710 freeway versus wind speed. Averaged data for the 405 freeway from Zhu et al. (2002) are also plotted for comparison. The CPC was programmed to archive averaged total particle number concentrations at 1-min interval in synchronization with the averaging time of the meteorological data. Only wind data within ±22.5° of normal to the freeway was used in this figure which accounts for more than 60% of the total observations. The difference between the absolute value of total particle number concentration is due in part to the difference in the sampling distance. The control CPC was located 20 m downwind from the 710 freeway but 30 m from the 405 freeway. Assuming the fitted exponential decay characteristics of ultrafine particles holds right to the edge of the freeway, it is thus

Table 1
Sampling dates, time and instruments used

Date	Time	Weather Wizard III	Control CPC	SMPS	CO monitor	Aethalometer
08/30/01	10:00–15:30	×	×	×	×	×
09/05/01	10:30–16:00	×	×	×		
09/21/01	10:00–15:00	×	×	×	×	×
09/25/01	10:30–16:00	×	×	×	×	×
10/05/01	10:30–16:00	×	×	×	×	×
10/24/01	10:00–15:30	×	×		×	×
10/30/01	10:00–15:30	×	×	×		

GL14 Continued

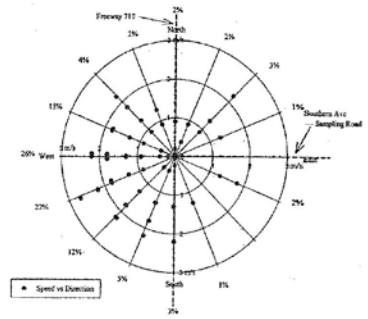

Fig. 1. Wind direction and speed at sampling site.

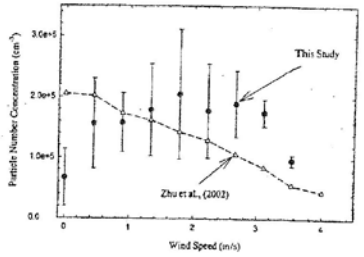

Fig. 2. Total particle number concentration measured by CPC located at 20 m downwind from freeway 710 versus wind speed. Bars indicate one standard deviation.

not surprising, as discussed below, that the CPC will read a greater total particle number concentration at 20 m in the present study than at 30 m in that by Zhu et al. (2002), given similar traffic load on both freeways. However, the relative particle number concentration as function of wind speed are somewhat different in these two studies. The relative particle number concentration decreased as the wind speed increased near the 405 freeway. In contrast, particle number concentration in the 710 freeway first increases, reaches a maximum around 1.5 m/s, and then decreases. There is no obvious explanation for the observed difference. In both studies, data showed large error bars, and the data of low wind speed (<1 m/s) were very limited. In addition, the 405

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freeway is elevated approximately 4.5 m above the surrounding terrain, while, the 710 freeway is at ground level, the same as the sampling location. Lower speed wind would be expected to cause less atmospheric dilution, and thus lead to greater particle number concentrations, as Zhu et al. (2002) reported. However, at extremely low wind speeds, it would take a considerably longer time for the wind to carry particles to the sampling port of the CPC, which gives ultrafine particles more time to coagulate with either themselves or with larger particles, a phenomenon that would decrease the total particle number concentration. This may partially explain the observed "n" shape curve in the current study.

3.2. Traffic effects

The portion of freeway 710 passing through the City of Downey is a major truck shipping route. The average traffic volume per hour during the measurement period was: 8730 cars, 870 light trucks, 2580 heavy trucks, and 12180 total vehicles. It is apparent from these numbers that diesel emission vehicles on the 710 freeway represent about 30% of vehicles while on the 405 freeway they represent <5% (Zhu et al., 2002). Fig. 3 compares the traffic volume on both the 405 and the 710 freeways. Error bars represent one standard deviation. It is seen that the 710 freeway has about 7 times as many diesel vehicles and 70% of gasoline vehicles as the 405 freeway. The total vehicle numbers on both freeways are quite similar 12,180 versus 13,900/h for the 405 freeway.

Zhu et al. (2002) reported that a traffic slowdown on freeway 405 was associated with a drop in total particle number concentration indicating that fewer ultrafine particles are emitted during such events. In this study, the traffic speed on the 710 freeway stayed constant through out the sampling period. No traffic slow down was observed. The difference in the variability of traffic volume on both freeways is indicated by the error bars in Fig. 3.

Zhu et al. (2002) reported that both wind speed and traffic density affected the characteristics of ultrafine particles near the 405 freeway, and the control CPC responded to these effects reasonably well. Thus, subsequent data for ultrafine particle analysis at increasing distances from the freeway were all normalized to the control CPC's reading. An average CPC reading, $\overline{C_N}$, was obtained based on all the measurements. In Figs. 4–6, number concentration and size distribution data were scaled to $\overline{C_N}$ by dividing each measurement by the ratio of CPC reading for the period of measurement to $\overline{C_N}$.

3.3. Change in ultrafine particle size distribution with increasing distance

Fig. 4 depicts ultrafine particle size distributions at 17, 20, 30, 90, 150 and 300 m downwind and 300 m upwind of freeway 710. The size distributions are smoothed and shown together with common scales for both axes. The horizontal axis represents particle size on a logarithmic scale, while the vertical axis represents normalized particle number concentration in the size range of 6–220 nm as measured by the SMPS. Data were averaged for all applicable sampling dates for each distance from the freeway. As shown in Fig. 4, ultrafine particle size

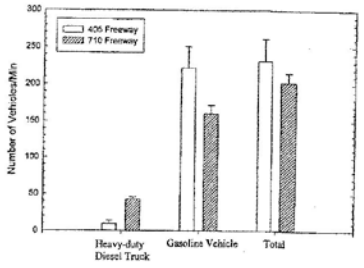

Fig. 3. Traffic volume compariton for the 405 and 710 freeway. Bars indicate one standard deviation.

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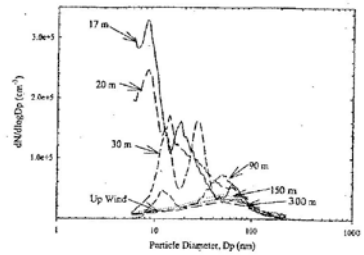

Fig. 4. Ultrafine particle size distribution at different sampling locations near the 710 freeway.

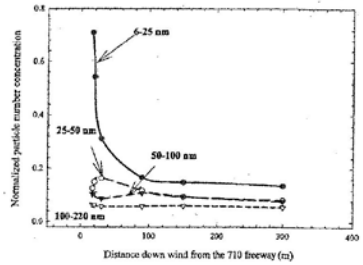

Fig. 5. Normalized particle number concentration for different size ranges as a function of distance from the 710 freeway.

distribution changed markedly and its number concentration dropped dramatically with increasing distance. At the nearest sampling location, 17 m downwind from the center of the freeway, the dominant mode was around 10 nm with a modal concentration of more than $3.2\times10^5/cm^3$. This mode remained at 10 nm for the second sampling location, 20 m downwind from the freeway, but its concentration dropped to $2.4\times10^5/cm^3$. It shifted to larger size range and its concentration kept decreasing for farther sampling locations. This mode was not observed at distance >150 m downwind from the freeway. The dramatic decrease of particle number concentration in the size range around 10 nm was likely due to atmospheric dilution and several atmospheric aerosol particle loss mechanisms that favor small particles, diffusion to surfaces, evaporation, and coagulation. The smaller the particle, the greater its diffusion coefficient and its Brownian motion. Particles of 10 nm diffuse about 80 times faster than particles of 100 nm (Hinds, 1999). As particle size gets smaller, the Kelvin effect becomes more important, making it easier for molecules to leave the particle's surface by evaporation. In addition, when two small particles collide due to their Brownian motion (coagulate), they form a bigger particle. Thus, coagulation reduces number concentrations and shifts the size distribution to larger sizes.

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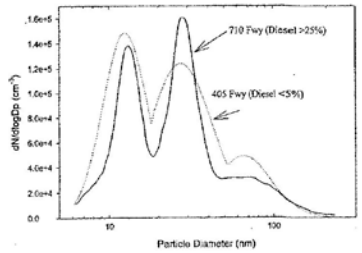

Fig. 6. Comparison of ultrafine particle number concentration at 30 m downwind from 405 and 710 freeway.

In Fig. 4, the second mode at 17 m downwind from the freeway was around 20 nm with a concentration of $1.5 \times 10^5/cm^3$. This mode remained at similar size range and concentration for the next sampling location, 20 m, but shifted to 30 nm at 30 m downwind from the freeway. It is of particular note that, while the concentration for the primary mode, 10 nm mode, decreased about 60% of its maximum value from 17 to 30 m with a slight shift in its mode, the 20 nm mode concentration did not change significantly but the modal size shifted noticeably. This second mode continued to shift to larger sizes with increasing distance from the freeway. In general number concentrations for smaller particles, $d_p < 50$ nm, dropped significantly with increasing distances from the freeway, but for larger ones, $d_p > 100$ nm, number concentrations decreased only slightly. These results are in excellent agreement with what Zhu et al. (2002) reported for freeways impacted mostly by gasoline vehicles, which suggests that coagulation is more important than atmospheric dilution for the smallest ultrafine particles and vice versa for large particles. Ultrafine particle concentrations measured at 150 and 300 m downwind of the 710 freeway were statistically within the variation of the 300 m upwind background concentration. The maximum number concentration that was observed next to the freeway was about 30 times greater than that for the background location. This suggests that people who live or work within 100 m downwind of major traffic sources, or spend a substantial amount of time commuting on such highways, will have a much higher ultrafine particle exposure than those who do not. This result can be used in epidemiological studies to estimate exposure to ultrafine particles.

Based on Fig. 4, it is clear that vehicle-emitted ultrafine particles of different size ranges behave quite differently in the atmosphere. Zhu et al. (2002) showed the decay of ultrafine particle number concentrations in four size ranges 6–25, 25–50, 50–100 and 100–220 nm. They found coagulation played a significant role in modifying the particle size distribution of vehicle-emitted ultrafine particle downwind of a freeway. Fig. 5 was prepared in the same ways as Zhu et al. (2002). The measured particle number concentrations in each SMPS size bin were combined in the corresponding size range, and the result was normalize to averaged wind speed. The general trends of sub-grouped ultrafine particle decay curves are quite comparable to those given by Zhu et al. (2002), Figs. 7a and b. Total particle number concentration in the size range of 6 to 25 nm accounted for about 70% of total ultrafine particle number concentration and dropped sharply, by about 80%, at 100 m, and leveled off after 150 m. Overall, it decayed exponentially through out the whole measured distance. Number concentrations in the next two size ranges 25–50 and 50–100 nm, all experienced a shoulder between 17 and 150 m. These results are in excellent agreement with what Zhu et al. (2002) observed and can be explained by particles, in smaller size ranges, coagulating with these particles to increase their size.

Fig. 5 compares the ultrafine particle size distributions at 30 m downwind from the 710 and the 405 freeways. Three-mode lognormal fitting was used for 405 freeway. Raw data were smoothed by averaging for 710 freeway. Heavy-duty diesel trucks on the 710 freeway represent more than 25% of traffic while on the 405 freeway they represent <5% (Zhu et al., 2002). Average PM emission rate for heavy-duty diesel trucks is about 0.4 g/mi (California ARB, 2000) while for passenger cars is

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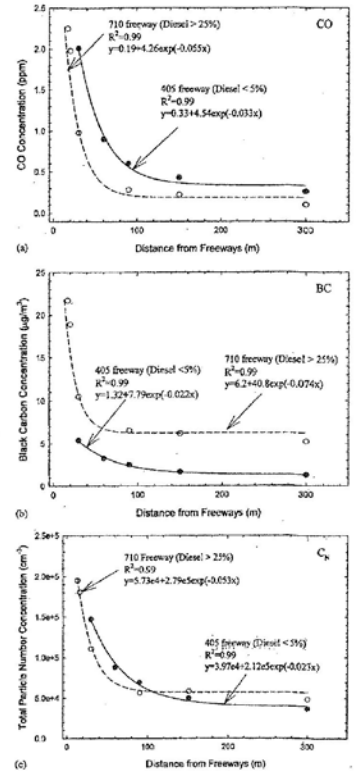

Fig. 7. Decay curves of: (a) CO, (b) BC and (c) particle number concentration near the 405 and 710 freeway.

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about 0.08 g/mi (EPA, 2000). Thus, on the 710 freeway, about 60% of PM emission is due to heavy-duty diesel trucks ((0.25 × 0.4)/(0.25 × 0.4 + 0.75 × 0.08) = 62.5%). In Fig. 6, both size distributions have three distinct modes. The concentration for the first mode, between 10 to 20 nm, is slightly higher near the 405 freeway. This mode is likely to arise from homogeneous nucleation of semi-volatile materials and is similar to that previously reported for direct laboratory measurement of gasoline vehicle emissions (Ristovski et al., 1998). The concentration for the second mode, around 30 nm, is about 30% higher near the 710 freeway than that near the 405 freeway. This mode probably comprises mainly of BC and is likely due to the much higher diesel emissions on the 710 freeway. The last mode, around 70 nm, represents an insignificant contribution to number concentrations for these two freeways and in both cases are comparable to the background concentrations.

3.4. Decay of carbon monoxide, black carbon and particle number concentration

To make this freeway study more comprehensive, the concentrations of CO, BC, and particle number were also measured at increasing distance from the freeway on selected dates, as shown in Table 1. CO and BC were intentionally selected because their ambient concentrations are closely related to vehicular emissions. Averaged concentration and range of values at different distances from the freeway of each measured property are summarized in Table 2. CO and BC concentrations decreased noticeably when moving away from the traffic sources, similar to the findings of the study by Zhu et al. (2002).

Figs. 7a–c were prepared by comparing the decay characteristic of CO, BC and particle number concentrations near the 405, gasoline vehicle dominated, and the 710, diesel vehicle dominated, freeways. Exponential decay was found to be a good estimator for predicting total particle number concentrations at different locations (Zhu et al., 2002). Each data point in the figure represents an averaged value for all measurements with similar wind directions. The solid line was the best fitting exponential decay curve, determined using SigmaPlot 2000 nonlinear curve fitting procedure. The best fitting exponential decay equations and R^2 values are also given in the figure. It can be seen, in general, all three pollutants decay at a similar rate near both freeways. This implies that atmospheric dilution plays a comparable role in both studies. As discussed previously, the average wind speed for these two studies are all close to 1.5 m/s. The discrepancies of the curves were mainly due to the different traffic fleet compositions on these two freeways. The 710 freeway has more than 25% heavy diesel trucks while the 405 freeway has <5%. It is well known that diesel engines emit less CO and more BC comparing to spark ignition engines (Kittelson et al., 2001). Fig. 7a shows that the concentration of CO near the 710 freeway is generally half of that near the 405 freeway. By comparison, Fig. 7b shows the BC concentration near a diesel vehicle dominated freeway is more than three times greater than that near a gasoline vehicle dominated freeway. As shown in Fig. 7c, the total particle number concentration close to the 405 freeway is somewhat higher than that near the 710 freeway, but drops faster with downwind distance. Since the rate of coagulation increases with decreasing particle size down to 20 nm (Hinds, 1999), the observed result suggests more of the smallest ultrafine particles, mostly in nano-size range, were emitted from the 405 freeway. This may be explained by a total of 20% more vehicles on the 405 freeway. It was previously reported that number emission rates from the spark-ignition vehicles were much lower than from the diesel vehicles under most operating conditions, but were similar under high-speed highway cruise conditions (Rickeard et al., 1996; Kittelson, 1998). It should also be noted that the exponential decay characteristic appears to extend to about 3 m downwind from the edge of the freeway for all three pollutants. Based on our results we conclude that atmospheric dilution is so rapid that average concentration decays continuously after leaving the tailpipe.

Table 2
Measured averaged concentrations at increasing distances from the freeway[a]

Measurement	Upwind (m)	Downwind distance (m)					
	200	17	20	30	90	150	300
CO (ppm)	0.1 (0.0–0.2)	2.3 (1.9–2.6)	2.0 (1.5–2.4)	1.7 (1.1–1.9)	0.5 (0.2–0.7)	0.4 (0.1–0.5)	0.2 (0.1–0.3)
Black carbon ($\mu g/m^3$)	4.6 (3.1–5.9)	21.7 (20.3–24.8)	19.4 (16.5–21.6)	17.1 (12.6–19.3)	7.8 (4.5–9.3)	6.5 (2.9–9.2)	5.5 (3.5–7.7)
Number concentration ($\times 10^{-5}/cm^3$)	0.48 (0.36–0.57)	2.0 (1.8–2.5)	1.8 (1.5–2.5)	1.6 (1.2–1.9)	0.72 (0.42–1.1)	0.61 (0.35–0.98)	0.49 (0.30–0.59)

[a] Range given in parenthesis.

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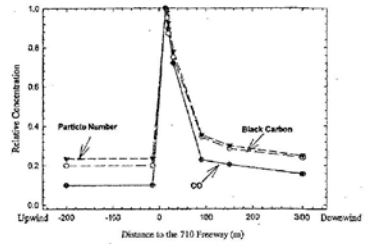

Fig. 8. Relative particle number, BC, CO concentrations versus distance from the 710 freeway.

Fig. 8 shows the decay curves for relative concentrations of CO, BC and total particle number. The curves are normalized and extended to reach 1.0 at the downwind edge of the 710 freeway. Background concentrations are also shown in the figure. It is seen that CO, BC and particle number concentration decreased about 60–80% in the first 100 m and then leveled off somewhat after 150 m, similar to what Zhu et al. (2002) reported. Background CO has a much lower relative concentration while background BC and particle number concentrations are comparable. Thus, CO was diluted more quickly and significantly than BC and particle number concentration. In general, CO, BC and particle number concentrations tracked each other very well. These results confirm the common assumption that vehicular exhaust is the major source for CO, BC and ultrafine particles near a busy freeway. They also support the conclusion made by Zhu et al. (2002) that for the conditions of these measurements the decreasing characteristics of any of these three pollutants could be used interchangeably to estimate the relative concentration of the other two pollutants near freeways.

4. Conclusions and summary

Wind speed and direction are important in determining the characteristic of ultrafine particles near freeways. The average concentrations of CO, BC and particle number concentration at 17 m was 1.9–2.6 ppm, 20.3–24.8 $\mu g/m^3$, 1.8×10^5–$3.5 \times 10^5/cm^3$, respectively. Relative concentration of CO, BC and particle number tracked each other well as one moves away from the freeway. Exponential decay was found to be a good estimator for the decrease of these three pollutants' concentration with distance along the wind direction starting from the edge of the freeway. Measurements show that both atmospheric dilution and coagulation play important roles in the rapid decrease of particle number concentration and the change in particle size distribution with distance away from a freeway.

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A wide area of air pollutant impact downwind of a freeway during pre-sunrise hours

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ABSTRACT

We have observed a wide area of air pollutant impact downwind of a freeway during pre-sunrise hours in both winter and summer seasons. In contrast, previous studies have shown much sharper air pollutant gradients downwind of freeways, with levels above background concentrations extending only 300 m downwind of roadways during the day and up to 500 m at night. In this study, real-time air pollutant concentrations were measured along a 3600 m transect normal to an elevated freeway I-2 h before sunrise using an electric vehicle mobile platform equipped with fast-response instruments. In winter pre-sunrise hours, the peak ultrafine particle (UFP) concentration (~95 000 cm^{-3}) occurred immediately downwind of the freeway. However, downwind UFP concentrations as high as ~40 000 cm^{-3} extended at least 1200 m from the freeway, and did not reach background levels (~15 000 cm^{-3}) until a distance of about 2600 m. UFP concentrations were also elevated over background levels up to 500 m upwind of the freeway. Other pollutants, such as NO and particle-bound polycyclic aromatic hydrocarbons, exhibited similar long-distance downwind concentration gradients. In contrast, air pollutant concentrations measured on the same route after sunrise, in the morning and afternoon, exhibited the typical daytime downwind decrease to background levels within ~300 m as found in earlier studies. Although pre-sunrise traffic volumes on the freeway were much lower than daytime congestion peaks, downwind UFP concentrations were significantly higher during pre-sunrise hours than during the daytime. UFP and NO concentrations were also strongly correlated with traffic counts on the freeway. We associate these elevated pre-sunrise concentrations over a wide area with a nocturnal surface temperature inversion, low wind speeds, and high relative humidity. Observation of such wide air pollutant impact area downwind of a major roadway prior to sunrise has important exposure assessment implications since it demonstrates extensive roadway impacts on residential areas during pre-sunrise hours, when most people are at home.

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1. Introduction

Air quality in the vicinity of roadways can be seriously impacted by emissions from heavy traffic flows. As a result, high concentrations of air pollutants are frequently present in the vicinity of roadways and may result in adverse health effects. These include increased risk of reduced lung function (Brunekreef et al., 1997), cancer (Knox and Gilman, 1997; Pearson et al., 2000), adverse respiratory symptoms (Van Vliet et al., 1997; Venn et al., 2001; Janssen et al., 2003), asthma (Lin et al., 2002; McConnell et al., 2006), and mortality (Hoek et al., 2002).

Previous studies have shown elevated vehicle-related air pollutant concentrations and gradients downwind of roadways during daytime. Hitchins et al. (2000) measured concentrations of fine and ultrafine particles (UFP) at a distance of 15–375 m from a major roadway during the daytime. They found concentrations decayed to about half of the peak value (at the closest point to the roadway) at approximately 100–150 m from the roadway on the normal downwind side. Particle concentrations were not affected by the roadway at a distance farther than 15 m on the normal upwind side, indicating a sharp gradient of fine and ultrafine particles. Similar studies were conducted by Zhu et al. (2002a,b), who measured ultrafine particles, CO, and black carbon (BC) on the

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upwind (200 m) and downwind (300 m) sides of a freeway in Los Angeles during the daytime. Peak concentrations were observed immediately adjacent to the freeway, with concentrations of air pollutants returning to upwind background levels about 300 m downwind of the freeway.

The few near-roadway studies conducted at night indicated larger areas of impact than during daytime. UFP concentrations at night were reported by Zhu et al. (2006), who conducted measurements upwind (300 m) and downwind (500 m) of a freeway from 22:30 to 04:00. Although traffic volumes were much lower at night (about 25% of peak) particle number concentrations were about 80% of the daytime peak 30 m downwind of the freeway, with UFP concentrations of ~50 000 cm^{-3} about 500 m downwind of I-405, a major Los Angeles freeway during the night. Fruin and Isakov (2006) measured UFP concentrations in Sacramento, California, near the I-50 freeway between 23:00 and 01:00 and found 30–80% of maximum centerline concentrations (measured on a freeway overpass) 800 m downwind.

In the present study, the use of a full-size, motorized mobile platform (MP) allowed more pollutants to be measured than previous nighttime studies and with improved spatial and temporal resolution. While traveling at normal vehicle speeds, an instrumented mobile platform allows measurements over greater distances and in shorter times (Bukowiecki et al., 2002a,b, 2003; Canagaratna et al., 2004; Kimelson et al., 2004a,b; Khlystov and Ma, 2006; Kolb et al., 2004; Pirjola et al., 2004, 2006; Unal et al., 2004; Weijers et al., 2004; Westerdahl et al., 2005; Yao et al., 2005; Isakov et al., 2007; Baldauf et al., 2008; Fruin et al., 2008). However, to date, such studies have focused almost entirely on daytime and evening periods.

In the present study, air pollutant concentrations were measured over a wide area on the south and north sides of the I-10 freeway in west Los Angeles, California, 1–2 h before sunrise in the winter and summer seasons of 2008 using an electric vehicle mobile platform equipped with fast-response instruments. We observed a much wider area of impact downwind of the freeway than reported in previous daytime and evening studies, consistent with low wind speed, absence of turbulent mixing, and nocturnal radiation inversions. Our pre-sunrise results were also strikingly different from those we observed for the same route during the daytime. Our observation of a wide area of impact during pre-sunrise hours, up to about 600 m upwind and 2000 m downwind, has significant implications for exposures in residential neighborhoods adjacent to major roadways.

2. Methods

2.1. Mobile platform and data collection

A Toyota RAV4 sub-SUV electric vehicle served as the mobile platform, with self-pollution eliminated by the non-polluting nature of the vehicle. Table 1 shows a complete list of sampling instruments and equipment installed on the mobile platform. The time resolution for most instruments ranged from 5 to 10 s except the Aethalometer, which had 1 min time resolution. The instrument power supply and sampling manifold were similar to that described by Westerdahl et al. (2005).

Calibration checks and flow checks were conducted on a bi-monthly and daily basis, respectively, as described in Kozawa et al. (2009). For calibrations, a standard gas containing a mix of NO and CO was diluted using an Environics 9100 Multi-Gas Calibrator and Teledyne API Zero Air System (Model 701) to calibrate the CO and NO/NO_x analyzers. CO_2 was calibrated with zero air and span gas cylinders from Thermo Systems Inc. A DryCal DC-lite flow

Table 1
Monitoring instruments on the mobile platform.

Instrument	Measurement Parameter	Time Resolution
TSI Portable CPC, Model 3007	UFP Count (10 nm–1μm)	10 s
TSI FMPS, Model 3091	UFP Size (5.6–560 nm)	10 s
TSI DustTrak, Model 8520	PM2.5 Mass	5 s
Magee Scientific Aethalometer	Black Carbon	1 min
EcoChem PAS 2000	Particle Bound PAH	5 s
Teledyne API Model 300E	CO	20 s
LI-COR, Model LI-820	CO_2	10 s
Teledyne-API Model 200E	NO_x, NO, NO_2	20 s
Vaisala Sonic Anemometer and Temperature/RH Sensor	Local Wind Speed and Direction, Temperature, Relative Humidity (RH)	1 s
Stalker LIDAR and Velon Digital System	Traffic Documentation, Distance and Relative Speed	1 s

meter, with a flow range of 100 ml min^{-1} to 7 L min^{-1} and an accuracy of ±1%, was used to check the flows of each instrument.

2.2. Route

For pre-sunrise measurements, the mobile platform was driven on a fixed route over three days in the winter season and two days in the summer season of 2008. The route covered a total length of about 3600 m approximately perpendicular to the I-10 freeway in Santa Monica, California (Fig. 1). The solid line in Fig. 1 shows the section of the route over which the mobile platform traveled about 8–10 times during each monitoring period, reaching about 1200 m south of the freeway. The dashed line shows the extended section of the route, over which the mobile platform traveled 2–4 times during each monitoring period, reaching about 2600 m south of the freeway. The pre-sunrise route crossed a number of local surface streets; these are shown in Fig. 1 together with their normal distances to the freeway as measured from Google Map. The route was selected because it passed under the I-10 freeway, and because there was little traffic flow on the route itself or on the perpendicular surface streets (e.g. Olympic Blvd., Pico Blvd. etc.) during pre-sunrise hours. Hence, the majority of measurements were not significantly affected by local surface street traffic. The route also passed through a dense residential neighborhood where the elevated air pollutant concentrations have significant exposure implications.

During sampling, the mobile platform was intentionally stopped to avoid localized impacts from individual vehicles whenever necessary. During data reduction, pollutant concentration spikes, if verified from videotape to be caused by a nearby vehicle, were excluded from the analysis.

2.3. Real-time traffic flow

Traffic flows were collected or measured on the I-10 freeway, the pre-sunrise route itself, and the major surface streets transecting the pre-sunrise route. Real-time traffic flow on the freeway was obtained from the Freeway Performance Measurement System (PeMS) provided by the UC Berkeley Institute of Transportation. Sensors were located at the Dorchester Station, about 300 m from the intersection of the pre-sunrise route and the freeway. Since there were no on-ramps or exits between the Dorchester Station and our route, the PeMS data accurately represented the traffic flow on the I-10 freeway where our route passed under the freeway. Traffic flow on the pre-sunrise route itself was monitored and recorded by a Stalker Vision Digital System on the mobile platform. The recorded videos were replayed and vehicles on the pre-sunrise

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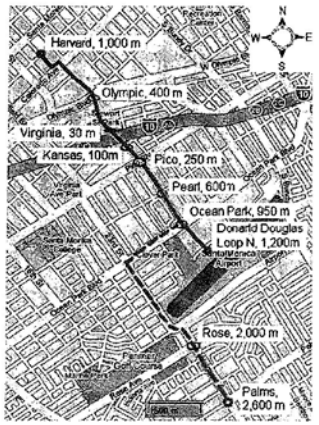

Fig. 1. Pre-sunrise route. The solid line indicates the route 1000 m and 1200 m north and south of the I-10 freeway, respectively. The dashed line indicates the route extended to 2600 m south of the I-10 freeway. Mobile platform measurements on this route were continuous; circles indicate location of cross streets, not fixed site monitoring.

route were manually counted. Traffic flows on the major cross streets (e.g. Olympic Blvd., Pico Blvd., and Ocean Park Blvd.) were manually counted during the winter season on a weekday at times similar to when the pre-sunrise measurements were conducted.

2.4. Data analysis and selection of key pollutants

Data were adjusted for the varying response times of the instruments on the mobile platform to synchronize the measurements. NO_x, CO, CO_2, and particulate data (UFP, BC, and PM2.5 mass) were synchronized with particle-bound polycyclic aromatic hydrocarbon (PB-PAH) data measured by the PAS instrument, which had the fastest response time. NO, UFP, and PB-PAH were selected in the present study for detailed spatial analysis because of their rapid and large variation on and near roadways. The overall response time for the PAS instrument was determined by comparing the time of signal peaks in the PB-PAH time-series to the corresponding time of acceleration of a vehicle in front of our mobile platform (as recorded on videotape). This time difference was less than 10–15 s and includes the transport time (typically a few seconds) for the plume from the emitting vehicle to reach the inlet of the sampling duct of the mobile platform. Given the short response times of our instruments and our driving speeds of 5–15 MPH, the spatial resolution of our mobile platform measurements was typically in the range of 25–75 m, with the finer spatial resolution (~25 m) near the edges of the freeway where we drove more slowly.

Measurements were made continuously over the entire route, not at fixed stationary sites. The measured real-time concentrations of UFP, PB-PAH, and NO along the pre-sunrise route were averaged for each intersection using a few data points measured at and immediately adjacent to the intersection. Although the peak air pollutant concentration always occurred downwind of the I-10 freeway, its value changed with time due to changing traffic volumes on the I-10 freeway and varying meteorological conditions, so peak pollutant concentrations were used to calculate normalized relative pollutant concentrations. For example, in the winter season, the measured averaged peak UFP concentration was about 95 000 cm^{-3}, but the instantaneous peak values varied in the range of 62 000–135 000 cm^{-3} (four to nine times the background concentrations).

3. Results and discussion

3.1. Meteorological data

Meteorological conditions, including atmospheric stability, temperature, relative humidity, wind speed and wind direction, play an important role in determining air pollutant concentrations and gradients along and downwind of roadways. During each run, the mobile platform was periodically stopped at locations along the pre-sunrise route to obtain wind data from on-board instruments (Table 2). These data were compared with the measurements from the Santa Monica Airport (SMA) located about 1500 m downwind of the I-10 freeway and in the immediate vicinity of the route. Both the averaged wind speeds measured by the mobile platform and by the SMA were quite low during pre-sunrise hours, in a range of 0–1.0 m s^{-1} and the averaged difference between the two measurements was about 0.3 m s^{-1}. Temperature and relative humidity were obtained from SMA data.

Fig. 2 shows the wind roses and vector-averaged wind orientation for five days, March 7, 12, 18, June 30, and July 2, from data collected by instruments on the mobile platform. Wind speeds were low during the pre-sunrise hours, with monitoring period averages ranging from 0.0 to 1.0 m s^{-1}. The averaged wind directions measured by the mobile platform indicated a predominant direction of N/NE/NW during the pre-sunrise runs, which agreed reasonably well with airport wind direction data. For this predominant wind direction, the north side of the I-10 freeway was upwind; the south side downwind. Although having a predominant direction from north, the wind was not completely perpendicular to the I-10 freeway. Hence, the distances pollutants traveled from the freeway to various locations along the route, including the major cross-surface streets, were generally longer than indicated by distances shown in Fig. 1. For example, the straight perpendicular distance of Ocean Park Blvd. to the I-10 freeway is ~950 m, whereas for the averaged wind direction of 25° for the pre-sunrise run, the distance pollutants traveled was ~1050 m. However, due to the variability of meteorological conditions, the perpendicular distances were used to indicate impact distances in the present study.

While detailed thermal structure data for the lowest layers of the atmosphere in the area of our pre-sunrise route were not available, the available data indicate the days sampled had stable (i.e., vertical) temperature profiles or strong nocturnal radiation inversions in the hours before sunrise. Data recorded at the Santa Monica Airport indicated the nights on which sampling took place were clear up to at least 3000 m, and had either offshore flow or a weak land breeze, also consistent with clear skies; clear skies are conducive to the formation of nocturnal surface inversions due to enhanced radiative heat loss in the infrared. Data collected by the

GL14 Continued

Table 2
Meteorological conditions during pre-sunrise runs (2008).

Date	Measurement period	Sunrise	Atmospheric Stability from LAX Profiler data	Wind Speed[a] (m s^{-1})		Wind Direction[a] (°)		Temperature (°C)	Relative Humidity (%)
				MP	SMA	MP	SMA	SMA	SMA
March 7	6:20–7:50[b]	7:14[b]	N.D.[c]	0.9	1.0	12	5	11	76
March 12	6:40–7:30	7:07	Surface inversion to 250–300 m	1.0	1.0	53	20	13	66
March 18	6:10–7:20	6:59	Surface inversion to 100 m	0.4	1.0	6	45	9	61
June 30	4:00–6:30	5:45	Stable to 200 m, inversion above	0.7	0.0	208	0	17	87
July 2	4:30–6:45	5:45	Stable to 250 m, inversion above	0.7	1.0	315	340	17	84

[a] Averaged values for the measured period.
[b] Time corrected to Pacific Day Light Time (PDT); change from PST to PDT occurred on March, 9, 2008.
[c] Profiler came online the following evening. The following night (3/8) experienced a surface inversion for the entire night.

South Coast Air Quality Management District (SCAQMD) at the Los Angeles Airport (LAX), ~8 km south of pre-sunrise route, were also consistent with an inversion or stable conditions at the surface. On 3/10 and 3/18, the data showed temperature inversions from the lower edge of the measurements at 130 m up to 190 m or more, respectively. On 6/30 and 7/2, the profiles were stable from 130 to 190 or 260 m, respectively, with capping inversion layers above. Wind speeds during the pre-sunrise hours were too low to create

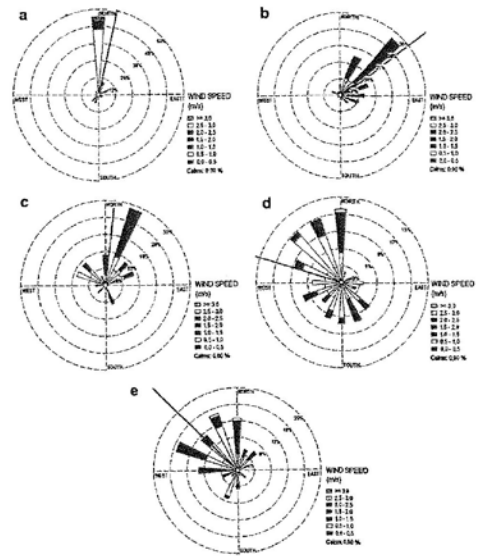

Fig. 2. Wind roses for pre-sunrise sampling hours. (a) March 7; (b) March 12; (c) March 18; (d) June 30; (e) July 2. The thin line in each wind rose indicates vector-averaged wind orientation.

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appreciable vertical mixing in the presence of these temperature profiles, and the shallow mixed layer was likely thinner in March than in June/July.

3.2. Observation of a wide impact area downwind of the freeway during pre-sunrise hours

As shown in Fig. 3, a wide impact area of elevated UFP concentrations, up to 2000 m downwind and 600 m upwind of the I-10 freeway, was observed during the pre-sunrise hours on the monitoring days in the two seasons. In this wide impact area, elevated UFP concentration extended beyond Donald Douglas Loop N located on the south side and 1200 m downwind of the freeway (Fig. 3). Here, 1200 m downwind, the average UFP concentrations during the winter sampling hours, typically 06:00–07:30, were as high as ~40 000 cm^{-3}. Only at a downwind distance of about 2600 m (Palms Blvd.), did the UFP concentration drop to ~15 000 cm^{-3}, comparable to the upwind background level.

In the winter season, the peak UFP concentration was approximately 95 000 cm^{-3} a few tens of meters downwind of the freeway. Upwind, the concentration dropped sharply to around 40 000 cm^{-3} 30 m upwind (Virginia Avenue) and returned to background levels of ~15 000 cm^{-3} at ~800 m on the upwind side, creating a moderate upwind gradient north of the I-10 freeway (Fig. 3). Interestingly, the upwind impact distance during the pre-sunrise hours, ~600 m, was far greater than that of ~15 m observed during the day by Hitchins et al. (2000) and also greater than that measured by Zhu et al. (2002b). This may be caused by the occasionally variable wind direction during the pre-sunrise hours for which the nominal upwind side of the I-10 freeway could temporarily become downwind. These occasional impacts on the nominal upwind side of the freeway appear to have had substantial influence on the averaged upwind UFP concentrations due to their otherwise low levels.

As seen in Fig. 3, the UFP concentration also decreased on the downwind side, but much more slowly than on the upwind side. At a downwind distance of about 600 m from the freeway, UFP concentrations during winter were about twice those on the upwind side (50 000 cm^{-3} vs. 22 000 cm^{-3}). Even 950 m downwind, at the intersection of Ocean Park Blvd., the UFP concentration remained as high as 45 000 cm^{-3}, higher than at 30 m upwind. These pronounced differences in gradients of UFP concentrations resulted in strong contrasts between the upwind and downwind sides of the I-10 freeway during pre-sunrise hours (Fig. 3).

As shown in Fig. 4, NO and PB-PAH exhibited concentration gradients similar to UFP along the route during the pre-sunrise hours. Peak concentrations of NO and PB-PAH (on the downwind side) were about 165 ppb and 55 ng m^{-3}, respectively, in the winter season. Upwind, NO and PB-PAH concentrations dropped rapidly to 70 ppb and 30 ng m^{-3}, respectively, at a distance of about 150 m. In contrast, on the downwind side, NO and PB-PAH concentrations of 70 ppb and 30 ng m^{-3}, respectively, extended to a distance of about 1200 m from the freeway (NO and PB-PAH data were unavailable for summer measurement due to instrument problems during the pre-sunrise runs).

Fig. 5 shows normalized UFP concentrations on the two sides of I-10 freeway during the pre-sunrise hours in the winter and summer seasons. UFP concentrations were normalized for each complete run traveled on our route, and then averaged together for all the runs for each season. While there was little or no traffic on our route during the pre-sunrise hours, vehicle counts on the same route during the day were much higher and emissions from these vehicles significantly and frequently affected measurements by the mobile platform. Moreover, the pre-sunrise route was only driven once in the morning after sunrise and once in the afternoon, in contrast to multiple times in the pre-suarise period. For both of these reasons, comparison between pre-sunrise and morning/afternoon measurements on the pre-sunrise route are not meaningful. Instead, we show normalized data from Zhu et al. (2002b), which were not affected by local traffic, to compare with our pre-sunrise measurements.

As Fig. 5 illustrates, pre-sunrise UFP concentration gradients in the present study exhibited very different behavior than the typical narrow daytime UFP gradients measured by Zhu et al. (2002a,b). In our pre-sunrise measurements, UFP concentrations remained elevated above the background level up to ~600 m upwind of the freeway versus only ~17 m upwind for the Zhu et al. (2002b) daytime measurements. On the downwind side in the Zhu et al. (2002b) measurements, UFP concentrations dropped to about 25% of the peak concentration 300 m downwind of the freeway during the day, but in the present study, in strong contrast, the UFP concentrations remained about 40% of the peak as much as 1200 m downwind of the freeway, and was above background levels out to ~2000 m during the pre-suarise hours.

To quantify these differences in UFP concentrations an equation of the form $C = a + e^{-bx}$ was used to fit our observed relative UFP concentrations downwind of the I-10 freeway during pre-sunrise hours, as well as the daytime data reported by Zhu et al. (2002b). As seen in Fig. 6, the decay constant is a factor of five higher for the

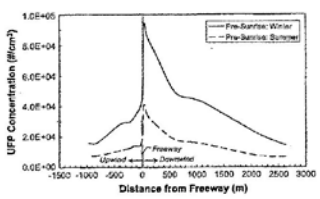

Fig. 3. Ultrafine particle concentrations and gradients along the pre-sunrise route. Positive distances are downwind and negative distances upwind from the I-10 freeway. Data were acquired continuously, up to the edges of the freeway.

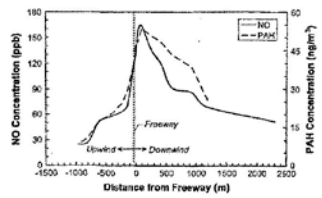

Fig. 4. Average NO and PB-PAH concentrations and gradients, along the pre-sunrise route in the winter season. Positive distances are downwind and negative distances upwind from the I-10 freeway.

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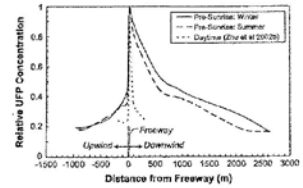

Fig. 5. Relative averaged UFP concentrations and gradients along the pre-sunrise route by season and compared with Zhu et al. (2002b). Positive distances are downwind and negative upwind from the I-10 freeway. Data were acquired continuously for pre-sunrise measurements, up to the edges of the freeway.

daytime vs. the pre-sunrise period, with values of b of 0.0098 and 0.0018, respectively.

Pre-sunrise relative UFP concentrations exhibited similar trends in both winter and summer (Fig. 5). Although UFP concentrations in the summer were about 40% those in the winter (due to lower traffic flows on the I-10 freeway, as discussed below), the similar trends in relative UFP concentration imply similar UFP propagation during the pre-sunrise hours in the two seasons although meteorological conditions were somewhat different.

3.3. Correlation of pollutant concentrations with traffic counts on I-10 freeway

PeMS data showed a similar diurnal traffic pattern on the I-10 freeway on different weekdays during the pre-sunrise hours in both winter and summer (Fig. 7b). Traffic counts on the freeway exhibited an approximately linear increase with the time. However, during 04:00–05:30 (when summer measurements were conducted) traffic counts were lower in summer than in winter. We attribute part of the lower traffic counts in summer to most schools being closed and vacation season in summer, as well as the dramatic increase in gasoline prices between March and July 2008, resulting in a significant overall reduction in vehicle miles traveled. Also, sunrise was about one hour and fifteen minutes earlier in

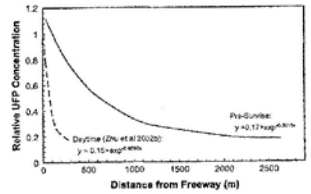

Fig. 6. Exponential fits to the downwind relative UFP concentrations with distance from the I-10 freeway during pre-sunrise hours, compared with fit to daytime data downwind of the I-405 freeway by Zhu et al. (2002b). Data were acquired continuously for pre-sunrise measurements, up to the edges of the freeway.

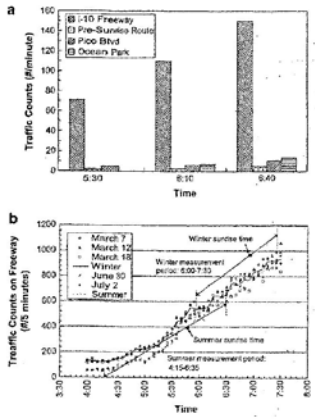

Fig. 7. (a) Comparison of traffic volumes on the I-10 freeway, pre-sunrise route, Pico Blvd., and Ocean Park Blvd. during pre-sunrise hours on a typical weekday; (b) Traffic counts on the I-10 freeway during pre-sunrise measurements; solid line represents averaged count of the three days in the winter season, and dashed line for two days in the summer season. Sunrise times shown here were averaged for each season.

summer (~05:45) than in winter (~07:00), which required an earlier measurement period in summer (~04:15–05:30) compared to winter (~06:00–07:30), and corresponds to much lower overall traffic counts during the pre-sunrise measurement periods in summer.

During the measurement period in winter, traffic counts on the freeway increased from ~530 to ~900 vehicles per 5 min, while in summer counts increased from ~60 to ~620 vehicles per 5 min. Assuming a linear increase of traffic counts with time, the average traffic counts during the pre-sunrise measurements periods, winter versus summer, were ~715 vs. 340 vehicles per 5 min, resulting a ratio of ~2.1. This ratio of seasonal traffic counts compares well with the ratio of the UFP concentrations measured in the winter vs. summer of ~2.2–3.0, depending on distance from the freeway (Fig. 3). It should be noted that the sunrise times during the winter (March) measurements, because they occurred just after the switch to Pacific daylight time (PDT), were close to the latest annual (local) sunrise times, and thus may represent roughly the upper limit for the freeway impact throughout the year.

We attribute the relatively high pollutant concentrations we observed downwind of the I-10 freeway during pre-sunrise hours to emissions of vehicles traveling on the I-10 freeway, combined with strong inhibition of vertical mixing due to stable or inverted temperature profiles near the surface. Fig. 8 shows the UFP and NO concentrations measured at Ocean Park Blvd., ~950 m downwind, vs. the traffic counts on the freeway during the pre-sunrise hours on

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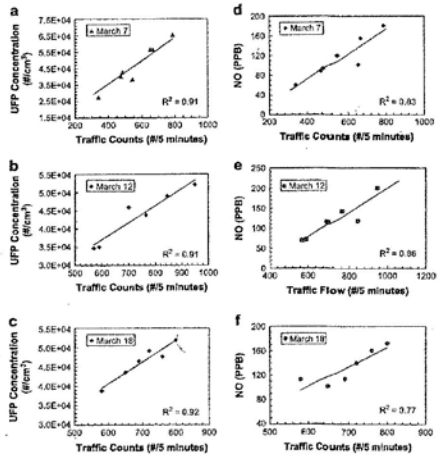

Fig. 8. Linear regressions between UFP and NO concentrations at Ocean Park Blvd. (950 m downwind of I-10 freeway), and traffic counts on the freeway during the pre-sunrise hours in the winter season.

three mornings of the pre-sunrise runs in the winter season. Both the freeway traffic counts (Fig. 7b) and pollutant concentrations increased rapidly during the pre-sunrise hours, and exhibited a strong correlation with each other. For UFP, the values of squared Pearson correlation coefficients (r^2) were above 0.90 and for NO, above 0.77 (nitric oxide data were unavailable for summer measurements due to instrument problems during the pre-sunrise runs). Strong correlations at other distances from the freeway were also found between UFP concentrations and traffic counts on the freeway. For example, the correlation coefficients, r^2 for UFP measured at Pearl St. for three winter sampling days, were above 0.85.

Based on our videotape observations and the traffic counts we conducted on surface streets, as well as the strong correlations presented in Fig. 8, we believe the measured concentrations of air pollutants during the pre-sunrise hours were predominantly determined by the traffic counts on the I-10 freeway, and that the impact of local surface street traffic was minor. Traffic volumes on the pre-sunrise route itself were only about 2% of those on the I-10 freeway at corresponding times. Traffic volumes on the three major surface streets crossing the pre-sunrise route, Ocean Park Blvd., Pico Blvd., (downwind of the freeway), and Olympic Blvd (upwind of the freeway) were also low, only about 8%, 6%, and 6%, respectively, of those on the freeway. Most of this early-morning cross traffic for our measurement route encountered green lights. If the emissions of the occasional vehicles on these surface streets were significant, the pollutant concentrations measured downwind of the streets should have been higher than upwind, but this was not the case; no significant gradients in concentration were observed between the two sides of these streets. Hence, the contribution of emissions from vehicles on the surface streets to our pre-sunrise measurements ranged from minor to insignificant compared to emissions from freeway traffic.

One case in which we find evidence of a minor contribution from non-freeway emissions involves the shallow shoulder in UFP concentrations on Ocean Park Blvd. (~950 m downwind) and shown in Fig. 3. Traffic counts on this major surface street were ~8% of the freeway counts (Fig. 7a), which may have resulted in a small local UFP, NO, and PB-PAH contribution to the measured concentration. A local contribution of ~6% traffic count on Pico Blvd. is not apparent in the measured UFP concentration in Fig. 3, probably due to the closer proximity of Pico Blvd. to the I-10 freeway (~250 m downwind).

Although the mobile platform measurements could be affected by emissions from vehicles occasionally encountered on the pre-sunrise route or cross-surface streets, these encounters typically exhibited only a short, transient spike of elevated concentrations. Furthermore, the overall pre-sunrise concentrations and gradients presented were averaged from 18 to 24 runs in winter and 12–16 runs in summer and for all these reasons were generally not significantly affected by emissions from occasionally encountered nearby vehicles. The Santa Monica Airport (SMA), a small local airport, located south of the pre-sunrise route, had no impact on

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any of our pre-sunrise measurements since it has severely restricted hours to minimize noise pollution, and was closed during all of our pre-sunrise experiments.

3.4. Size distribution of UFP along pre-sunrise route

The use of a fast mobility particle sizer (FMPS), with its 10 s scans, allowed accurate monitoring of the changing particle size distribution as a function of distance away from the freeway. Fig. 9 shows average UFP size distributions for five downwind and two upwind intersections during the pre-sunrise hours in the winter season, with decreasing particle numbers and increasing sizes as distance downwind increases, until the upwind size distribution was roughly matched at 2600 m. At the downwind intersections up to 1200 m from the freeway, two to four times higher concentrations of ultrafine particles less than 40 nm were observed compared with upwind locations (Fig. 9).

For the intersections nearest the freeway (e.g. Kansas, 100 m downwind, and Pico, 250 m downwind), bi-modal peaks in the size ranges of ~9–12 nm and 16–20 nm were observed. For downwind intersections farther away and for the upwind intersections, UFP peaks observed were typically ~9–12 nm and ~16–20 nm, and 28–35 nm, corresponding to freshly generated UFP and aged particles, respectively. UFP size distributions at a distance of 2600 m downwind (Palms Blvd.) and 1000 m upwind (Harvard St), considered "background" locations, were similar with a dominant mode at 30–60 nm.

In summer, downwind UFP size distributions also had a small mode of 9–12 nm. The persistence of the 9–12 nm peak in UFP concentrations during pre-sunrise hours over a wide area can be attributed to increased condensation of organic vapors and slower rates of conversion to larger particles for the cooler, stable air conditions prior to sunrise during our winter and summer campaigns. These conditions would also promote the more elevated UFP concentrations observed in our pre-sunrise runs compared with daytime runs.

3.5. Pre-sunrise vs. daytime concentrations in present study: exposure implications

Although traffic volumes on the freeway during the pre-sunrise hours were markedly lower than during the daytime (~30–80% of peak congestion traffic volumes), air pollutant concentrations measured prior to sunrise were significantly higher than in the

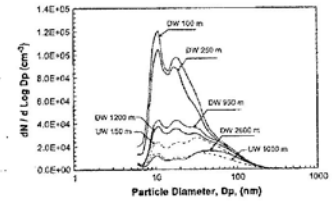

Fig. 9. Size distributions of ultrafine particles measured by a TSI Model 3081 FMPS at upwind (UW) and downwind (DW) intersections during the pre-sunrise hours in the winter season.

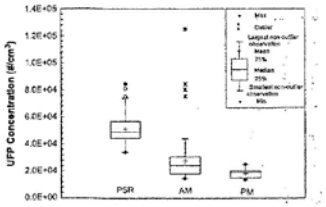

Fig. 10. Comparison of UFP concentrations on Pearl St. (600 m south of I-10 freeway) at different times in winter: pre-sunrise (PSR), morning (AM), and afternoon (PM).

morning or afternoon runs. Fig. 10 shows the UFP concentrations measured at Pearl St., ~600 m south of the freeway, during the pre-sunrise and daytime hours in winter. The median UFP concentrations were 49 000 cm^{-3}, 24 000 cm^{-3}, and 19 000 cm^{-3} for the pre-sunrise, morning, and afternoon, respectively. Clearly, there was sufficient traffic flow on the I-10 freeway combined with the meteorological conditions during pre-sunrise hours to result in elevated concentrations of UFP, NO, and PB-PAH over a wide area of the downwind (up to ~2000 m) and upwind (up to ~600 m) residential neighborhoods. Since the pre-sunrise hours are at a time when most people are in their homes, our observations imply the potential for elevated exposures for many more residents in these neighborhoods, adjacent to freeways; far above the numbers of people that live within the ~300–500 m range reported in earlier daytime and evening studies. Additional measurements in the pre-sunrise period downwind of other major roadways should be conducted to confirm our novel findings.

4. Conclusions

A wide impact area of elevated pollutant concentrations on the downwind (up to ~2000 m) and upwind (up to ~600 m) sides of a freeway was measured during the pre-sunrise hours under typical meteorological conditions characterized by weak winds and a strong radiation inversion. To make these measurements, a mobile platform, equipped with fast-response monitoring instruments, drove along a transect crossing under the I-10 freeway and passing through a large residential neighborhood. On the upwind side of the freeway, air pollutant concentrations dropped quickly, but remained elevated up to ~600 m. On the downwind side, air pollutant concentrations (UFP, PAH, NO) dropped much more slowly and extended far beyond the typical ~300 m distance associated with the return to background pollutant levels observed in previous studies conducted during daytime. For example, elevated ultrafine particle concentration of about 40 000 cm^{-3} extended to ~1200 m downwind of the freeway in the winter season, which was about 40% of the peak UFP concentration adjacent to the freeway.

Although traffic volumes during the pre-sunrise hours were lower than during the day, the UFP concentrations were significantly higher in the pre-sunrise period. We attribute this pre-sunrise phenomenon to strong atmospheric stability, low wind speeds (~0–1 m s^{-1}), low temperatures (~9–13 °C), and high humidities (~61–79%), facilitating longer lifetimes and slower transport of UFP before dilution and dispersion to background levels. Nocturnal inversions are

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a widespread phenomenon particularly on clear nights, and our results suggest broad areas of elevated pollutants around major roadways are expected to be common in the early-morning hours. The implications of these observations for exposures to vehicle-related pollutants should be further explored.

Acknowledgements

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Integrative Physiology

Ambient Particulate Pollutants in the Ultrafine Range Promote Early Atherosclerosis and Systemic Oxidative Stress

Jesus A. Araujo, Berenice Barajas, Michael Kleinman, Xuping Wang, Brian J. Bennett, Ke Wei Gong, Mohamad Navab, Jack Harkema, Constantinos Sioutas, Aldons J. Lusis, Andre E. Nel

Abstract—Air pollution is associated with significant adverse health effects, including increased cardiovascular morbidity and mortality. Exposure to particulate matter with an aerodynamic diameter of <2.5 μm ($PM_{2.5}$) increases ischemic cardiovascular events and promotes atherosclerosis. Moreover, there is increasing evidence that the smallest pollutant particles pose the greatest danger because of their high content of organic chemicals and prooxidative potential. To test this hypothesis, we compared the proatherogenic effects of ambient particles of <0.18 μm (ultrafine particles) with particles of <2.5 μm in genetically susceptible (apolipoprotein E–deficient) mice. These animals were exposed to concentrated ultrafine particles, concentrated particles of <2.5 μm, or filtered air in a mobile animal facility close to a Los Angeles freeway. Ultrafine particle–exposed mice exhibited significantly larger early atherosclerotic lesions than mice exposed to $PM_{2.5}$ or filtered air. Exposure to ultrafine particles also resulted in an inhibition of the antiinflammatory capacity of plasma high-density lipoprotein and greater systemic oxidative stress as evidenced by a significant increase in hepatic malondialdehyde levels and upregulation of Nrf2-regulated antioxidant genes. We conclude that ultrafine particles concentrate the proatherogenic effects of ambient PM and may constitute a significant cardiovascular risk factor. (*Circ Res*. 2008;102:589-596.)

Key Words: air pollution ■ ultrafine particles ■ atherosclerosis ■ oxidative stress ■ HDL

It is increasingly being recognized that exposure to ambient particulate matter (PM) contributes to significant adverse health effects and is a risk factor for the development of ischemic cardiovascular events via exacerbation of atherosclerosis, coronary artery disease, and the triggering of myocardial infarctions.[1] Although this association has been documented for PM with a mean aerodynamic diameter of <10 μm (PM_{10}), there is increasing evidence that smaller particles may pose an even greater health risk. A growing literature indicates that fine particles (FPs) with an average aerodynamic diameter of <2.5 μm ($PM_{2.5}$) exert adverse health effects of greater magnitude. For example, the "Women's Health Initiative study demonstrated a 24% increase in the incidence of cardiovascular events and a 76% increase in cardiovascular mortality for every 10 μg/m³ increase in the annual average $PM_{2.5}$ level.[2] It appears that the smallest particles that exist in the urban environment are the most dangerous.[3] Ambient ultrafine particles (UFPs) that have an aerodynamic diameter of <0.18 μm are by far the most abundant particles by number in urban environments such as Los Angeles. Because these particles are emitted mainly by vehicular emissions and other combustion sources, they contain a high content of redox-cycling organic chemicals that could be released deep into the lungs or could even spill over into the systemic circulation. Thus, UFPs may be particularly relevant from the perspective of cardiovascular injury.[3]

In spite of the epidemiological evidence indicating that ambient PM can promote cardiovascular injury and atherosclerosis, the mechanisms of the cardiovascular injury and proatherogenic effects are not clear. However, experimental studies in susceptible animal models have shed some light on disease pathogenesis. For instance, intratracheal administration of ambient PM_{10} in Watanabe rabbits[4] or long-term exposure of apolipoprotein (apo)E-null mice to $PM_{2.5}$[5,6] enhanced atherosclerotic plaque growth. Moreover, a cross-sectional exposure study in humans showed a 5.9% increase in carotid intima–medial thickness for every 10 μg/m³ rise in $PM_{2.5}$ levels,[7] and a prospective cohort study supported an association between long-term residential exposure to high-traffic levels of $PM_{2.5}$ and coronary atherosclerosis, as assessed by coronary artery calcification scores,[8] demonstrating

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that the proatherogenic effects of PM are clinically relevant.[7,8] Air pollution has also been linked to the triggering of acute coronary ischemic events in humans, including myocardial infarction.[9]

We have demonstrated that ambient PM exerts proinflammatory effects in target cells such as endothelial cells,[10] macrophages,[11] and epithelial cells[12] through the generation of reactive oxygen species (ROS) and oxidative stress.[11,12] These prooxidative effects are mediated, in part, by redox-cycling organic chemicals and transition metals that are present on the particle surface.[11] Ambient PM can synergize with oxidized phospholipids in the induction of a wide array of genes involved in vascular inflammatory processes such as atherosclerosis.[10] Moreover, when comparing concentrated ambient particles (CAPs) of various sizes in the Los Angeles basin, UFPs were shown to have the highest content of redox cycling chemicals and therefore displayed the largest prooxidant potential, both abiotically and biotically.[13] We hypothesized, therefore, that UFPs may concentrate some of the PM proatherogenic effects by promoting prooxidant and proinflammatory effects. We used the particle concentrator technology available in the Southern California Particle Center to evaluate the atherogenic potential of concentrated UFPs versus concentrated $PM_{2.5}$ in apoE-null mice. In addition, we evaluated the effects of particle exposures on the plasma high-density lipoprotein (HDL) antiinflammatory activity as well as markers of systemic oxidative stress. Our data show that UFPs are more proatherogenic, exert the strongest procoxidative effects, and are associated with the largest decrease in HDL protective activity. These data are of considerable significance from a regulatory perspective.

Materials and Methods

Detailed methods about histology, immunohistochemistry, blood chemistry, monocyte chemotactic assays, lipid peroxidation assay, RNA extraction, and real-time RT-PCR can be found in the online data supplement at http://circres.ahajournals.org.

Animals and Diet

The Animal Research Committee at The University of California at Los Angeles (UCLA) approved all animal protocols. ApoE$^{-/-}$ (C57BL/6J background) male mice were obtained from The Jackson Laboratory (Bar Harbor, Me). Animals were brought to the UCLA animal facility at 4 weeks of age. Mice were fed a regular chow diet (NIH-31 modified 6% diet; Harlan Teklad, Madison, Wis). Both water and food were administered ad libitum. Animals were randomly assigned to 3 groups (n=17/group) that were sent to a mobile inhalation toxicology laboratory located 300 meters from the 110 Freeway. This freeway carries a high volume of gasoline and diesel motor vehicle transit, resulting in high levels of $PM_{2.5}$ mass and UFP counts at the exposure site (Table). The mobile research laboratory (AirCARE 1) is owned by Michigan State University.[14] Mice were subjected to CAP exposures starting at 6 weeks of age over a 40-day period. One mouse in the FP group and 2 in the UFP group died during the course of the study. Animals were euthanized 24 to 48 hours after completion of the last CAP exposure, and aortas and various organs were harvested. Between exposures, mice were housed in a Hazelton chamber[15] that was ventilated with air from which 99.9% of the incident particles were removed by a HEPA filter.

CAP Exposures and Chemical Characterization

Whole-body exposures were performed simultaneously in sessions of 5 hours per day, 3 days per week, for a combined total of 75 hours.

Table. Characteristics of Experimental Exposure Protocol of ApoE-Null Mice Fed a Normal Chow Diet

Experimental Parameter	
Groups	FA, FP, UFP
Exposure time (dates)	11/03/2005 to 12/13/2005
Exposure time (hours)	75
Total ambient particle no. (particles/cm³)	$3.42 (\pm 0.96) \times 10^5$
No. concentration in FA chamber (particles/cm³)	<5000
No. concentration in FP chamber (particles/cm³)	$4.56 (\pm 1.06) \times 10^5$
Calculated UFP no. concentration in the FP chamber (particles/cm³)	$3.88 (\pm 1.06) \times 10^5$
No. concentration in UFP chamber (particles/cm³)	$5.59 (\pm 1.23) \times 10^6$
Ratio of UFP in the FP vs the UFP chamber*	1:1.44
FP chamber particle enrichment factor	13.35 (±1.6)
UFP chamber particle enrichment factor	16.4 (±1.8)
Mass in FP exposure chamber (μg/m³)	433.29
Mass in UFP exposure chamber (μg/m³)	112.61
$PM_{2.5}$ mass in ambient air (μg/m³)	29.78
UFP mass in ambient air (μg/m³)	8.43

FA, FP, and UFP groups were exposed in a mobile laboratory located in downtown Los Angeles. Values shown are means(±SD). *This ratio was obtained by reducing the particle no. in the FP chamber by 15%, which represents the contribution of particles in the 0.18–2.5 μm range. This also translates into an ~2-fold increase in surface area if a spherical particle shape is assumed.

Particle concentrator technology was used to deliver the CAP exposures. Three animal groups were simultaneously exposed to atmospheres containing concentrated particles of <2.5 μm (FPs), particles of <0.18 μm (UFPs), and filtered air (FA). Briefly, ambient air was drawn through an aluminum duct into the VACES (Versatile Aerosol Concentration Enrichment System)[14,15] and delivered to whole-body exposure chambers.[14,15] The FP and UFP aerosol concentrators delivered 0.01- to 2.5-μm and 0.01- to 0.18-μm aerosols, respectively (Table). The FP atmosphere included sub-18 μm particles that were ≈40% fewer particles than in the UFP chamber. Temperature and airflow were controlled to ensure adequate ventilation and minimize buildup of animal-generated dander, ammonia, CO_2, and thermal stress. Mobilization of mice between the Hazelton chamber and the exposures chambers was performed over the shortest time period possible to limit the exposure to ambient air PM in the trailer. CAP number concentrations were measured with a TSI 3022 Condensation Particle Counter, and particle mass concentration was assessed with a DataRAM Model DK-2000.

Particle mass concentration and elemental CAP composition were measured by particle collection on 37-mm Teflon filters (PTFE 2-μm pore, Gelman Science, Ann Arbor, Mich). Concentrations of inorganic ions (sulfate and nitrate), elemental carbon, organic carbon (OC), polycyclic aromatic hydrocarbon (PAH) content, and particle-bound trace elements and metals was performed as previously described.[16–18]

Statistical Analysis

All data were expressed as means±SEM unless indicated otherwise. Differences between experimental groups were analyzed by 1-way ANOVA with a 1-tailed Fisher protected least-significance difference (PLSD) post hoc analysis test. Differences were considered statistically significant at $P<0.05$.

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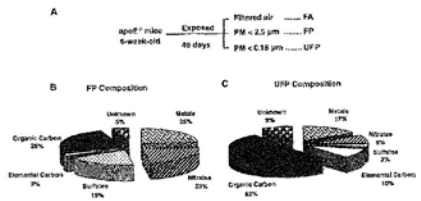

Figure 1. CAP exposures. A, Experimental protocol. Three groups (n=17) of 6-week-old male apoE-null mice were exposed to FA, $PM_{2.5}$, and PM of <0.18 µm (UFPs) for 40 days. B and C, Chemical composition of CAPs. UFP air had a greater content of organic and elemental carbon than FP air. Particle chemical composition of the FP (B) and UFP (C) chambers was performed as described in Materials and Methods.

Results

UFP Exposures Are Enriched in OC Substances Such As PAHs

Six-week-old male apoE-null mice were exposed in a mobile inhalation toxicology laboratory in downtown Los Angeles to CAPs in the size range of <2.5 µm (FP exposures) or <0.18 µm (UFP exposures). Controls consisted of mice exposed to FA (Figure 1A). Animals were simultaneously exposed to UFPs, FPs, and FA for a total of 75 hours over a 40-day time period while being kept on a chow diet. The atmospheric conditions and particle characteristics in the FP and UFP chambers are summarized in the Table. Because the FP atmosphere included particles of <0.18 µm (UFPs) that accounted for up to 85% of the total particle number, the actual number of these sub-0.18 µm particles was ~44% greater in the UFP chamber (Table), despite a total UFP mass that was approximately one-quarter of the FP mass. Assuming a roughly spherical shape for the particles, this 44% increase in sub-0.18 µm particle numbers in the UFP chamber translates into an ≈2-fold increase in the particle surface area. This was also accompanied by an ≈2-fold increase in fractional OC content (Figure 1B and 1C), which is theoretically more bioavailable than the smaller organic fraction on FPs (Figure 1B). Thus, the increased particle number, greater surface area, and higher fractional carbon composition could combine to deliver a much higher biological effective dose of the injurious components in the UFP compared with the FP chamber. In fact, measurement of a set of signature PAHs in filter samples that were collected concurrently with the CAP exposures, demonstrated that the PAH content of the UFPs was roughly twice as high as the FP content when corrected for a per mass basis (Figure 2). Although there is no definitive evidence that PAHs are those responsible for adverse cardiovascular effects, we have previously demonstrated that their abundance is a good proxy for the prooxidant potential of PM.[13]

UFP Exposure Promotes Atherosclerosis

Exposure to the UFP atmosphere for 75 hours over a 40-day interval resulted in 55% greater aortic atherosclerotic lesion development (33 011±3741, n=15) as compared with FA controls (21 362±2864, n=14; P=0.002) (Figure 3). Exposure to the FP atmosphere resulted in a similar trend but of lesser magnitude (P=0.1). Interestingly, UFP mice exhibited a 25% increase in atherosclerotic lesions in comparison with FP mice (26 361±2275, n=16, P=0.04), which suggests that the smallest particles are indeed more proatherogenic.

Histological analysis revealed that lesions were predominantly comprised of macrophage infiltration with intracellular lipid accumulation (foam cells) (Figure 4). These cells contributed, on average, >85% of the total lesional area in all the groups (supplemental Table I). UFP-exposed animals developed more extensive as well as thicker atherosclerotic plaques that showed the same relative abundance of macrophages and smooth muscle cells, as determined by MOMA-2 and α-actin immunohistochemical staining (Figure 4 and supplemental Table I).

Exposure to Ambient CAPs Results in Loss of HDL Antiinflammatory Properties

FP but not UFP exposures resulted in a small but significant increase in plasma total cholesterol in comparison to other groups (supplemental Table II). Although all animals displayed similar levels of plasma HDL cholesterol (supplemental Table II), we did observe a change in HDL antiinflammatory properties. This was demonstrated by comparing the antiinflammatory protective capacity of HDL against LDL-

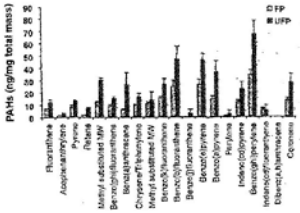

Figure 2. OC composition. Mass concentration fraction of PAHs in the FP (gray) and UFP (black) chambers. Data are shown as nanogram per milligram of PM mass and represent the average of composition analysis performed on filter samples collected for 2 experiments. PAH analysis was performed by means of gas chromatography–mass spectroscopy as described.[16–18]

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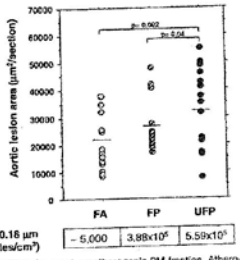

Figure 3. UFP is the most proatherogenic PM fraction. Atherosclerotic lesions were quantitatively analyzed in serial aortic root sections and stained with oil red O. Lesional area was scored as square micrometer per section, averaged ≥25 sections per animal. Group averages are indicated by straight horizontal bars. One FA mouse was an obvious outlier in its group and removed from the atherosclerotic lesion analysis. However, its inclusion did not modify the overall significance. FA mice are represented by dotted circles (n=14), FPs by stripped circles (n=16), and UFPs by filled circles (n=15).

induced chemotaxis (Figure 5). Plasma HDL from both FP and UFP animals exhibited significantly less protective effect than HDL from the FA group (Figure 5). Moreover, the antiinflammatory effect of HDL from the UFP group was significantly decreased compared with the FP group. These results are in good agreement with the extent of vascular lesions in the different animal groups, suggesting that a PM-induced decrease in the HDL antiinflammatory protective capacity could contribute to atherogenesis.

UFP Exposure Leads to the Expression of Systemic Biomarkers of Oxidative Stress and Activation of the Unfolded Protein Response

One of the major mechanistic hypotheses regarding PM injury is the ability of the particles to induce ROS production and oxidative stress. To probe for the presence of oxidative

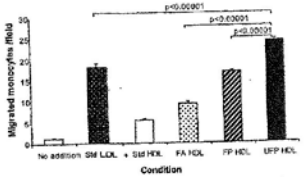

Figure 5. PM exposure leads to a loss of HDL antiinflammatory properties. Pooled plasma HDL from FA (n=16), FP (n=16) and UFP mice (n=15) was added to cocultures of human artery wall cells in the presence of standard (SM) human LDL, as described in Materials and Methods. Values are expressed as means± SEM of the number of migrated monocytes in 9 fields. Statistical analysis was performed by 1-way ANOVA (Fisher PLSD).

stress, we explored whether CAP exposure could result in lipid peroxidation in the liver. We observed statistically significant increases in the hepatic malondialdehyde (MDA) levels in the UFP compared with the FA group (P=0.02) (Figure 6). FP mice also demonstrated increases in lipid peroxidation compared with the FA group (P=0.03). These data suggest that CAP exposure leads to systemic oxidative stress.

We also explored whether differences in lipid peroxidation were accompanied by phase II antioxidant responses that are mediated via the p45-NFE2-related transcription factor 2, Nrf2.[19] This constitutes one of the most sensitive oxidative stress effects that can be traced to prooxidative PM in vitro and in vivo.[11,20] UFP mice exhibited a significant increase in the expression of Nrf2 as well as genes that are secondarily regulated by this transcription factor (Figure 7). Indeed, UFP mice displayed Nrf2 mRNA levels that were 68% greater than FA and FP mice (P=0.01). Likewise, as compared with the FA group, UFP mice displayed significantly greater levels of catalase (3.7-fold), glutathione *S*-transferase Ya (5.3-fold), NAD(P)H-quinone oxidoreductase 1 (1.8-fold), and superoxide dismutase 2 (1.4-fold) (Figure 7). Interestingly, increased tissue oxidative stress was also accompanied by the activation

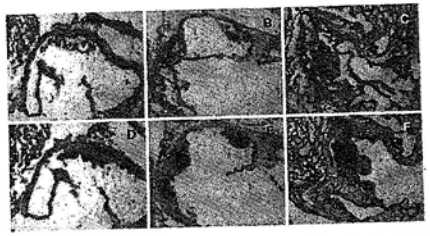

Figure 4. Representative histological photomicrographs. A through C, Oil red O staining for neutral lipids in representative aortic root sections of FA (A), FP (B), and UFP (C) mice. D through F, MOMA-2 immunohistochemical staining in adjacent aortic root sections to those shown in the top row, corresponding to the same FA (D), FP (E), and UFP (F) mice. Both oil red O and MOMA-2 staining yielded red-stained areas. UFP mice exhibited more extensive atherosclerotic plaques (C and F) than FP (B and E) or FA animals (A and D), all consisting primarily of foam cells and macrophages (fatty streaks). Original magnification, ×100.

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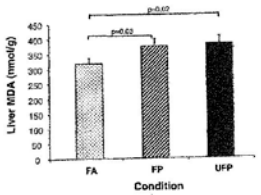

Figure 6. UFP exposure increases liver lipid peroxidation. MDA was assessed in liver homogenates as described in Materials and Methods. Values are expressed as the means±SEM of MDA (nmol/g) in animals from the FA (n=16), FP (n=15), and UFP (n=14) groups. Statistical analysis was performed by 1-way ANOVA (1-tailed Fisher PLSD).

of the unfolded protein response in the liver because the UFP-exposed mice displayed 41% and 37% greater expression of activating transcription factor 4 than FP mice ($P=0.01$) and FA controls ($P=0.02$) (Figure 7).

Discussion

We demonstrate that atherosclerotic plaque formation in apoE-null male mice is enhanced by exposure to sub-0.18 μm particles. Mice exposed to UFPs alone exhibited greater and more advanced lesions compared with FA- or FP-exposed animals. UFP mice also showed a comparatively greater decline in the antiinflammatory capacity of plasma HDL as well as increased phase II enzyme mRNA expression in the liver. These results support the hypothesis that exposure to UFPs may enhance atherosclerosis via the promotion of systemic prooxidant and proinflammatory effects.

Our study significantly extends previous data showing that PM potentiates atherosclerotic lesion development in animals.[4–6] The fact that FP mice displayed a nonstatistically significant trend to develop more atherosclerotic lesions than FA controls could be attributable to the relatively short duration of our exposure (40 days), which stands in contrast to the 5- to 6-month exposure period that was previously used to demonstrate a 45% to 58% increment in atherosclerotic lesion development during $PM_{2.5}$ exposure.[5,6] Of interest, our UFP animals exhibited a similar 55% increment over FA controls despite an exposure duration that was 4 to 5 times shorter, indicating the greater proatherogenic toxicity of sub-0.18 μm particles. This supports the notion that the adverse cardiovascular effects of PM are exaggerated by a small particle size.

A number of injury mechanisms have been proposed to explain the adverse health effects of PM, including its ability to stimulate oxidative stress and inflammation, alter blood clotting, stimulate autonomic nervous system activity, or act as a carrier for endotoxin.[1] A key injury mechanism appears to be the generation of inflammation as a direct consequence of the ability of ambient particles and their adsorbed chemicals to induce ROS and oxidative stress.[21] Oxidative stress

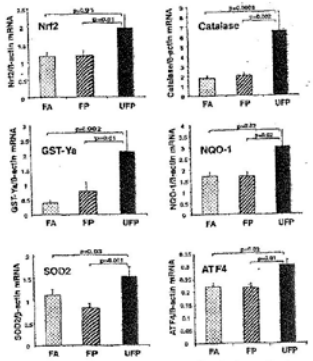

Figure 7. UFP exposure leads to upregulation of antioxidant genes in the liver. mRNA levels for antioxidant genes were determined by quantitative PCR in the livers of chow-fed mice exposed to CAPs for 40 days. Values are expressed as the means±SEM of mRNA levels normalized by β-actin mRNA. Ten samples per group were assayed in duplicate. Statistical analysis was performed by 1-way ANOVA (1-tailed Fisher PLSD; *P<0.05). ATF4 indicates activating transcription factor 4; GST-Ya, glutathione S-transferase Ya; NQO-1, NAD(P)H-quinone oxidoreductase 1; SOD2, superoxide dismutase 2.

initiates proinflammatory signaling cascades, including the Jun kinase and nuclear factor κB cascades[16,22,23] that are relevant to atherogenesis. According to the hierarchical oxidative stress hypothesis, the induction of Nrf2-induced phase II enzyme expression is an integral oxidative stress protective pathway that acts as a sensitive marker for oxidative stress.[24] Indeed, important cytoprotective, antiinflammatory and antioxidant phase II enzymes including catalase, superoxide dismutase 2, glutathione S-transferase Ya, and NAD(P)H-quinone oxidoreductase 1 were all significantly upregulated in the liver of UFP mice (Figure 7) and, together with Nrf2 upregulation, suggest the triggering of a Nrf2-driven antioxidant response.

Our results support the notion that the generation of systemic oxidative stress is responsible for the observed vascular effects. Possible explanations for these systemic effects are: First, inhaled particles may release organic chemicals and transition metals from the lung to the systemic circulation. Second, pulmonary inflammation could lead to the release of ROS, cytokines and chemokines to the systemic circulation. Although we did not observe any major increase in inflammatory cells during the performance of bronchoalveolar lavage in these mice, future studies will need to address whether any subtle proinflammatory effects in the lung could play a role. Third, UFPs could gain access to the

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systemic circulation by directly penetrating the alveolar/capillary barrier.[25] However, this possibility is still controversial. Although reports of the systemic translocation of ^{99m}Tc-labeled ultrafine carbon particles[25] or albumin nanocolloid particles of <80 nm[26] have appeared in the literature, skepticism has been expressed about the stability of the labeling procedures. Moreover, the same has not been demonstrated for ambient air "nanoparticles."

The particles or their chemicals may generate ROS systemically via a number of different pathways, including redox cycling of quinones, metabolism and functionalization of PAHs, activation of leukocyte NADPH oxidase and myeloperoxidase, or interference in 1-electron transfers in the mitochondrial inner membrane.[27] It is also possible that the particles themselves or their chemical components may synergize with oxidized LDL in promoting endothelial cell dysfunction. Indeed, we have shown that ambient PM can synergize with oxidized phospholipids in the induction of a large number of genes in a human microvascular endothelial cell line, many of which belong to antioxidant, proinflammatory, unfolded protein response, or proapoptotic pathways.[10] ROS generation and antioxidant responses constitute a dynamic equilibrium. The greater prooxidant stimulus delivered by the UFPs could be more prone to overwhelm the concomitant generation of a protective antioxidant response. On the other hand, it is interesting that no differences were noted between the FP and UFP exposures in the MDA assay. Although the methodology used is sensitive and specific for the determination of MDA,[28] there are several limitations in this assay in reflecting the degree of lipid peroxidation, as reviewed by Janero et al,[29], such as: (1) MDA yield as a result of lipid peroxidation varies with the nature of the polyunsaturated fatty acids peroxidized (especially its degree of unsaturation) and the peroxidation stimulus; (2) only certain lipid oxidation products decompose to yield MDA; (3) MDA is only one of several (aldehydic) end products of fatty peroxide formation and decomposition; (4) the peroxidation environment influences both the formation of lipid-derived MDA precursors and their decomposition to MDA; (5) MDA itself is a reactive substance that can be oxidatively and metabolically degraded; (6) oxidative injury to nonlipid biomolecules has the potential to generate MDA. Thus, if FP and UFP exposures impacted these factors in a different extent, it may explain a greater degree of lipid peroxidation not reflected by the MDA measurements.

PM-induced systemic inflammation and oxidative stress could also adversely affect lipoprotein function, including interfering in the beneficiary effects of HDL on reverse cholesterol transport[30] and the antiinflammatory[31] effects of this lipoprotein fraction. Indeed, both FP and UFP mice exhibited the development of dysfunctional HDL, which was more severe in the latter group in terms of its proinflammatory potential (Figure 5). Such proinflammatory effects were also supported by the greater expression of activating transcription factor 4 in liver, an unfolded protein response component that we have shown to exert proinflammatory effects in endothelial cells by inducing the expression of interleukin-6, interleukin-8, and monocyte chemotactic protein 1.[32] Likewise, we have also shown that prooxidative diesel exhaust particle chemicals induce an unfolded protein response in bronchial epithelial cells.[33] Changes in HDL function were observed in the absence of changes on HDL quantitative levels. On the other hand, FP exposures did result in greater total cholesterol levels in the FP versus FA mice, whereas UFP levels were unaffected. These higher cholesterol levels in the FP mice may have resulted in narrowing of the differences in atherosclerosis in between FP and UFP mice that otherwise could have been larger than the 23% observed difference. Consistent with our results, it has been reported that the HDL antiinflammatory profile can be hampered by environmental factors such as the exposure to prooxidative chemicals present in cigarette smoke.[34] For example, mice exposed to second-hand smoke develop dysfunctional HDL.[35] A possible mechanism could be interference with paraoxonase and lecithin cholesterol acyltransferase activities by redox-active chemical compounds. In particular, prooxidative PM chemicals may affect critical thiol groups that are responsible for the catalytic activity of paraoxonase, leading to increased susceptibility to atherosclerosis.[36]

The fact that the FP atmosphere contains both UFPs and particles of >0.18 μm makes interpretation of those data complex. However, we have shown that the 25% difference in atherosclerotic lesion scores could be explained by the 44% increase in UFP particle number (Table and Figure 3). Total particle mass was clearly not a determining factor because the FP atmosphere had ≈3.9-fold greater mass than the UFP aerosol. What is likely significant is that UFPs have an ≈2-fold increase in the OC and PAH content on a per mass basis (Figures 1 and 2). It is possible that these prooxidative components could be delivered from a surface area that is twice as big in particles associated with the UFP atmosphere. Although we cannot claim that the PAHs are actually responsible for the lesion development, these organic chemical compounds are a good proxy for the prooxidative potential of UFPs.[13]

How do our experimental atmospheres relate to real life exposures? The particle numbers in our study were 2- to 6-fold higher than the in-vehicle exposures that commuters may encounter while traveling on Los Angeles freeways.[37] It was not logistically feasible to perform detailed dose– and time–response studies; this type of data will be important to obtain in future studies. Although it would clearly be advantageous to know the minimum exposure that is required for proatherogenic effects, previous epidemiological studies have shown that cardiovascular morbidity and mortality increase linearly without a threshold effect.[38,39] Differences in the physiology of genetically susceptible animals and humans also have to be taken into consideration when extrapolating this work to cardiovascular disease in humans.

In conclusion, we demonstrate that UFP exposures have a higher proatherogenic potential than FP exposures. These effects could be linked to a greater propensity of UFPs to generate systemic oxidative stress and to interfere with the antiinflammatory capacity of plasma HDL. Our findings are important in explaining how ambient PM may contribute to daily total and cardiovascular mortality.[40] Although such an association has been established previously for PM_{10} and $PM_{2.5}$,[2,41,42] we demonstrate that UFP exposure could be of

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even greater relevance. Further epidemiological and experimental data collection are required to determine the critical physicochemical and toxicological properties of UFPs in humans.

Acknowledgments

We thank Larry Castellani for the plasma lipoprotein determinations.

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Disclosures

None.

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ONLINE SUPPLEMENT

MATERIALS AND METHODS

Histology and immunohistochemistry

Atherosclerotic lesions in the aortic root were quantitatively analyzed as previously described [1]. Briefly, the upper portion of the heart and proximal aorta was excised and embedded in OCT compound (Tissue-Tek) and frozen [2]. Serial 10-μm-thick cryosections in the aortic root, beginning at the level of the appearance of the aortic valve, were collected for a distance of 500 μm. A total of 25 sections, selected as every other section collected over the entire region, were stained with Oil Red O and counterstained with hematoxylin. The lipid-containing area on each section was determined by using a microscope eyepiece grid and expressed in μm^2 lesional area/section. The mean value of lesional areas among the 500 μm-spanning sections was referred as the aortic lesion score (μm^2/section). Cellular composition was assessed by immunohistochemical staining of alternating sections to those stained with Oil Red O, in 3 sections per animal and averaged over four animals per group. Assessment was performed for macrophages (MOMA-2, Beckman Coulter) and smooth muscle cells (smooth muscle α-actin, Spring Bioscience). Planimetric analysis was performed at 10X using ImagePro Plus software. Relative content of macrophages and/or smooth muscle cells was determined by the percentage of the positively-stained area over the entire lesional area.

Blood chemistry

Retro-orbital bleeding was performed under isoflurane anesthesia in 6-hour fasting animals, 1 week prior to the onset (5 weeks of age) as well as at the termination of the exposure protocols (11 weeks of age). Plasma total and HDL cholesterol were determined by enzymatic assays as previously described [3].

Monocyte Chemotaxis Assay

This assay evaluates the protective capacity of HDL against LDL-induced monocyte chemotactic activity. Monocytes were isolated from blood obtained from a large pool of healthy donors at the UCLA Division of Cardiology, Atherosclerosis Research Unit. Human aortic endothelial cells

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(HAEC) and human aortic smooth muscle cells (SMC) were isolated from trimmings of fresh surgical aortic specimens from normal donor hearts during transplantation. Endothelial and smooth muscle cells were grown, propagated and used for forming an artery wall model in culture. Cocultures of HAEC and SMC were treated for 18 hours with a standard source of human LDL (100 μg LDL protein/ml), in the absence or presence of a standard source of human or murine HDL (50 μg HDL protein/ml). The LDL and HDL were isolated from normal standard plasma by FPLC[4]. The cells were then washed and incubated in fresh culture medium for 8 hours, following which supernatants were collected to assess monocyte chemotactic activity after 40-fold dilution, which is expressed as the number of monocytes that have transmigrated per high power field, HPF [4]. LDL-induced monocyte chemotactic activity is mostly (70 +/- 4%) a result of the induction of MCP1 secretion, stimulated by oxidized phospholipids that form during the oxidation of LDL by the artery wall cells to generate minimally oxidized LDL [5]. HDL ability to block monocyte chemotaxis correlates with its antioxidant capacity that decreases the generation of minimally oxidized LDL, resulting in inhibition of MCP1 induction and decreased monocyte binding and migration [6-8].

Lipid Peroxidation Assay

Malondialdehyde (MDA) content was measured in liver homogenates with a colorimetric assay (OxisResearch, OR) according to the manufacturer's instructions [9]. A standard curve was used to calculate the concentration (nmol/g) of MDA for each sample. The final MDA level represents the average of 14-16 age-matched animals/group.

RNA extraction and real-time RT-PCR

Total RNA was extracted from liver tissue with the Trizol method (Invitrogen). Reverse transcription was performed using 1 μg of RNA with the iScript cDNA Synthesis kit (Bio-Rad, Hercules, CA). Quantitative real-time polymerase chain reaction (qPCR) was used to measure tissue mRNA expression for heme oxygenase-1 (HO-1), NF-E2-related factor-2 (Nrf2), catalase, superoxide dismutase 2 (SOD2), NAD(P)H-quinone oxidoreductase 1 (NQO1), glutathione S-transferase-Ya (GST-Ya), activating transcription factor (ATF4) and β-actin, utilizing specific PCR primers [10]. The reactions were performed in duplicate on an ABI Prism 7000 (Applied

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Biosystems, Foster City, CA, USA) using iQ Sybr Green Supermix (Bio-Rad). Reactions were performed with 0.4 μM of primers and 1 μg of cDNA template as follows: 95°C for 3 min, 40 cycles of 95°C for 15 sec, 58 - 64°C for 30 sec and 72°C for 30 sec. A standard curve was created from serial dilutions of a pooled sample of cDNA. Gene expression was normalized to β-actin. PCR levels were displayed as arbitrary units.

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GL14 Continued

Supplemental Table I. Cellular composition of atherosclerotic lesions

Group	MOMA-2 (%)	p (vs. FA)	SMC actin (%)	p (vs. FA)
FA	88±7	-	14±5	-
FP	86±2	0.60	10±5	0.58
UFP	88±3	0.91	5±7	0.42

MOMA-2 and SMC α-actin immunohistochemical staining were performed in 3 sections/animal (n=4 animals/group). Planimetric analysis was performed at 10X using ImagePro Plus software. Data shown represent mean ± SE of positive stained area/total lesion area x 100. Statistical analysis was performed by one-way ANOVA with Fisher's PLSD post hoc analysis. FA: filtered air, FP: fine particles, UFP: ultrafine particles.

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Supplemental Table II. Plasma lipoproteins.

	Total cholesterol (mg/dl)	HDL cholesterol (mg/dl)
Baseline		
FA (n=17)	349 +/- 13	11 +/- 1
FP (n=17)	355 +/- 13	11 +/- 1
UFP (n=17)	352 +/- 12	11 +/- 1
End of protocol		
FA (n=16)	397 +/- 13	9 +/- 1
FP (n=16)	459/- 21†	8 +/- 1
UFP (n=15)	402 +/- 19	8 +/- 0.5

Mice were bled after 6-hour fasting. Baseline samples were collected one week prior to the beginning of exposure protocols. Samples taken at the end of the protocols were collected 24 hours after the last exposure. Values are given as mean ± SE (mg/dl). NM: not measured. † p (vs. FA group) ≤ 0.01, ‡ p (vs. UFP group) < 0.05. FA: filtered air, FP: fine particles, UFP: ultrafine particles.

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Ultrafine Particulate Pollutants Induce Oxidative Stress and Mitochondrial Damage

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The objectives of this study were to determine whether differences in the size and composition of coarse (2.5–10 µm), fine (< 2.5 µm), and ultrafine (< 0.1 µm) particulate matter (PM) are related to their uptake in macrophages and epithelial cells and their ability to induce oxidative stress. The premise for this study is the increasing awareness that various PM components induce pulmonary inflammation through the generation of oxidative stress. Coarse, fine, and ultrafine particles (UFPs) were collected by ambient particle concentrators in the Los Angeles basin in California and used to study their chemical composition in parallel with assays for generation of reactive oxygen species (ROS) and ability to induce oxidative stress in macrophages and epithelial cells. UFPs were most potent toward inducing cellular heme oxygenase-1 (HO-1) expression and depleting intracellular glutathione. HO-1 expression, a sensitive marker for oxidative stress, is directly correlated with the high organic carbon and polycyclic aromatic hydrocarbon (PAH) content of UFPs. The dithiothreitol (DTT) assay, a quantitative measure of in vitro ROS formation, was correlated with PAH content and HO-1 expression. UFPs also had the highest ROS activity in the DTT assay. Because the small size of UFPs allows better tissue penetration, we used electron microscopy to study subcellular localization. UFPs and, to a lesser extent, fine particles, localize in mitochondria, where they induce major structural damage. This may contribute to oxidative stress. Our studies demonstrate that the increased biological potency of UFPs is related to the content of redox cycling organic chemicals and their ability to damage mitochondria. *Key words:* concentrated ambient particles, dithiothreitol assay, heme oxygenase-1, mitochondrial damage, oxidative stress, polycyclic aromatic hydrocarbon, ultrafine particles. *Environ Health Perspect* 111:455–460 (2003). doi:10.1289/ehp.6000 available via *http://ehp.niehs.org/* [Online 16 December 2002]

Epidemiologic studies have shown associations between ambient air particulate matter (PM) and adverse health outcomes, including increased mortality, emergency room visits, and time lost from work and school (Dockery et al. 1993; Health Effects Institute (HEI) 2002; Samet et al. 2000; Wichmann et al. 2000). The underlying toxicologic mechanisms by which air pollutant particles induce adverse health effects are of intense scientific interest and have been earmarked as a key scientific priority by the National Academy of Sciences [National Research Council (NRC) 1998]. This includes a call for research on the physicochemical properties that promote particle toxicity (NRC 1998). PM with aerodynamic diameter < 2.5 µm ($PM_{2.5}$) is currently regulated by the U.S. Environmental Protection Agency. Within that spectrum of particle sizes, ultrafine particles (UFPs), defined as having an aerodynamic diameter < 0.1 µm, may have a central role in health effects of PM (Oberdörster and Utell 2002; Samet et al. 2000). Primary UFPs are formed during gas-to-particle conversion or during incomplete fuel combustion (HEI 2002). Due to their small size, high number concentration, and relatively large surface area per unit mass, UFPs have unique characteristics, including increased adsorption of organic molecules and enhanced ability to penetrate cellular targets in the lung and systemic circulation (Frampton 2001; HEI 2002; Nemmar et al. 2002; Oberdörster 1996; Utell and Frampton 2000).

Particle composition may also be critical in PM toxicity. We are interested in organic PM compounds because organic extracts made from diesel exhaust particles (DEPs) mimic intact particles in their ability to form reactive oxygen species (ROS) (Hiura et al. 1999, 2000; Kumagai et al. 1997; Nel et al. 1998). One of the major advances in PM research has been the recognition that the organic and metal PM components can induce proinflammatory effects in the lung due to their ability to cause oxidative stress (Kumagai et al. 1997; Nel et al. 1998, 2001; Saldiva et al. 2002). Quinones present in PM can act as catalysts to produce ROS directly and may be key compounds in PM-based oxidative stress (Monks et al. 1992; Penning et al. 1999). PAHs can induce oxidative stress indirectly, through biotransformation by cytochrome P450, epoxide hydrolase, and dihydrodiol dehydrogenase to generate redox active quinones (Penning et al. 1999). The involvement of quinones and PAHs was confirmed by demonstrating that compounds present in aromatic and polar fractions of DEP extracts mimic the pro-oxidative effects of intact particles in bronchial epithelial cells and macrophages (Li et al. 2000, 2002b). DEPs also induce cytochrome P450 1A1 induction in bronchial epithelial cells (Bonvallot et al. 2001). Animal and human experiments confirm that DEPs and PAHs derived from DEPs promote allergic airway inflammation and cytochrome P450 1A1 induction in the lungs of exposed mice (Miyabara et al. 1998; Nel et al. 1998; Takano et al. 2002; Tsien et al. 1997). Epidemiologic studies have also shown an association between PM exposure and asthma exacerbation (Nemmar et al. 2002; Penttinen et al. 2001; Utell and Frampton 2000).

The Versatile Aerosol Concentration Enrichment System (VACES), which uses three parallel sampling lines to collect concentrated ambient coarse, fine, and ultrafine particles for biological analysis, is now available for use in toxicologic studies aimed at identifying the relative toxicity of the different particle sizes (Kim et al. 2001a, 2001b). This technology enables us to probe the relationship between particle size, chemical composition, and toxicity (Li et al. 2002a). These concentrators are mobile and can be used to test hypotheses about particle toxicity in the Los Angeles basin in California. Concentrated air particulates (CAPs) of different sizes were collected to study their oxidative stress effects and subcellular localization in cultured macrophages and epithelial cells. We demonstrate that UFPs are more potent than fine (< 2.5 µm) or coarse (2.5–10 µm) particles

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toward inducing oxidative stress. This effect may be explained by adsorbed chemicals (organics and metals) capable of generating ROS and the ability of UFPs to localize in mitochondria.

Materials and Methods

Ambient particle collection. Ambient coarse particles (2.5–10 µm), fine plus ultrafine particles (< 2.5 µm), and UFPs (< 0.15 µm) were collected in the Los Angeles basin during November 2001–March 2002 using the VACES (Kim et al. 2001a, 2001b). Coarse particles were concentrated using a single nozzle virtual impactor, while fine and ultrafine particles were concentrated by drawing air samples through two parallel lines, using 2.5 µm and 0.15 µm cut-point preimpactors, respectively, to remove larger-sized particles. These particles are drawn through a saturation–condensation system that grows particles to 2–3 µm droplets, which are subsequently concentrated by virtual impaction. Highly concentrated particle suspensions were obtained by connecting the VACES output to a sterilized liquid impinger (BioSampler; SKC West Inc., Fullerton, CA) (Willeke et al. 1998). Aerosols were collected using ultrapure (Milli-Q; Millipore Corp., Bedford, MA) deionized water (resistivity 18.2 megaohm; total organic compounds < 10 ppb; particle-free; bacteria < 1 colony forming unit/mL) as the collection medium. The concentration enrichment process does not alter the physical, chemical, and morphologic properties of the particles (Kim et al. 2001a, 2001b). We determined the total amount of particulate loading in the collection medium by multiplying the ambient concentration of each PM mode by the total air sample volume collected by each VACES line. The particle concentration in the aqueous medium was then calculated by dividing the particle loading by the total volume collected in that time period. Five sample sets were collected, two at the University of Southern California (USC), and three at Claremont. USC is a typical urban site located 3 km south of downtown Los Angeles. This is a site in which aerosols are mostly generated from fresh vehicular emissions. Claremont is a receptor site approximately 45 km east (i.e., downwind) of downtown Los Angeles. In that location, ambient PM originates mostly from advection of polluted air parcels originally emitted in urban Los Angeles, after "aging" in the atmosphere for a few hours, as well as from secondary photochemical processes.

Particle chemical analysis. Samples were collected on Teflon and quartz filters with a Micro Orifice Uniform Deposit Impactor (MOUDI; MSP Corporation, Shoreview, MN) for chemical analysis (Li et al. 2002a). We used Teflon filters to determine the metal and trace element content by X-ray fluorescence and quartz filters to determine the organic carbon (MnO_2-catalyzed CO_2 formation), sulfate (ion chromatography), and nitrate (ion chromatography) contents (Li et al. 2002a). PAH content for each CAPs set was determined by an HPLC-fluorescence method that detects a signature group of 16 PAHs (Li et al. 2002a).

Cellular stimulation and heme oxygenase 1 (HO-1) immunoblotting. We used two cell lines in the study: RAW 264.7 and BEAS-2B. RAW 264.7 is a murine macrophage cell line that mimics the oxidative stress response of pulmonary alveolar macrophages in response to DEP exposure and asthma exacerbation (Hiura et al. 1999, 2000; Li et al. 2002b). BEAS-2B is a transformed human bronchial epithelial cell line, which mimics the oxidative stress response of primary bronchial epithelial cells (Li et al. 2002b). For RAW 264.7 culture, particle suspensions were reconstituted with Dulbecco's Modified Eagle's Medium powder, a culture medium component that rapidly dissolves in deionized water. This culture medium was further replenished with 10% fetal calf serum and a 1:200 dilution of penicillin/streptomycin/amphotericin B (Li et al. 2002a). For BEAS-2B cells, particle suspensions were made up in hormonally defined F12 medium (Kawanski et al. 2001). After incubating cells for 16 hr, we used 100 µg of lysate protein for HO-1 immunoblotting (Li et al. 2000, 2002a, 2002b). Densitometric analysis was performed on a laser Personal Densitometer SI using ImageQuant software (both from Amersham Biosciences, Piscataway, NJ).

GSH/GSSG assay. Total glutathione and oxidized glutathione (GSSG) were measured in a glutathione reductase recycling assay (Tietze 1969). We calculated the amount of total glutathione and GSSG in the samples from the standard curves. The amount of reduced glutathione (GSH) was calculated by subtracting the amount of GSSG from that of the total glutathione.

DTT assay. The dithiothreitol (DTT) assay quantitatively measures the formation of ROS by quinone catalysis (Kumagai et al. 2002). In the presence of quinones, 1 mol DTT + 2 mol O_2 generate 1 mol DTT-disulfide + $2O_2^{\cdot-}$

$$a: Q + DTT \rightarrow \text{semi-Q} + \text{DTT-dityl}$$
$$b: Q + \text{DTT-dityl} \rightarrow \text{semi-Q} + \text{DTT-disulfide}$$
$$c: 2\,\text{semi-Q} + 2O_2 \rightarrow 2Q + 2O_2^{\cdot-}$$

Table 1. Mass concentration and fractional composition of CAPs collected in the Los Angeles basin.

Chemical composition	Claremont (n = 3)			USC (n = 2)		
	Coarse	Fine	Ultrafine	Coarse	Fine	Ultrafine
Mass concentration (µg/m³)	12.3	17.3	1.9	21.1	20.9	3.9
Organic carbon (%)	16	40	65	26	52	71
Elemental carbon (%)	1	3	13	1	3	11
Nitrate (%)	27	31	4	35	23	3
Sulfate (%)	5	13	5	7	8	6
Metals/metal elements (%)	51	13	9	37	14	9

Values represent the mean fractional composition (%) in which SEM varied < 10%.

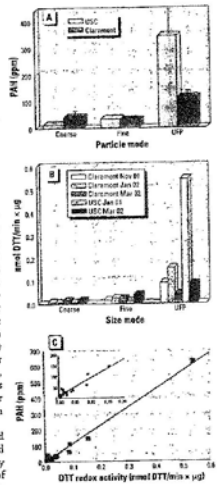

Figure 1. Correlation of PAH content with ROS formation. (*A*) PAH content for each set of CAPs determined by HPLC-fluorescence; values shown are mean ± SEM for Claremont (*n* = 3) and USC (*n* = 2). (*B*) *In vitro* electron transfer capacity of CAPs measured by a colorimetric assay that distinguishes oxidized from reduced DTT (Kumagai et al. 2002). The mean was calculated for three separate measurements; SEM < 0.1. (*C*) Linear regression analysis demonstrating the correlation between PAH content and 15 DTT data points (5 sites × 3 samples/site); r^2 = 0.98. Inset: With the highest point removed, r^2 remains significant at 0.86.

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Net reaction: DTT + $2O_2 \rightarrow$ DTT-disulfide + $2O_2^{\cdot-}$

The loss of DTT is followed by its reaction with 5,5′-dithiobis-(2-nitrobenzoic acid) (DTNB), which is converted to 5-mercapto-2-nitrobenzoic (Kumagai et al. 2002). We incubated the PM sample (5–50 µg/mL) with 10 µM DTT in a Tris buffer at pH 8.9 for 10–90 min. Aliquots of the incubation mixture were transfered to the DNTB solution and the optical density read at 412 nm.

Electron microscopy. We performed electron microscopy as previously described (Yang et al. 1987). Thin sections were cut with a Reichert-Jung ultracut and ultramicrotome (Leica, Stuttgart, Germany). Copper grids were stained with lead citrate and uranyl acetate and photographed in a Hitachi electron microscope (Hitachi Instrument Inc., Tokyo, Japan).

Results

Particulate organic carbon and PAH content. To determine whether there is a link between UFP composition and biological effects, CAPs were collected at two outdoor sites in the Los Angeles basin with the VACES. Chemical analysis of the CAPs indicate that UFPs have a significantly higher organic ($p < 0.01$) and elemental carbon ($p < 0.001$) content than fine plus ultrafine (designated "fine") or coarse particles (Table 1). Coarse and fine particles had a higher metal content than UFPs (Table 1). PAH content for each set of CAPs was determined and averaged for both collection sites; there was a statistically significant difference in total PAH content in UFPs compared to fine ($p = 0.04$) and coarse ($p = 0.03$) PM (Figure 1A). The PAH content of UFPs at USC was significantly higher than the PAH content at Claremont (Figure 1A), which reflects the fact that particles collected at the source site (USC) are derived from primary emissions that are far more abundant in the urban areas of Los Angeles than in receptor areas.

The DTT assay of ROS formation by particles of varying size. The ability of PM to generate ROS was assessed with the DTT assay. Quinones with appropriate redox potentials can transfer electrons from DTT to oxygen (Kumagai et al. 2002). We used this reaction to determine the ability of PM to generate ROS *in vitro*. The DTT assay demonstrated that UFPs had significantly higher redox activity than fine and coarse PM (Figure 1B). Averaging of the data revealed that the redox cycling capacity of UFPs was 21.7- and 8.6-fold greater than coarse and fine PM, respectively (Figure 1B). Regression analysis of the DTT assay and PAH content showed a correlation coefficient (r^2) of 0.98, suggesting the electron transfer capacity of CAPs is consistent with their organic chemical content (Figure 1C).

Particle chemical composition and oxidative stress. Quinones and other redox-active compounds present in PM generate ROS and oxidative stress (Kumagai et al. 1997; Nel et al. 1998). We have demonstrated that DEP-induced oxidative stress generates hierarchical effects in pulmonary alveolar macrophages and bronchial epithelial cells (Li et al. 2002a, 2002b). Low levels of oxidative stress activate antioxidant defenses, whereas higher levels of oxidative stress lead to proinflammatory and cytotoxic effects (Li et al. 2002a, 2002b). An example of an antioxidant response is HO-1 expression via the antioxidant response element in its promoter (Choi and Alam 1996; Li et al. 2000). Utilizing an immunoblotting technique to assess HO-1 expression in RAW 264.7 cells, UFPs were more potent than fine or coarse particles (Figure 2A). Densitometric analysis demonstrated significantly higher HO-1 expression in ultrafine over fine ($p = 0.001$) and coarse ($p = 0.001$) particles, respectively.

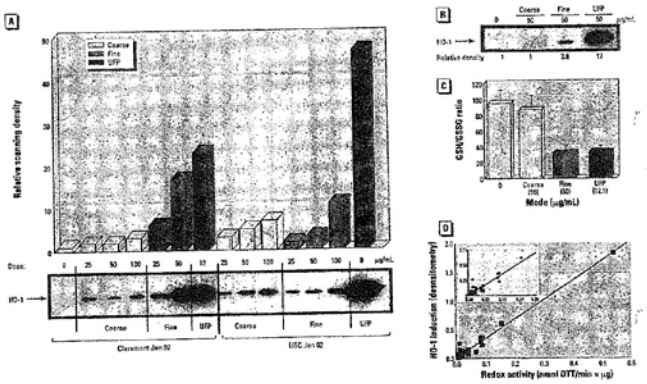

Figure 2. Induction of oxidative stress and HO-1 expression. (*A*) HO-1 expression in RAW 264.7 cells exposed to CAPs for 18 hr. (*B*) HO-1 expression in BEAS-2B cells treated with CAPs (Claremont Mar 02) for 16 hr. (*C*) Effects of CAPs (Claremont Jan 02) on the intracellular GSH/GSSG ratio in RAW 264.7 cells after 16 hr exposure; GSH/GSSG values shown are mean ± SEM from two separate experiments, with duplicate measurements per experiment (Tietze 1969). (*D*) Regression analysis demonstrating the correlation between *in vitro* redox activity of CAPs and HO-1 induction (15 data points); $r^2 = 0.67$. Inset: After removal of the highest data point, $r^2 = 0.81$.

GL14 Continued

The increased potency of UFPs was seen for all CAPs collections (data not shown).

Sufficient CAPs were collected in March 2002 to study HO-1 expression in the bronchial epithelial cell line, BEAS-2B, in parallel with RAW 264.7. The BEAS-2B response mimics the DEP-induced oxidative stress response in human bronchial epithelial cells (Li et al. 2002b). Immunoblot analysis shows that UFPs but not coarse or fine particles induce HO-1 expression in BEAS-2B cells (Figure 2B). To demonstrate that these effects reflect differences in the level of oxidative stress, we compared HO-1 expression to changes in the reduced (GSH) to oxidized (GSSG) glutathione ratio. These data show abundant HO-1 expression by UFPs or 50 µg/mL fine PM (Figure 2A, Claremont Jan 02), which is accompanied by a sizable drop in glutathione ratios (Figure 2C). In contrast, coarse particles had no effect on either biological response (Figure 2C). Regression analysis showed a correlation coefficient (r^2) of 0.97 between HO-1 expression and the DTT assay (Figure 2D). Overall, there is a strong correlation between particle size, chemical composition, ROS-generating capacity, and cellular oxidative stress.

UFP localization and mitochondrial damage. In defining the mechanistic features of PM toxicity, a key question is the subcellular localization of PM. This may determine ROS generation, as demonstrated by $O_2^{\cdot-}$ generation in lung microsomes during incubation with DEP extracts (Kumagai et al. 1997). Subcellular DEP targets include mitochondria, as demonstrated by the ability of organic DEP extracts to induce structural mitochondrial damage (Hiura et al. 1999, 2000; Li et al. 2002b). After exposure to CAPs, there were clear differences in the ultramicroscopic features of RAW 264.7 cells exposed to different particle sizes (Figure 3). Whereas coarse particles collected in large cytoplasmic vacuoles (Figure 3C and 3D), UFPs frequently lodged inside mitochondria (Figure 3G and H). Mitochondrial architecture remained intact in coarse PM incubations, but cells incubated with UFPs showed extensive disruption of mitochondrial cristae, resulting in a vacuolar cellular appearance (Figure 3H). These changes were time dependent, with fewer particles collecting inside mitochondria during shorter incubations (not shown). In cells exposed to fine particulates (which includes some UFPs), some particles lodged inside mitochondria but did not show the same degree of ultrastructural damage (Figure 3E and F).

Electron microscopy showed similar features in BEAS-2B cells—namely, considerable mitochondrial damage by UFPs, resulting in the formation of concentric structures, known as myelin figures (Figure 4). These structures result from the dissassociation of lipoproteins, which facilitates water uptake and intercalation

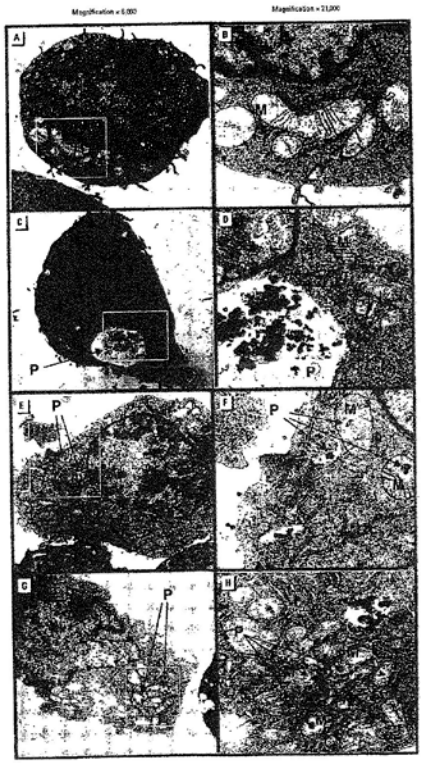

Figure 3. Electron micrographs demonstrating effects of different sized particles in RAW 264.7 cells treated with USC-Jan 02 CAPs for 18 hr. (*A*) and (*B*) Untreated RAW 264.7 cells. (*C*) and (*D*) RAW 264.7 cells exposed to coarse particles. (*E*) and (*F*) RAW 264.7 cells exposed to fine particles. (*G*) and (*H*) RAW 264.7 cells exposed to UFPs. Notice damage to cristae as well as the presence of particles (P) inside mitochondria (M) in UFP- or fine + UFP-exposed cells.

GL14 Continued

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between lamellar membrane stacks (Figure 4C). Similar to RAW 264.7 cells, UFPs lodged inside damaged mitochondria (Figure 4C). Cells incubated with coarse or fine particles showed lesser mitochondrial damage (not shown). The extent of mitochondrial damage is in accordance with the redox cycling potential of the particles, as well as the HO-1 and glutathione results.

Discussion

Our data demonstrate that the UFP mode in the Los Angeles basin is more potent than fine and coarse PM toward inducing oxidative stress as measured by the DTT, HO-1, and glutathione assays. Electron microscopy also indicates subcellular penetration and mitochondrial damage by UFPs and, to a lesser extent, fine particles. The findings correlate with PM organic carbon and PAH composition, suggesting a role of organic agents in generating redox activity.

The results from the DTT assay indicate UFPs are capable of producing greater ROS on a microgram basis than fine and coarse particles. This is the first time that a quantitative assay has been used to directly measure ROS generation by CAPs. Kumagai et al. (2002) focused the assay on assessment of quinones, whereas we have applied the assay to UFPs and fine and coarse particles. The DTT assay provides a quantitative measure of the relative redox activity of different PM sizes in the Los Angeles basin.

UFPs contain a higher percentage of organic carbon than fine and coarse particles, and this has relevance to the biologic potency of these particles. The enhanced biologic potency of UFPs is directly correlated with the PAH content. Although PAHs are capable of inducing ROS production in macrophages, it is also possible that these compounds may be a surrogate for other redox cycling chemicals in the DTT assay. We do not exclude a contribution by transition metals, which may interact with organic PM components in ROS generation (Saldiva et al. 2002).

These data are in accordance with the growing awareness that oxidative stress plays a key role in the induction of airway inflammation (HEI 2002; Nel et al. 1998). Recently, we demonstrated that macrophages and epithelial cells exhibit a stratified oxidative stress response to increasing concentrations of DEPs (Li et al. 2002a, 2002b). The stratified response commences with HO-1 expression when the GSH/GSSG ratio is minimally disturbed, proceeds to *Jun* kinase activation at intermediary levels of oxidative stress, and culminates in cellular toxicity at high oxidative stress levels. Ambient CAPs mimic the effects of organic DEP extracts (Li et al. 2002a), with UFPs showing increased potency in depressing the cellular GSH/GSSG ratio (Figure 2C). The significance of *Jun* kinase activation is the transcriptional activation of cytokine, chemokine, and adhesion receptor promoters (Nel et al. 1998). These products play a role in the proinflammatory effects of PM in the lung and possibly also the cardiovascular system (Nel et al. 1998). The finding of a significant correlation between heme oxygenase activity, GSH/GSSG ratio, and redox activity as measured by DTT production provides further evidence for the role of ROS generation in PM toxicity.

The biological significance of HO-1 expression in the lung is the antioxidant effect of its catabolic product, bilirubin (Choi and Alam 1996). In the process of heme catabolism, HO-1 also generates a gaseous substance, CO, which exerts anti-inflammatory effects in the lung and is exhaled in the expired air (Horvath et al. 1998; Maines 1997). It is interesting, therefore, that in a study in which normal human volunteers were exposed to DEPs, CO levels in the expired air was a more sensitive exposure marker than the presence of inflammatory products in the bronchoalveolar fluid (Nightingale et al. 2000). This is in agreement with the exquisite sensitivity of the HO-1 promoter to oxidative stress *in vivo* and *in vitro* (Choi and Alam 1996; Nightingale et al. 2000). HO-1 expression and CO generation are markers for airway inflammation in asthma (Horvath et al. 1998). Monitoring of CO levels in the expired air may be a useful marker for evaluating the pro-oxidative and proinflammatory effects of CAPs in the respiratory tract.

How exactly UFPs gain access to and induce mitochondrial damage is unknown. One possibility is that ROS generated outside of the mitochondrion may damage this organelle, allowing access to the particles. This is compatible with the ability of organic DEP extracts to induce ultrastructural mitochondrial damage in the absence of particles (Hiura et al. 2000; Li et al. 2002b). Our previous studies have demonstrated that organic DEP chemicals induced pro-apoptotic effects in macrophages and bronchial epithelial cells (Hiura et al. 1999, 2000; Li et al. 2002b). This effect may be mediated through the perturbation of mitochondrial permeability transition pore, which sets in motion cytochrome *c* release, caspase activation, and superoxide production in the mitochondrial inner membrane (Hiura et al. 2000). Ultramicroscopic visualization of human macrophages and BEAS-2B cells incubated with organic DEP extracts showed that the appearance of apoptotic bodies were accompanied by changes in mitochondrial morphology, including mitochondrial swelling and a loss of cristae (Li et al. 2002b). Another possibility is that UFPs gain access to mitochondria because of their small sizes. These particles might then release redox cycling chemicals that damage the inner membrane. All considered, we propose that enhanced tissue penetrance and ability to generate oxidative stress render UFPs more damaging at cellular level and consequently contribute to the adverse health effects of UFPs in the Los Angeles basin.

These findings may be of importance for PM regulation. Currently, the manufacture of cleaner combustion engines relies on mass output standards but do not consider the output of large numbers of UFPs, which have very low mass. Our data show that UFPs are more potent than $PM_{2.5}$ and PM_{10} that contribute the majority of mass in the HO-1 and DTT assays. It may be necessary to consider standards based on particle number instead of mass if further studies confirm the differential toxicity of UFPs. Further research to more fully characterize the toxicity of UFPs in relation to particle number, surface area, and chemical composition is needed.

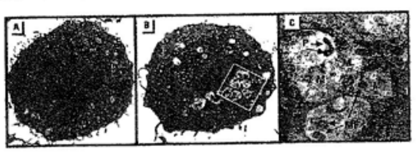

Figure 4. Electron micrographs demonstrating mitochondrial destruction in BEAS-2B cells treated with 8.4 µg/mL of USC-Jan 02 UFPs for 16 hr. (*A*) Untreated BEAS-2 cells; magnification ×8,500. (*B*) UFP-treated cells; magnification ×8,500. (*C*) UFP-treated cells; magnification ×26,300. Notice the disappearance of cristae, formation of myelin figures (MF), and presence of particles (P) inside mitochondria (M).

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Association of Biomarkers of Systemic Inflammation with Organic Components and Source Tracers in Quasi-Ultrafine Particles

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BACKGROUND: Evidence is needed regarding the air pollutant components and their sources responsible for associations between particle mass concentrations and human cardiovascular outcomes. We previously found associations between circulating biomarkers of inflammation and mass concentrations of quasi-ultrafine particles ≤ 0.25 µm in aerodynamic diameter ($PM_{0.25}$) in a panel cohort study of 60 elderly subjects with coronary artery disease living in the Los Angeles Basin.

OBJECTIVES: We reassessed biomarker associations with $PM_{0.25}$ using new particle composition data.

METHODS: Weekly biomarkers of inflammation were plasma interleukin-6 (IL-6) and soluble tumor necrosis factor-α receptor II (sTNF-RII) (n = 578). Exposures included indoor and outdoor community organic $PM_{0.25}$ constituents [polycyclic aromatic hydrocarbons (PAHs), hopanes, n-alkanes, organic acids, water-soluble organic carbon, and transition metals]. We analyzed the relation between biomarkers and exposures with mixed-effects models adjusted for potential confounders.

RESULTS: Indoor and outdoor PAHs (low-, medium-, and high-molecular-weight PAHs), followed by hopanes (vehicle emissions tracer), were positively associated with biomarkers, but other organic components and transition metals were not. sTNF-RII increased by 135 pg/mL [95% confidence interval (CI), 45–225 pg/mL], and IL-6 increased by 0.27 pg/mL (95% CI, 0.10–0.44 pg/mL) per interquartile range increase of 0.56 ng/m³ outdoor total PAHs. Two-pollutant models of $PM_{0.25}$ with PAHs showed that nominal associations of IL-6 and sTNF-RII with $PM_{0.25}$ mass were completely confounded by PAHs. Vehicular emission sources estimated from chemical mass balance models were strongly correlated with PAHs (R = 0.71).

CONCLUSIONS: Traffic emission sources of organic chemicals represented by PAHs are associated with increased systemic inflammation and explain associations with quasi-ultrafine particle mass.

KEY WORDS: air toxics, biomarkers of effect, cytokines, epidemiology, longitudinal data analysis. *Environ Health Perspect* 118:756–762 (2010). doi:10.1289/ehp.0901407 [Online 2 February 2010]

Cardiovascular hospital admissions and mortality have been associated with ambient mass concentrations of fine particulate matter (PM) air pollution ≤ 2.5 µm in aerodynamic diameter ($PM_{2.5}$) (Pope and Dockery 2006). Questions remain regarding the underlying causal chemical components and sources responsible for these associations. A recent time-series study of 106 U.S. counties showed stronger associations of cardiovascular hospital admissions with countywide averages of $PM_{2.5}$ when there were higher fractions of elemental carbon (EC), nickel (Ni), and vanadium (V), suggesting that important sources included fossil fuel combustion, biomass burning, and oil combustion (Bell et al. 2009).

Unlike $PM_{2.5}$, ultrafine particles (UFPs; generally defined as < 0.1 µm in diameter) are not regulated by the U.S. Environmental Protection Agency (EPA), yet this is the size fraction that may have the highest toxic potential because it has magnitudes greater number concentrations and surface area than the larger particles that dominate $PM_{2.5}$ mass (Oberdörster et al. 2005). On that large surface area, UFPs carry and deliver redox-active organic chemicals, including polycyclic aromatic hydrocarbons (PAHs), to the respiratory tract in disproportionately higher concentrations than do larger particles (Ntziachristos et al. 2007), possibly leading to a cascade of effects related to oxidative stress and inflammation in the lungs and at extrapulmonary sites (Delfino et al. 2005). These and other effects could underlie associations of morbidity and mortality with air pollutants.

Except for some studies with personal or microenvironmental air pollution data (Chan et al. 2004; Delfino et al. 2008, 2009; Folino et al. 2009; Vinzents et al. 2005), regional ambient air monitoring has been the primary data source used in epidemiologic research on the importance of UFP exposure to cardiovascular outcomes and circulating biomarkers in individual-level studies (de Hartog et al. 2003; Henneberger et al. 2005; Ibald-Mulli et al. 2004; Lanki et al. 2008; Pekkanen et al. 2002; Rückerl et al. 2006, 2007; Timonen et al. 2006). These studies of ambient air were all conducted in Europe, and UFPs were measured as particle number concentrations at central regional sites. Exposure error from the use of ambient data is likely, because air monitors may be far from subject locations and subjects may be exposed to pollutants from local sources, including traffic. UFPs have much higher spatial variability than does $PM_{2.5}$ (Sioutas et al. 2005), so exposure error is likely. In addition, UFP mass and particle number do not specifically indicate which particle components or sources are important, although generally in urban areas UFP compositions are dominated by organic chemicals and EC and originate from combustion sources.

We conducted a panel cohort study of elderly subjects with a history of coronary artery disease living in the Los Angeles Basin. This is considered a population that may have among the greatest susceptibility to the adverse effects of air pollution (von Klot et al. 2005). We made repeated measurements of blood biomarkers and air pollutant exposures. To assess the potential importance of UFPs to cardiovascular health, we measured quasi-ultrafine particle mass < 0.25 µm in diameter ($PM_{0.25}$). To address the issue of exposure error, we monitored $PM_{0.25}$ at the retirement communities of subjects. We previously reported positive associations of blood biomarkers of inflammation with $PM_{0.25}$ but not with larger accumulation-mode particles 0.25–2.5 µm in diameter ($PM_{0.25-2.5}$) (Delfino et al. 2009). However, particle mass alone does not provide sufficient information about composition or sources. We also previously found positive associations between the biomarkers and $PM_{2.5}$ EC (Delfino et al. 2009). Based on these findings, we hypothesized that traffic emission sources of organic chemicals in $PM_{0.25}$ would be positively associated with systemic inflammation. In the present analysis, we aimed to better delineate which underlying PM components may be responsible for the associations we observed for EC and $PM_{0.25}$ mass using new data on chemical species in the archived $PM_{0.25}$ filter samples.

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Materials and Methods

Population and design. This was a longitudinal study of repeated measures where each subject acted as his or her own control over time. This limits the impact of confounding by between-subject characteristics. We recruited subjects from four retirement communities. Subjects were eligible for participation if they had a confirmed coronary artery disease history and were ≥ 65 years of age, nonsmokers, and unexposed to environmental tobacco smoke. Of 105 volunteers, 21 were not eligible, 19 dropped out, 2 had too few blood draws or valid biomarker data (> 5 of 12 weeks), and 3 had insufficient biomarker data due to exclusions for frequent infections, leaving 60 subjects. We excluded biomarker measurements during weeks with acute infectious illnesses given their well-known impact on measured biomarkers. Table 1 lists subject characteristics.

Two retirement communities were studied in 2005–2006 and two in 2006–2007. Subjects were followed for a total of 12 weeks with weekly blood draws for circulating biomarkers of inflammation in plasma. Each subject contributed 5–12 weekly blood draws (n = 578 total samples).

Each community was studied in two 6-week seasonal phases, a warmer period characterized by higher photochemistry followed by a cooler period characterized by higher air stagnation and lower mixing heights. This seasonal approach was intended to increase the variability in pollutant characteristics, with higher secondary organic aerosols (SOAs) in the warmer phase and higher primary organic aerosols (POAs) in the cooler phase when traffic-related air pollutants increase at ground level. POAs are formed during or shortly after the combustion of fossil fuels. SOAs are largely photochemically produced from gas-to-particle conversion when volatile reactive organic gases from anthropogenic and biogenic sources, and anthropogenic semivolatile organic compounds (SVOCs), are oxidized to form low-volatility products that condense to produce SOAs. There are few data on the importance of variations in this multipollutant characteristic of PM to human health outcomes. In the present study, POAs are represented by PAHs and hopanes, whereas SOAs are represented by water-soluble organic carbon (WSOC) and organic acids. Most PAHs are considered to be components of POAs. Hopanes are found in the lubricant oils of diesel and gasoline vehicles and are thus tracers of primary vehicular aerosols in the Los Angeles Basin (Schauer et al. 1996, 2000). WSOC (Snyder et al. 2009) and organic acids (Robinson et al. 2006) are tracers of SOAs, although a fraction of WSOC comes from biomass burning (Docherty et al. 2008).

The research protocol was approved by the Institutional Review Board of the University of California–Irvine, and we obtained informed written consent from subjects.

Biomarkers. We focused on an informative set of biomarkers of inflammation from the previous analysis of peripheral blood biomarkers and $PM_{0.25}$ mass (Delfino et al. 2009). We drew blood samples in ethylenediaminetetraacetic acid tubes on Friday afternoons and processed them and froze the plasma on site within 30 min. Samples were stored at –80°C until assayed. Plasma biomarkers were thawed and assayed using 96-well immunoassay kits for the proinflammatory cytokine interleukin-6 (IL-6) and the cytokine receptor–soluble tumor necrosis factor-α (TNF-α) receptor II (sTNF-RII; Quantikine HS, R&D Systems, Minneapolis, MN). sTNF-RII has a longer half-life than TNF-α (Aderka 1996) and may thus better reflect sustained or lagged effects. Thawed erythrocyte lysates were assayed spectrophotometrically for activities of the antioxidant enzymes copper/zinc-superoxide dismutase (Cu,Zn-SOD) and glutathione peroxidase-1 (GPx-1) (Cayman Chemical, Ann Arbor, MI, USA). Cu,Zn-SOD and GPx-1 values were normalized to units per gram of hemoglobin. These and related biomarkers are predictive of cardiovascular disease risk (Flores-Mateo et al. 2009; Kritchevsky et al. 2005; Pai et al. 2004).

Exposures. The methods used to measure components and their relevance to sources of $PM_{0.25}$ are described in detail in the Supplemental Material [Chemical Measurement Methods (doi:10.1289/ehp.0901407)] and by Arhami et al. (2010). There we also discuss in detail differences by season and community and describe the relation between indoor and outdoor measurements.

Air sampling occurred in the immediate outdoor environment of each retirement community and at an indoor site located in the common areas of the main community buildings. The indoor data are thus representative to some degree of the same indoor environment of each subject. Our main interest here is in the effects of outdoor-source PM components.

More than 5 days before each blood draw, we collected indoor and outdoor size-segregated particle samples using Sioutas Personal Cascade Impactors (SKC Inc., Eighty Four, PA, USA) with Zefluor filters (3-µm pore size; Pall Life Sciences, Ann Arbor, MI, USA). We evaluated components only in the quasi-ultrafine fraction ($PM_{0.25}$). Mass concentrations were determined gravimetrically by weighing the impactor filters and substrates with a microbalance (uncertainty, ± 2 µg; Mettler-Toledo, Columbus, OH, USA) in a temperature-controlled and relative humidity–controlled room.

The five weekly $PM_{0.25}$ filters were composited for chemical analyses. These composites were cut into three sections (one half-section and two quarter-sections). We analyzed the composited half section for 92 different organic compounds using gas chromatography/mass spectrometry (GC/MS) (Stone et al. 2008). For the present analysis, compounds are grouped by their structures, which is the primary control of their chemical interactions. Selected representative organic components were grouped as PAHs, organic (n-alkanoic) acids, n-alkanes, and hopanes [see Supplemental Material, Table 1 (doi:10.1289/ehp.0901407)]. PAHs were further subdivided into low- (two- to three-ring), medium- (four-ring), and high- (five-ring or larger) molecular-weight PAHs (LMW, MMW, and HMW, respectively), which is loosely connected to volatility and solubility.

Table 1. Subjects and biomarker outcomes.

Variable	Value
Age (years)	84.1 ± 5.60
Sex	
Male	34 (56.7)
Female	26 (43.3)
Cardiovascular history	
Confirmation of coronary artery disease[a]	
Myocardial infarction	27 (45.0)
Coronary artery bypass graft or angioplasty	20 (33.3)
Positive angiogram or stress test	10 (16.7)
Clinical diagnosis[b]	3 (5.0)
Congestive heart failure	13 (21.7)
Hypertension (by history)	42 (70.0)
Hypercholesterolemia (by history)	43 (71.7)
Medications	
Angiotensin-converting enzyme inhibitors and angiotensin II receptor antagonists	24 (40.0)
3-Hydroxy-3-methylglutaryl-coenzyme A reductase inhibitors (statins)	31 (51.7)
IL-6 (pg/mL)	2.42 ± 1.85
sTNF-RII (pg/mL)	3,810 ± 1,489

sTNF-RII, soluble tumor necrosis factor-α receptor II. Values are mean ± SD or n (%).
[a]Each category is hierarchical and excludes being in the above diagnostic category. [b]Includes subjects with anginal symptoms relieved with nitrates plus echocardiogram and electrocardiographic evidence of past infarct.

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The first composited quarter-section was digested with concentrated acid using microwave digestion followed by analysis to determine 52 trace elements using high-resolution inductively coupled plasma mass spectrometry (Finnigan Element 2; Thermo Fisher Scientific, Waltham, MA, USA) (Herner et al. 2006). We focused our analyses of exposure–response relationships on key transition metals that can generate reactive oxygen species by Fenton-type reactions: vanadium (V), chromium (Cr), iron (Fe), nickel (Ni), copper (Cu), manganese (Mn), lead (Pb), and zinc (Zn).

The second composited quarter was analyzed for WSOC using a General Electric Sievers Total Organic Carbon Analyzer (GE Analytical Instruments, Boulder, CO, USA).

The remaining composited half was analyzed for organic tracer compounds by GC/MS along with field blanks, laboratory blanks, spiked samples, and standard reference material (Urban Dust Standard Resource Material 1649a; National Institute of Standards and Technology, Gaithersburg, MD, USA). Spike recovery after correction for internal standard recoveries was in the range of 96–110% for PAHs, 99–104% for hopanes, and 68–136% for *n*-alkanes. Blank concentrations of MMW PAHs, HMW PAHs, and hopanes were below analytical detection limits (~ 10 pg/m^3 air). The method detection limits for remaining compounds were limited by field and laboratory blanks. Uncertainties for each measurement were estimated based on analytical uncertainties and uncertainties from the blank correction and were used to determine if each measurement was statistically different from zero. The precision of the spike and standard reference material analyses was used to estimate method precision (> 20% for all PAHs, hopanes, and *n*-alkanes).

Statistical analysis. We analyzed relations of repeated (within-subject) measures of biomarkers to air pollutant exposures with linear mixed effects models. Random effects were estimated at the subject level, nested within seasonal phase and community, to account for correlated within-individual repeated measures. To focus estimates of associations at the subject level, we adjusted for between-community and between-phase exposure effects as proposed by Janes et al. (2008) by using exposures that were mean-centered across community and phase [see Supplemental Material, Regression Model, Mean Centering Method (doi:10.1289/ehp.0901407)]. We decided *a priori* to adjust for 5-day average temperature. Magnitudes of association from the mixed models are expressed as pollutant interquartile ranges (IQRs; 25th–75th percentile) to allow strengths of association for different pollutants to be compared by limiting differences due to units of measurement or concentration range.

We evaluated the covariance structure using empirical variograms and found models were best fit as an autoregressive-1 correlation structure. We performed residual analyses to examine deviations from standard linear mixed model assumptions and the presence of influential observations. We found four influential high outliers for IL-6 > 10 pg/mL that were reset to 10 pg/mL (upper limit of its standard curve) to obtain more representative estimates of association. In a model for 5-day average $PM_{0.25}$, including the outliers resulted in an association of 0.41 pg/mL [95% confidence interval (CI), 0.00–0.82] per interquartile change in $PM_{0.25}$ of 7.37 µg/m^3, whereas resetting them to 10 pg/mL resulted in an association of 0.26 pg/mL (95% CI, −0.05 to 0.57). It is important that in the previous analysis of $PM_{0.25}$ mass (Delfino et al. 2009), the associations with 1-day and 3-day average $PM_{0.25}$ were stronger and had narrower 95% CIs than did the 5-day average for both IL-6 and sTNF-RII.

In exploratory analyses, we retested models for erythrocyte antioxidant enzymes (Cu,Zn-SOD and GPx-1) from our previous publication (Delfino et al. 2009). Random slopes and individual autoregressive models showed small, highly influential subject clusters (seven subjects) with positive associations between air pollutants and antioxidant enzymes, whereas most of the remaining 53 subjects showed inverse associations. Details of these clusters and their interpretation are presented elsewhere (Delfino et al. 2009). We present these data-driven results with the new air pollutant exposure data primarily in the Supplemental Material, Table 3 (doi:10.1289/ehp.0901407).

Table 3. Exposure correlation matrix for outdoor $PM_{0.25}$ mass and organic components.

Pollutant	WSOC	PAH Total	PAH LMW	PAH MMW	PAH HMW	Hopanes	*n*-Alkanes	Organic acids
$PM_{0.25}$ mass	0.25	0.45	0.44	0.38	0.39	0.31	0.17	−0.16
WSOC	1.00	0.39	0.41	0.29	0.40	0.31	0.15	0.09
PAHs								
Total		1.00	0.89	0.93	0.81	0.54	0.15	−0.19
LMW			1.00	0.79	0.65	0.63	0.24	−0.24
MMW				1.00	0.87	0.51	0.12	−0.33
HMW					1.00	0.41	0.20	−0.03
Hopanes						1.00	0.08	−0.28
n-Alkanes							1.00	−0.06

All exposures are mean centered by study community and seasonal phase, and results are Spearman rank correlations.

Table 4. Exposure correlation matrix for outdoor PAH and source apportioned mass.

PAH	Vehicular emissions	Biomass burning	Ship emissions	SOAs	RS dust	NSS sulfate	Sea salt	Unknown
Total	0.71	0.22	0.19	0.19	0.24	0.06	0.33	0.33
LMW	0.70	0.14	0.17	0.27	0.39	0.10	0.34	0.31
MMW	0.69	0.36	−0.01	0.04	0.19	−0.06	0.27	0.30
HMW	0.65	0.08	0.09	0.27	0.13	0.12	0.19	0.14

Abbreviations: RS, resuspended; NSS, non-sea salt. All exposures are mean centered by study community and seasonal phase, and results are Spearman rank correlations. Source apportioned mass data come from Achakulwisut et al. (2010).

Table 2. Descriptive statistics of outdoor measurements and indoor/outdoor (I/O) ratios of $PM_{0.25}$ organic components and transition metals from 47 weeks of 5-day filter composites.

Exposure	Warm season Mean ± SD	IQR	Min/max	I/O ratio	Cool season Mean ± SD	IQR	Min/max	I/O ratio	IQR overall*
Organic components									
$PM_{0.25}$ mass (µg/m^3)	9.51 ± 3.46	7.24	4.67/14.7	0.86	8.65 ± 4.51	6.07	3.31/19.3	0.94	7.37
WSOC (µg/m^3)[a]	0.57 ± 0.23	0.31	0.08/1.01	0.95	0.38 ± 0.23	0.39	0.05/0.94	0.54	0.37
PAHs (ng/m^3)									
Total	0.68 ± 0.37	0.47	0.40/1.75	0.84	1.04 ± 0.61	0.73	0.43/2.70	0.59	0.56
LMW	0.38 ± 0.15	0.20	0.19/0.74	0.78	0.33 ± 0.15	0.19	0.17/0.73	1.02	0.19
MMW	0.26 ± 0.12	0.18	0.09/0.53	0.85	0.35 ± 0.24	0.33	0.08/0.96	0.74	0.24
HMW	0.24 ± 0.11	0.18	0.11/0.53	0.57	0.37 ± 0.24	0.32	0.14/1.01	1.04	0.21
Hopanes (ng/m^3)	0.27 ± 0.34	0.35	0.06/1.57	1.60	0.25 ± 0.25	0.35	0.04/0.83	0.87	0.35
n-Alkanes (ng/m^3)	36.3 ± 23.5	43.2	9.8/81.2	1.39	54.5 ± 111	15.9	11.7/500	1.30	25.4
Organic acids (µg/m^3)	0.57 ± 0.17	0.30	0.30/0.54	5.05	0.29 ± 0.22	0.25	0.07/0.96	1.24	0.29
Transition metals (ng/m^3)									
V	4.83 ± 2.07	2.10	1.66/11.3	0.75	2.19 ± 1.19	2.40	0.54/4.25	0.77	2.55
Cr	10.2 ± 39.2	2.21	0.00/139	0.69	0.26 ± 0.45	0.49	0.00/1.24	1.00	1.18
Mn	3.09 ± 2.88	3.10	0.00/13.8	0.57	2.02 ± 1.43	1.76	0.27/6.19	0.70	2.34
Fe	144 ± 127	167	0.00/568	0.49	92.5 ± 64.2	74.7	5.39/287	0.24	115
Ni	7.21 ± 18.0	3.51	0.00/62.8	0.83	0.20 ± 0.61	0.816	0.00/1.44	2.27	1.64
Cu	5.45 ± 4.35	5.50	0.35/16.0	0.64	4.68 ± 3.22	4.91	0.43/11.3	0.60	4.88
Zn	8.88 ± 4.16	6.39	0.00/15.8	0.78	6.08 ± 3.51	4.81	1.75/13.0	0.93	5.77

Abbreviations: max, maximum; Min, minimum.
*Overall IQR used in regression models to estimate expected change in the biomarker from exposure to the air pollutant. [a]WSOC (µg C/m^3) was multiplied by 1.8 to yield mass of organic components (µg/m^3) according to Turpin and Lim (2001).

GL14 Continued

Results

Table 2 provides descriptive statistics for the measured exposures. Seasonal differences were greatest for MMW PAHs, HMW PAHs, and *n*-alkanes, which were higher in the cool season, and for WSOC, which was higher in the warm season, as expected because of photochemistry. Indoor/outdoor ratios were close to 1.0 for PAHs and hopanes, and indoor–outdoor correlations were strong (median R was 0.60 for PAH species and 0.74 for hopane species) (Arhami et al. 2010). This suggests high penetration of these outdoor $PM_{0.25}$ components into indoor environments and that measured indoor components were largely of outdoor origin. On the other hand, indoor/outdoor ratios were high for *n*-alkanes and *n*-alkanoic acids, with generally low indoor/outdoor correlation coefficients (Arhami et al. 2010). This suggests that indoor sources influenced the indoor levels of *n*-alkanes and *n*-alkanoic acids.

Table 5 shows a correlation matrix for measured outdoor organic components. We found moderate to strong correlations between $PM_{0.25}$ mass, PAHs, and hopanes. We also found small negative correlations of these species with organic acids and small positive correlations with WSOC, suggesting that POA and SOA concentrations are relatively independent of each other at the study sites.

To further improve our understanding of the clearly positive associations of biomarkers with summed PAH compounds presented below, we used the chemical mass balance model (CMB) source apportionment estimates from Arhami et al. (2010) to evaluate the possible sources of PAHs. We briefly summarize methods and source apportionment results in the Supplemental Material, Chemical mass balance (CMB) model (doi:10.1289/ehp.0901407). Table 4 shows a correlation matrix for the relation of PAHs to the CMB-estimated sources. Strong correlations are seen for total PAHs with vehicular emission sources, whereas the apportioned mass from other sources shows weak to null correlations.

In the mixed-model regression analyses, we found positive associations of circulating biomarkers of inflammation (IL-6 and sTNF-RII) with organic components (Table 5, Figure 1). We found the strongest associations with biomarkers for both indoor and outdoor PAHs, including LMW, MMW, and HMW PAHs. The next strongest associations were for hopanes. Indoor but not outdoor hopanes were associated with IL-6, whereas both indoor and outdoor hopanes were associated with sTNF-RII.

Outdoor WSOC (a marker of SOAs) was positively associated with sTNF-RII, but confidence limits crossed 1.0 ($p < 0.14$), and we found no other associations with SOA markers. The outdoor organic acids (another marker of SOAs) showed a pattern opposite to that of the POA markers, with largely negative regression coefficients in relation to biomarkers of inflammation. To assess whether this was due to inverse correlations with PAHs, we corregressed outdoor total PAHs with outdoor organic acids. We found that associations with PAHs and with organic acids decreased in magnitude to small degrees when corregressed, suggesting that the negative regression coefficients for organic acids with

Table 5. Associations of biomarkers of systemic effect with indoor and outdoor 5-day average $PM_{0.25}$ mass and organic components (regression coefficient [95% CI]).

Air pollutant	IL-6 (pg/mL)	sTNF-RII (pg/mL)
$PM_{0.25}$ mass		
Indoor	0.05 (−0.12 to 0.22)	18 (−61 to 97)
Outdoor	0.25 (−0.06 to 0.57)	125 (−40 to 289)
WSOC		
Indoor	−0.11 (−0.30 to 0.08)	15 (−77 to 168)
Outdoor	−0.09 (−0.27 to 0.10)	63 (−19 to 145)
PAHs		
Total		
Indoor	0.25 (0.07 to 0.43)**	119 (16 to 223)*
Outdoor	0.27 (0.10 to 0.44)**	135 (45 to 225)**
LMW		
Indoor	0.30 (0.10 to 0.50)**	115 (−2 to 233)
Outdoor	0.22 (0.05 to 0.39)*	109 (19 to 200)*
MMW		
Indoor	0.28 (0.07 to 0.48)**	138 (22 to 254)*
Outdoor	0.30 (0.12 to 0.48)**	143 (47 to 238)**
HMW		
Indoor	0.18 (0.02 to 0.35)*	91 (1 to 181)*
Outdoor	0.26 (0.07 to 0.44)**	137 (39 to 234)**
Hopanes		
Indoor	0.22 (0.04 to 0.38)*	107 (10 to 204)*
Outdoor	0.06 (−0.08 to 0.20)	85 (26 to 151)**
n-Alkanes		
Indoor	0.01 (−0.03 to 0.06)	−6 (−27 to 16)
Outdoor	0.005 (−0.03 to 0.05)	14 (−6 to 34)
Organic acids		
Indoor	−0.05 (−0.22 to 0.12)	−36 (−109 to 37)
Outdoor	−0.22 (−0.38 to −0.05)**	−82 (−164 to 1)

Regression coefficients and 95% CIs are for the expected change in the biomarker among 69 subjects associated with an IQR change in the air pollutant (see Table 2), adjusted for temperature.
*$p < 0.05$, **$p < 0.01$.

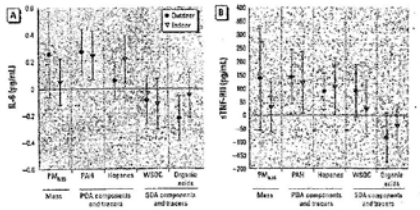

Figure 1. Associations of biomarkers with 5-day average outdoor and indoor community $PM_{0.25}$ mass, and markers of POAs and SOAs. (A) IL-6. (B) sTNF-RII. Expected change in the biomarker [adjusted coefficient and 95% CI] corresponds to an IQR increase in the air pollutant concentration (see Table 2), adjusted for temperature.

GL14 Continued

biomarkers of inflammation may be attributed to other unmeasured factors or chance.

We then tested two-pollutant regression models that included both outdoor $PM_{0.25}$ mass and total PAHs to assess whether PAHs explained the nominal association with mass. We found that IL-6 and sTNF-RII associations with mass were completely confounded by PAHs in that the regression coefficient for mass decreased to just below zero and the regression coefficient for PAHs was nearly unchanged (Figure 2A,B). We found a similar effect for hopanes, which confounded the nominal association of $PM_{0.25}$ mass with sTNF-RII (Figure 2C). The variance inflation factor was < 3.5 for exposures, thus showing little evidence of multicollinearity.

Transition metals were not associated with the biomarkers [see Supplemental Material, Table 2 (doi:10.1289/ehp.0901407)].

As previously shown (Delfino et al. 2009), the analysis of the relation of erythrocyte antioxidant enzymes (Cu,Zn-SOD and GPx-1) to air pollutants among all 60 subjects showed regression coefficients were largely negative, suggesting inverse associations, but most upper confidence limits crossed 1.0 (see Supplemental Material, Table 3 (doi:10.1289/ehp.0901407)]. The exploratory analysis showed that among seven subjects previously identified as a "positive responder group" (Delfino et al. 2009), we found largely positive associations of Cu,Zn-SOD and GPx-1 with air pollutants, and lower confidence limits were > 1.0 for outdoor $PM_{0.25}$ mass and several other exposures. In the 53 subjects previously identified as a "negative responder group," we found inverse associations of Cu,Zn-SOD and GPx-1 with indoor and outdoor total, LMW, MMW, and HMW PAHs and with hopanes (all markers of exposures linked to primary combustion). Indoor WSOC was inversely ($p < 0.07$) associated with Cu,Zn-SOD, but we found no other associations with SOA markers in the negative responder group. Confidence limits were wider for GPx-1 than for Cu,Zn-SOD.

Discussion

To our knowledge, this is the first report from a panel cohort study to show associations of circulating biomarkers of response in human subjects to specific PM organic compound classes. The measured chemicals serve as indicators and tracers for air pollutant sources and for classes of chemicals with the potential for redox activity in the body. Our prior work has focused on carbonaceous aerosols that provided some differentiation between POAs and SOAs by showing associations of biomarkers of inflammation with primary $PM_{2.5}$ organic carbon (OC) but not secondary $PM_{2.5}$ OC (a marker of SOAs) (Delfino et al. 2008, 2009). In the present analysis, we found the strongest biomarker associations with air pollutant variables for all molecular weight classes of PAHs and specific source markers of vehicular emissions (hopanes) measured in $PM_{0.25}$ with GC/MS. Furthermore, two-pollutant models of the relation between the biomarkers of systemic inflammation and both total PAHs and $PM_{0.25}$ mass showed that mass associations were completely explained by PAHs. Given the results of the chemical mass balance analysis [see Supplemental Material, Chemical mass balance (CMB) model (doi:10.1289/ehp.0901407) and Arhami et al. 2010], we infer that the confounding of nominal associations between biomarkers and $PM_{0.25}$ mass by PAHs was through a common set of sources. PAHs likely serve here as a surrogate for redox-active PM chemical components as evidenced in experimental models (Riegel and Díaz-Sánchez 2005). For example, PAHs from diesel exhaust particles and oxidized derivatives of PAHs such as quinones lead to the generation of reactive oxygen species and subsequent oxidant injury and inflammatory responses, including the expression of nuclear transcription factor-κB (NFκB) (Riedl and Díaz-Sánchez 2005). NFκB increases the transcription of cytokines and acute-phase proteins that are predictive of coronary artery disease risk (Pai et al. 2004). PAHs can induce oxidative stress responses after biotransformation to quinones by cytochrome P450 1A1 (Bonvallot et al. 2001), perhaps after delivery from the lungs to systemic targets.

In the Los Angeles Basin, most outdoor PAHs in $PM_{0.25}$ are expected to be from mobile sources (Schauer et al. 1996), and the CMB exposure correlations are consistent with this expectation. PAHs were also correlated with source markers of vehicular emissions (hopanes). Hopanes are the most unambiguous source marker of traffic emissions. However, the moderate but not strong correlation between hopanes and PAHs suggests that the measured PAHs include a different subset of mobile sources than that of hopanes. This may in part be due to the variability in PAHs relative to hopanes by combustion-related problems in the vehicle fleet (Lough et al. 2007).

Overall, the associations of biomarkers with PAHs and hopanes suggest that our previous findings of positive associations of biomarkers with $PM_{2.5}$, EC, and primary OC (Delfino et al. 2009) were due to PM of mobile-source origin. PAHs are found in greater concentrations in the quasi-UFP range compared with larger particles (Nziachristos et al. 2007), and this has been hypothesized to explain enhanced prooxidative and proinflammatory effects of urban UFPs in the lungs and peripheral target organs of rodents (Araujo et al. 2008). The increased biological potency of UFPs may be related to the content of organic chemicals that have the capacity to reduce oxygen, such as quinones and nitro-PAHs, for which PAHs may act, in part, as a surrogate (Nziachristos et al. 2007) or as a source after biotransformation. From the present results we infer that, although PAHs may have an effect by

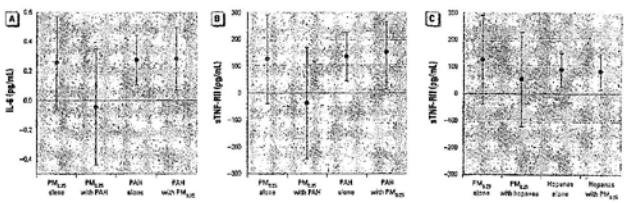

Figure 2. Associations of circulating biomarkers of inflammation with outdoor $PM_{0.25}$ mass compared with outdoor total PAHs and hopanes in $PM_{0.25}$. (A) IL-6, PAHs, and $PM_{0.25}$. (B) sTNF-RII, PAHs, and $PM_{0.25}$. (C) sTNF-RII, hopanes, and $PM_{0.25}$. Expected change in the biomarker (adjusted coefficient and 95% CI) corresponds to an IQR increase in the air pollutant concentration (see Table 2), adjusted for temperature.

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themselves, they are also likely surrogates for other causal species we did not measure that are emitted from the same (traffic) sources.

We found little evidence that tracer variables for SOAs and related components (WSOC and organic acids) were associated with the circulating biomarkers in the expected direction. We have no explanation for the negative regression coefficients for organic acids with biomarkers. Although most of the SOAs are expected to be in larger PM > 0.25 µm, the present results are consistent with our finding of few biomarker associations with $PM_{2.5}$ secondary OC or accumulation mode particle mass ($PM_{0.25-2.5}$) in an earlier publication (Delfino et al. 2009). In that study, regression coefficients were also negative for IL-6 in some models with $PM_{0.25-2.5}$ and with secondary OC. We speculate that components in outdoor SOAs estimated by our methods (e.g., organic acids), are mostly water soluble and highly oxygenated, and dissolve after deposition on the airway epithelium and then quickly react with extracellular macromolecules and cell membrane constituents. Thus, these PM components may not directly interact with the vasculature, although it has been hypothesized that inhaled particles lead to airway inflammatory responses and subsequent release of activated leukocytes and cytokines into the circulation (Mills et al. 2009).

An important limitation of our characterization of SOAs is that WSOCs and organic acids do not completely characterize the SOA fraction of PM, part of which may come from the photochemical oxidation of low-volatility vapors to form hydrophilic organic components, but whose chemical identity is largely unknown. These precursor vapors include SVOCs that are largely part of POAs. SVOCs evaporate from the particle phase during the process of atmospheric dilution and subsequently react with oxidant gases to form a significant fraction of SOAs (Robinson et al. 2007).

Lipid-soluble components of PM more closely associated with primary emissions, including PAHs, may become bioavailable after deposition followed by distribution of unmetabolized chemicals to the circulation and to extrapulmonary target sites (Gerde et al. 2001). It is also possible that a small fraction of toxic components is carried via various translocation mechanisms into the circulation on UFPs (Mühlfeld et al. 2008). However, translocation may account for a potentially insignificant amount of the impact of UFPs compared with the high retention of UFPs in the lungs (Möller et al. 2008), which may lead to sustained effects through the gradual transfer of redox-active components to the circulation over many days.

Although transition metals are known to be redox active, we found no consistent associations with the biomarkers measured, possibly because of low concentrations of these trace elements in the study areas.

Finding positive associations of biomarkers with both indoor and outdoor PAHs and hopanes along with the indoor/outdoor ratios of these organic components being close to 1.0 suggests that, even though people spend most of their time indoors, indoor air quality and PM exposures are strongly influenced by PM of outdoor origin. These findings are consistent with our previous analysis for the first half of this panel showing that CMB-estimated indoor PM of outdoor origin (particle number, EC, and primary OC) were associated with the biomarkers to a similar degree as outdoor PM (Delfino et al. 2008).

Briefly, the exploratory (data-driven) findings for GPx-1 and especially Cu,Zn-SOD are consistent with our previous findings for primary OC and EC (Delfino et al. 2009) and suggest antioxidant enzyme inactivation within erythrocytes by traffic-related pollutant components, including PAHs, among a subgroup of people. This inactivation is anticipated to increase oxidative stress and thus inflammation. This is potentially important because these enzymes likely represent important intermediate end points that have been linked to the risk of developing coronary artery disease in prospective cohort and other studies (Flores-Mateo et al. 2009). Given that these findings were far less clear when including the entire 60-subject panel (because a small subgroup of seven subjects had positive associations), these results should be viewed as hypothesis generating and retested in other populations. See Delfino et al. (2009) for further details and discussion concerning potential mechanisms of antioxidant enzyme inactivation versus up-regulation that may explain group differences.

Strengths of the present study lie in exposure measurements in each subject's community microenvironment and in repeated biological marker assessments in a well-characterized patient sample. Limitations include the potential for unmeasured temporal confounding. However, we performed *a priori* adjustment for one of the largest sources of variability in inflammatory mediators that have been documented in the literature (infections), and we also accounted for temperature and for continuity and seasonal variability in exposures. We also acknowledge that the present study does perform multiple comparisons, although we did narrow the number of hypotheses being tested based on prior evidence of associations from the work of others and ourselves.

The results of the present study suggest that tracer components of mobile source emissions in $PM_{0.25}$ are associated with increased systemic inflammation in a potentially susceptible population of elderly individuals. The measured biomarkers likely represent important intermediate end points (systemic inflammation) that have been linked to the risk of cardiovascular diseases in prospective cohort and other studies (Kritchevsky et al. 2005; Pai et al. 2004). The positive relation between air pollution and cytokine biomarkers may also be indicative of acute risk of adverse cardiovascular outcomes related to vascular dysfunction and atherothrombosis (Mills et al. 2009). We recently reported coherent associations between hourly ambulatory systolic and diastolic blood pressure and hourly air pollutant exposures in the present panel cohort, including stronger associations with primary $PM_{2.5}$ OC compared with secondary $PM_{2.5}$ OC (Delfino et al. 2010).

We conclude that U.S. EPA–regulated ambient $PM_{2.5}$ mass measurements may not adequately represent risk to human health because they are uncharacterized by composition, source, or PM size distribution and are not necessarily representative of personal or local exposure. Confirmatory data are needed in other populations using measurements of organic components across several PM size fractions.

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Health Impacts of the Built Environment: Within-Urban Variability in Physical Inactivity, Air Pollution, and Ischemic Heart Disease Mortality

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BACKGROUND: Physical inactivity and exposure to air pollution are important risk factors for death and disease globally. The built environment may influence exposures to these risk factors in different ways and thus differentially affect the health of urban populations.

OBJECTIVE: We investigated the built environment's association with air pollution and physical inactivity, and estimated attributable health risks.

METHODS: We used a regional travel survey to estimate within-urban variability in physical inactivity and home-based air pollution exposure [particulate matter with aerodynamic diameter ≤ 2.5 μm ($PM_{2.5}$), nitrogen oxides (NO_x), and ozone (O_3)] for 30,007 individuals in southern California. We then estimated the resulting risk for ischemic heart disease (IHD) using literature-derived dose–response values. Using a cross-sectional approach, we compared estimated IHD mortality risks among neighborhoods based on "walkability" scores.

RESULTS: The proportion of physically active individuals was higher in high- versus low-walkability neighborhoods (24.9% vs. 12.5%); however, only a small proportion of the population was physically active, and between-neighborhood variability in estimated IHD mortality attributable to physical inactivity was modest (7 fewer IHD deaths/100,000/year in high- vs. low-walkability neighborhoods). Between-neighborhood differences in estimated IHD mortality from air pollution were comparable in magnitude (9 more IHD deaths/100,000/year for $PM_{2.5}$ and 3 fewer IHD deaths for O_3 in high- vs. low-walkability neighborhoods), suggesting that population health benefits from increased physical activity in high-walkability neighborhoods may be offset by adverse effects of air pollution exposure.

POLICY IMPLICATIONS: Currently, planning efforts mainly focus on increasing physical activity through neighborhood design. Our results suggest that differences in population health impacts among neighborhoods are similar in magnitude for air pollution and physical activity. Thus, physical activity and exposure to air pollution are critical aspects of planning for cleaner, health-promoting cities.

KEY WORDS: active travel, air quality, environmental planning, infill, risk assessment, urban form. *Environ Health Perspect* 120:247–253 (2012). http://dx.doi.org/10.1289/ehp.1103806 [Online 17 October 2011]

Physical inactivity is associated with increased risk of several adverse health outcomes including heart disease, type 2 diabetes, colon cancer, breast cancer, and mortality (Colditz et al. 1997; Kelley and Goodpaster 2001; Kohl 2001; Verloop et al. 2000). Active commuting, such as walking or biking to work on a daily basis, has been shown to decrease risk of all-cause mortality and cardiovascular disease (Andersen et al. 2000; Hamer and Chida 2008; Zheng et al. 2009). Various attributes of the built environment (e.g., population density, street connectivity, land use mix) have been associated with rates of physical activity at the neighborhood level (Ewing et al. 2003; Frank et al. 2005; Saelens et al. 2003a; Sallis et al. 2009). Furthermore, the type of transportation mode used (public transit vs. car) affects personal energy expenditure (Morabia et al. 2010). Thus, an important research question is whether urban planning can reduce physical inactivity and improve health.

Exposure to outdoor urban air pollution is associated with various adverse health outcomes including heart disease, respiratory disease, lung cancer, asthma, and mortality (Brunekreef and Holgate 2002; Gent et al. 2003; Pope and Dockery 2006; Pope et al. 2002). Chronic exposures vary at similar magnitudes within-cities as between-cities (Jerrett et al. 2005; Miller et al. 2007), suggesting that neighborhood location, urban design, and proximity to roads can affect exposures (Health Effects Institute 2009; Marshall et al. 2005).

Recently, the World Health Organization (WHO) cited physical inactivity (4th) and exposure to outdoor urban air pollution (14th) among the top 15 risk factors for the Global Burden of Disease (WHO 2009); for high-income countries, these ranks are 4th (physical inactivity) and 8th (outdoor air pollution). Urban planning and the built environment may differentially influence exposures to those two risk factors (Marshall et al. 2009). A small number of studies have investigated the effects of exercise while controlling for air pollution exposure (de Nazelle et al. 2009; Wong et al. 2007) or explored regional- or national-scale theoretical shifts to active travel (de Hartog et al. 2010; Grabow et al. 2011); however, accounting for health outcomes from exposure to air pollution and physical inactivity among neighborhood types is a little-studied area.

We used risk assessment to explore urban-scale spatial patterns in exposures associated with the built environment. We investigated differences in urban form that have been associated with physical inactivity and air pollution [specifically, particulate matter with aerodynamic diameter ≤ 2.5 μm ($PM_{2.5}$), nitrogen oxides (NO_x), and ozone (O_3)] to assess relationships between urban form and public health.

Methods

Our approach combined four primary sources of information: a geocoded, self-report travel diary to indicate home location and physical activity levels for a specific cohort ($n = 30{,}007$); modeled and measured estimates of outdoor air pollution concentrations and their variability in space and time; literature-derived estimates relating ischemic heart disease (IHD) rates with physical inactivity and exposure to air pollution; and geographic information system (GIS) land use variables related to walkability. Our method is descriptive (i.e., cross-sectional) and aims to explore long-term health effects of neighborhood characteristics and location. Figure 1 illustrates our risk assessment approach.

Physical inactivity and air pollution exposures. We used the year 2001 Post-Census Regional Travel Survey to estimate exposure to physical inactivity and home-based exposure to outdoor air pollution. This survey, which covers southern California communities such as Orange County and Los Angeles, included a geocoded time–activity

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diary that captured self-reported activities and travel during fall 2001 and spring 2002. The survey population consisted of a random sample of residents, recruited by telephone in six southern California counties [Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura; for survey details, see Southern California Association of Governments (SCAG 2003)]. To our knowledge, no other metropolitan-scale travel survey has been used to estimate physical activity and exposure to air pollution (Marshall et al. 2006); in addition, this survey represents one of the largest exposure-relevant surveys available for any urban area in the world.

Of the 40,376 survey respondents, 30,007 (74%) met our inclusion criteria: *a*) geocoded home location [2,346 respondents excluded (5.8%)], *b*) home location within the air pollution modeling domain—the South Coast Air Basin [4,491 respondents excluded (11.1%)], and *c*) complete demographic information [age, sex, and ethnicity; 3,532 respondents excluded (8.7%)]. The survey generally covered 1 weekday per participant. We multiplied each participant's 1-day physical activity record by 7 to obtain an estimate of weekly minutes of physical activity. This approach assumed that physical activity was constant across all days of the week. Population-average levels of physical activity were similar (< 15% difference) between weekdays and weekends (11 vs. 12 min/day, respectively) based on data from a small number of respondents (13%, $n = 5,104$) who participated in an additional weekend survey supplement (see sensitivity analysis 1, below). The survey recorded total physical activity and separately disaggregated that total into active transport (e.g., walking, bicycling) versus recreational activities (e.g., sports, working out at a gym).

Our primary estimates for air pollution exposure were based on monitoring data [U.S. Environmental Protection Agency (EPA) 2010] for $PM_{2.5}$, NO_x, and O_3 in 2001. We interpolated concentrations [inverse-distance weighted average of the nearest three monitors (Marshall et al. 2008)] to each survey participant's home location. Each pollutant had several monitoring stations ($PM_{2.5}$, 27; NO_x, 42; O_3, 52), providing good spatial coverage for the 36,000-km² study area. We estimated the annual average of daily 1-hr maximum concentrations for O_3 and annual-average concentrations for $PM_{2.5}$ and NO_x at each survey participant's residence to match the metrics used in the epidemiological studies that we used to estimate IHD risks. We used spatial interpolation for the base case because it can be used for all three pollutants and is easily transferable to other urban areas.

Neighborhood walkability. We calculated three built environment variables to represent neighborhood type: *a*) population density, *b*) intersection density, and *c*) land use mix. Neighborhoods that were in the upper (lower) tertile of all three built environment variables were defined as high- (low-) walkability neighborhoods. This approach classified 12% of the survey population as living in a high-walkability neighborhood and 18% as living in a low-walkability neighborhood. We used objective measurements of the built environment rather than geographical overlays to match methods commonly used in the urban planning literature. Although no standard measure of walkability exists, most indices include measures of density, connectivity, and land use mix (Ewing and Cervero 2001). As a sensitivity analysis, based on prior research (Marshall et al. 2009) we implemented a second definition that classified 33% of survey participants in high- and 33% in low-walkability neighborhoods [for methods, see Supplemental Material, p. 2 (http://dx.doi.org/10.1289/ehp.1103806)]. Results were similar for both definitions; therefore, we report results using the first definition only.

Population density. We used U.S. Census data from the year 2000 to calculate population density at the tract level for each household (U.S. Census Bureau 2000). Population density has been shown to be a predictor of per capita automobile travel (Holtzclaw et al. 2002; Marshall 2008) and trip length (Ewing and Cervero 2001), both of which are predictors of bicycling and walking (Handy et al. 2002).

Intersection density. Intersection density was calculated using road TIGER/Line data (U.S. Census Bureau 2000). A 1-km non-freeway network buffer was generated for each household using ArcGIS (version: 9.3.1, ESRI; Redlands, CA, USA). Intersections (more than two road segments) were summed within the buffer, yielding a measure of street connectivity. Previous studies show that street connectivity may reduce vehicle travel and increase walking (Ewing and Cervero 2001; Forsyth et al. 2008).

Land use mix. Following Frank et al. (2004), we calculated a land use mix index for each household location. Aerial land use data was obtained from SCAG for the year 2001 (SCAG 2010). The index [see Supplemental Material, pp. 2–3 (http://dx.doi.org/10.1289/ehp.1103806)] is a normalized ratio of the mix of four primary land uses (residential, commercial, retail, and institutional) to total land area within the 1-km network buffer. The index ranges from 0 to 1: A value of 1 represents an equal mixture of the four land uses; a value of 0 indicates 100% of land is a single land use. Impacts of land use mix on health include reducing obesity (Frank et al. 2005) and increasing physical activity (Saelens et al. 2003b).

Dose–response and relative risk estimates. For each survey participant (i.e., at the individual level), we estimated relative risks (RRs) attributable to outdoor air pollution and physical inactivity for one important health outcome: IHD. IHD is consistently associated with outdoor air pollution and physical inactivity (WHO 2009), is responsible for a large proportion of deaths in the United States (~ 18% of all deaths and 67% of heart disease deaths in 2006) [Centers for Disease Control and Prevention (CDC) 2009], and has been shown to be an important health outcome for both risk factors when considering large-scale shifts to active travel (Woodcock et al. 2009). Because our exposure estimates for air pollution are continuous, we estimated an RR for each survey participant based on a linear dose–response [see Supplemental Material, Figure S2 (http://dx.doi.org/10.1289/ehp.1103806)] for the range of observed air pollutant concentrations and the referent exposure levels described below. In contrast, WHO (2004) suggests a three-tier dose–response for physical activity: *a*) active (exercise for > 150 min/week; RR = 1), *b*) insufficiently active (exercise for 1–150 min/week; RR = 1.31), and *c*) inactive (0 min exercise per week; RR = 1.47), allowing for only three possible physical activity RRs for each survey participant. We estimated

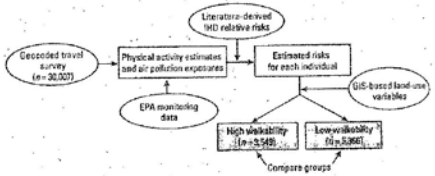

Figure 1. Conceptual framework for this risk assessment. Ovals are inputs, and boxes are midpoint calculations. Shaded boxes indicate estimated risk separated into two groups for comparison.

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attributable fractions for outdoor air pollution and physical inactivity using the mean individual RR in high- or low-walkability neighborhoods.

Air pollution dose–response relationships were identified and selected as follows. We manually searched the tables of contents of four journals (*Journal of the American Medical Association*, *New England Journal of Medicine*, *British Medical Journal*, *Lancet*) for the years 2000–2010 for air pollution risk estimates. We also performed a search of key words in Google Scholar and ISI Knowledge, including (in various combinations) "air pollution," "O_3/NO_x/$PM_{2.5}$," "ischemic heart disease," "cardiovascular disease," "cardiopulmonary disease," "respiratory disease," "mortality," "health effects," "chronic/acute," and "dose–response." We used the "cited by" function in Google Scholar to explore subsequent studies related to each article. Through this process, we identified 62 articles. We then selected studies that focused on within-city variation and included IHD as a health outcome (Table 1).

Each RR for air pollution was estimated from cohort studies of long-term exposures; however, these estimates differed in important ways. For example, Naess et al. (2004) studied men 40–49 years of age, meaning our NO_x results cannot be generalized to other populations [RR = 1.08; 95% confidence interval (CI): 1.06, 1.11]. Jerrett et al. (2005) used a subset of the American Cancer Society (ACS) cohort (Los Angeles, CA, USA) to estimate a within-city RR of 1.25 per 10 μg/m³ increase in $PM_{2.5}$ (95% CI: 0.99, 1.59). Jerrett et al. (2005) did not report a significant RR for $PM_{2.5}$ in Los Angeles, but the RR estimate is roughly consistent with two between-city studies that did report statistically significant RRs: Pope et al. (2004; RR = 1.18 per 10 μg/m³ increase in $PM_{2.5}$; 95% CI: 1.14, 1.23) and Jerrett et al. (2009; RR = 1.21; 95% CI: 1.16, 1.27). The Jerrett et al. (2009) RR for a 10 μg/m³ increase in O_3 (1.008; 95% CI: 1.002, 1.013) was based on between-city variation (ACS cohort) in 96 U.S. metropolitan statistical areas generated from a one-pollutant model. However, it is important to note that Jerrett et al. (2009) reported a protective effect for O_3 based on a two-pollutant model adjusted for $PM_{2.5}$ (RR = 0.97; 95% CI: 0.96, 0.99), and overall there is less evidence in the literature for O_3 associations with IHD compared with those for $PM_{2.5}$. A within-city study of O_3 and IHD was not available.

The referent exposure levels used to estimate individuals' RRs were "active" for physical inactivity (> 150 min of moderate–vigorous activity per week), and the 10th percentile of exposure (survey population based; values: 13.6 μg/m³ for $PM_{2.5}$, 39.8 μg/m³ for NO_x, 80.3 μg/60.3 μg/m³ for O_3) for air pollution, consistent with exposures in a relatively clean neighborhood in the study area. Each survey participant's air pollution RR was estimated based on the difference between their home-location air pollution exposure and the referent exposure level. For example, for $PM_{2.5}$, an individual whose home-location exposure estimate was 23.6 μg/m³ (10 μg/m³ above the referent level) would be assigned an RR of 1.25.

Population-attributable fraction. We calculated population-attributable fraction (PAF) and estimated attributable IHD mortality rates for each risk factor in high- and low-walkability neighborhoods. PAF for a neighborhood was calculated based on the proportion of individuals exposed to each risk factor and average RR among all individuals in a neighborhood (Baker and Nieuwenhuijsen 2008):

$$\mathrm{PAF} = \frac{p \times (\mathrm{RR} - 1)}{[p \times (\mathrm{RR} - 1)] + 1}. \quad [1]$$

Here, RR is the mean individual RR in each group (high- and low-walkability neighborhood) and risk factor, and p is the proportion of individuals exposed in each group (defined by our referent exposure levels). We used the 2000–2001 age-adjusted IHD mortality rate in California (191.2 IHD deaths/100,000/year; CDC 2011) to estimate deaths within each group and subsequent attributable IHD mortality rates (except for NO_x where we used the IHD mortality rate for men in California 45–54 years of age: 81.9 IHD deaths/100,000/year). Attributable mortality due to physical inactivity, $PM_{2.5}$, NO_x, and O_3 cannot be summed because of confounding among the risk factors and overlap of at-risk populations. Therefore, we report attributable mortality due to the different factors separately.

We separately calculated PAF using a method with multiple exposure levels instead of the dichotomous exposure levels implicit in Equation 1, as described in the Supplemental Material [pp. 5–6 (http://dx.doi.org/10.1289/ehp.1103806)]. Results based on this alternative method were similar to those reported below.

Sensitivity analyses. To explore the robustness of our estimates, we used three sensitivity analyses to assess *a*) different methods of scaling minutes of physical activity, *b*) alternate modeling approaches for air pollution, and *c*) stepwise versus linear dose–response for physical activity.

Sensitivity analysis 1: scaling method for minutes of physical activity. Our approach requires extrapolating weekly exercise rates based on the 1-day travel diary because most physical activity epidemiological literature employs the metric "minutes of physical activity per week." To test the limitations of this extrapolation for our analysis, we developed a Monte Carlo simulation that relaxes our base-case assumption (i.e., that individuals' physical activity rates are constant by day), by employing two alternative assumptions: that people who are nonsedentary are physically active *a*) every other day or *b*) every third day. The Monte Carlo simulation distributes total minutes of physical activity accordingly, stratifying by age, sex, and ethnicity. The resulting distributions of physical activity better approximate national estimates on the prevalence of physical inactivity (WHO 2004).

Sensitivity analysis 2: air pollution model. Our base-case analysis used spatial interpolation of U.S. EPA monitoring data, which are readily available for all three pollutants for many urban areas. We compared results using a Eulerian dispersion model [Comprehensive Air Quality Model with Extensions (CAMx); http://www.camx.com; nitrous oxide (NO), nitrogen dioxide (NO_2), O_3] and land-use regression (LUR; NO_2; Novotny et al. 2011). CAMx and LUR provide greater spatial precision than inverse-distance weighting but may or may not be available in other urban areas.

Sensitivity analysis 3: physical activity dose–response. We tested the sensitivity of our results to the dose–response curve for physical inactivity. Our base case used the stepwise dose–response from WHO (2004) (Table 1). For this sensitivity analysis, we generated three linear dose–response curves (low, medium, and high slopes) based on the same WHO values.

Results

Annual-average air pollution exposure for the survey population averaged 49 μg/m³ for NO_2 [interquartile range (IQR), 41–60 μg/m³), 99 μg/m³ for O_3

Table 1. Summary of RR estimates used for IHD.

Study	Risk factor	Study details	RR (95% CI)
Naess et al. 2004	NO_x	Within-city; men 40–49 years of age in Oslo, Norway [n = 16,209]	1.08[a] (1.06, 1.11) per 10 μg/m³
Jerrett et al. 2005	$PM_{2.5}$	Within-city; subset Los Angeles, CA) of the ACS cohort [n = 22,905]	1.25[a] (0.99, 1.59) per 10 μg/m³
Jerrett et al. 2009	O_3	Between-cities; ACS cohort [n = 448,850]	1.008[a] (1.002, 1.013) per 10 μg/m³
WHO 2004	Physical inactivity	Meta-analysis of 23 studies from two continents (Western Europe, & North America. 12; total n = 227,604]	Insufficiently active[b] 1.31 (1.21, 1.41) Inactive:[b] 1.47 (1.39, 1.56)

[a]Air pollution risk estimates used here were based on long-term cohort studies and chronic health effects. [b]Referent, > 150 min/week; insufficiently active, 1–150 min/week; inactive, 0 min/week.

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(86–112 μg/m³; annual average of 1-hr daily maximums), and 22 μg/m³ for $PM_{2.5}$ (20–24 μg/m³; Table 2). Mean NO_2 exposures were below current ambient-air standards [U.S. EPA and California Environmental Protection Agency (CalEPA) standards, respectively: 100 and 57 μg/m³]. $PM_{2.5}$ exposures were approximately 1.5 and 2 times higher than U.S. EPA (15 μg/m³) and CalEPA (12 μg/m³) long-term standards (annual arithmetic mean), respectively (California Air Resources Board 2010).

Table 2. Descriptive statistics by neighborhood type [mean (IQR)].

Variable	All (n = 30,007)	Low walkability (n = 5,365)	High walkability (n = 3,549)
Age (years)	38 (21–51)	41 (23–58)	34 (20–47)
Nonwhite (%)	43	23	65
Male (%)	50	49	50
Income > $50,000 per year (%)	48	57	31
College or more (%)	48	52	40
NO_2 (μg/m³)[a]	85 (68–103)	67 (53–88)	108 (89–130)
O_3 (μg/m³)[a]	93 (86–112)	111 (97–124)	85 (82–92)
$PM_{2.5}$ (μg/m³)[a]	22 (20–24)	20 (14–25)	23 (22–24)
Physical activity (min/week)	77 (0–0)	88 (0–4)	102 (0–0)
Population density in Census tract (people/km²)[b]	22,400 (7,800–29,400)	3,100 (630–5,200)	53,500 (31,500–61,800)
Intersection density (1-km network buffer)[b]	57 (27–82)	11 (2–20)	109 (88–114)
Land use mix (1-km network buffer)[b]	0.37 (0.25–0.49)	0.13 (0–0.23)	0.59 (0.50–0.68)

All continuous variables in high-walkability neighborhoods have statistically significant differences (for all variables $p < 0.001$) compared with low-walkability neighborhoods (two-tailed t-test).
[a]Home-location annual-average concentrations. [b]Home-location annual average of daily 1-hr maximum concentrations.
[c]This land use variable was used to define walkability.

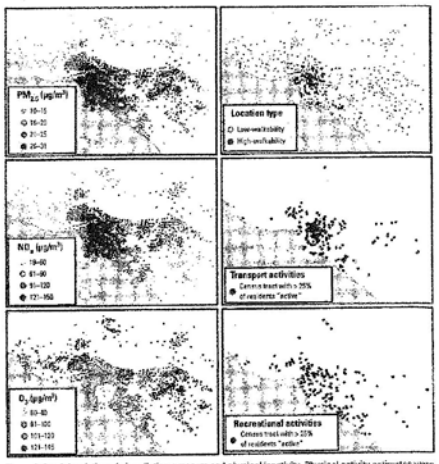

Figure 2. Spatial variation of air pollution exposure and physical inactivity. Physical activity estimates were derived from time–activity diaries, air pollution exposures were calculated from U.S. EPA monitoring data, and walkability was defined using publicly available land use variables. Icons for transport and recreational activities represent census tracts where > 25% of the survey respondents reported > 150 min/week of that activity type.

Self-reported physical activity levels averaged 77 min/week (IQR, 0–0 min/week; i.e., the 25th and 75th values are 0 min/week; Table 2). Most (83.5%) of the survey participants reported being inactive (0 min/week), 5.6% reported being insufficiently active (1–150 min/week), and 10.9% reported being active (> 150 min/week; physical activity recommendations; U.S. Department of Health and Human Services 1996). Activity levels were notably lower than national averages (U.S. average: inactive, 29%; insufficiently active, 45%; active, 26%; WHO 2004). Sensitivity analysis 1 addresses this difference in activity levels.

NO_2 and $PM_{2.5}$ concentrations were highest near the city center and major roadways, whereas O_3 concentrations were higher in the outer-lying areas (Figure 2). Because of this spatial pattern, few locations experienced low exposure to all three pollutants. Spatial patterns for physical activity were dependent on the purpose of the activity; there was no discernable spatial pattern for recreational activities, but active transport was clustered near high-walkability neighborhoods (Figure 2).

Average per capita physical activity was 50% higher in high- than in low-walkability neighborhoods (102 vs. 68 min/week; Figure 3). The number of nonsedentary individuals (people with > 0 min/week physical activity) was two times higher in high- versus low-walkability neighborhoods (24.9% and 12.5%, respectively; $p < 0.001$). However, considering nonsedentary individuals only, average physical activity was 24% lower in high- than in low-walkability neighborhoods (410 vs. 543 min/week). This finding suggests that neighborhood type may have differing impacts on the number of people participating in physical activities, average physical activity among all individuals, and average physical activity among nonsedentary individuals.

The self-reported purpose of physical activity differs by neighborhood (Figure 3). For example, active transport accounts for about half of physical activity in the high-walkability neighborhoods but only 20% in low-walkability neighborhoods. Active transport is 3.6 times higher in high- versus low-walkability neighborhoods (a finding that partially corroborates our GIS estimates of walkability), whereas nontravel activity is similar (< 10% difference) in low- versus high-walkability neighborhoods. Activity level and purpose exhibited greater weekend/weekday differences in low-walkability areas than in high-walkability areas [see Supplemental Material, Table S2, Figure S4 (http://dx.doi.org/10.1289/ehp.1103806)].

Figure 4 shows estimated attributable IHD mortality rates for each neighborhood type

and risk factor. Physical inactivity was more strongly associated with IHD mortality (51 additional deaths/100,000/year overall) than were the other exposures, but IHD mortality attributable to physical inactivity was only slightly different between high- and low-walkability neighborhoods (7 fewer IHD deaths/100,000/year in high- vs. low-walkability). Conversely, overall estimated attributable IHD mortality due to exposure to $PM_{2.5}$ was smaller (30 deaths/100,000/year), but the difference between neighborhoods was slightly larger than for physical inactivity (9 more IHD deaths/100,000/year in high- vs. low-walkability). O_3 shows the reverse spatial pattern as $PM_{2.5}$ (i.e., O_3 exposure is higher in low-walkability neighborhoods, whereas $PM_{2.5}$ is lower) but a smaller difference in mortality between neighborhoods (3 fewer IHD deaths/100,000/year in high- vs. low-walkability). Attributable IHD mortality rates for NO_2 (represented by risk estimates for men 40–49 years of age; not shown in Figure 4) were 13 (28) IHD deaths/100,000/year for low- (high-) walkability neighborhoods. Attributable risk estimates for physical inactivity, $PM_{2.5}$, and O_3 showed similar patterns when neighborhoods were classified according to deciles of walkability scores [Supplemental Material, Figure S5 (http://dx.doi.org/10.1289/ehp.1103806)].

Sensitivity analysis 1: scaling method for minutes of physical activity. Results [see Supplemental Material, pp. 8–9 (http://dx.doi.org/10.1289/ehp.1103806)] indicate that our alternative assumptions reduce the variability in physical activity among neighborhoods. Specifically, the Monte Carlo simulation increases the share of nonsedentary individuals (subsequently reducing average risks from physical inactivity) but also yields reductions in estimated IHD mortality differences among neighborhoods. Our core conclusions are similar among the Monte Carlo simulations.

Sensitivity analysis 2: air pollution model. Central tendencies varied by pollutant and model; however, trends in the core conclusions (i.e., shifts in exposure and risk by neighborhood type) were similar where it was possible to compare [see Supplemental Material, pp. 9–10 (http://dx.doi.org/10.1289/ehp.1103806)]. In general, differences in estimated IHD mortality rates between high- and low-walkability neighborhoods were larger when using the alternate models; therefore, base-case results reported above may be conservative estimates (i.e., underestimates) of air pollution spatial variability.

Sensitivity analysis 3: physical activity dose–response. Our results did not change appreciably when using the linear dose–response curves [see Supplemental Material, pp. 10–11 (http://dx.doi.org/10.1289/ehp.1103806)].

We also estimated RRs according to neighborhood type (high- or low-walkability) within strata of age (0–25 years, 26–50 years, > 50 years) and according to income and ethnicity (high income (> $75,000) and white vs. low income (< $35,000) and nonwhite). The results reveal similar trends in risk differences between neighborhoods for each strata, suggesting that our results are robust to accounting for differences in income, ethnicity, and age. Details are in the Supplemental Material [pp. 11–14, Table S6 (http://dx.doi.org/10.1289/ehp.1103806)]. Prior literature further explores socioeconomic aspects of this topic (e.g., Ewing 2005; Frank et al. 2007; Sallis et al. 2009).

Discussion

Our analysis summarizes between-neighborhood variations in two risk factors (exposure to air pollution, physical inactivity) using a time–activity travel diary for one region. We found risks were differential when stratified by neighborhood walkability. Specifically, when comparing estimated IHD mortality rates among neighborhoods, differences attributable to physical inactivity were modest and comparable to differences attributable to individual air pollutants. Because of spatial patterns associated with each pollutant, urban residents were often highly exposed to at least one but not all pollutants (e.g., high exposure to O_3 in low-walkability neighborhoods or high exposure to $PM_{2.5}$ in high-walkability neighborhoods). This trade-off suggests that the net health impact of neighborhoods may depend in part on spatial patterns of air pollution.

Recent health comparisons between air pollution and exercise (Carlisle and Sharp 2001; de Hartog et al. 2010) emphasize the greater health importance of exercise relative to air pollution. This prior research considered only people who exercise (Carlisle and Sharp 2001; de Hartog et al. 2010); here, we consider the entire population—nonsedentary plus sedentary individuals. Only a subset of a given population is physically active, and only a subset of that physical activity is influenced by neighborhood design; here, the net result is that spatial differences in attributable IHD mortality risks are of similar magnitude for physical inactivity as for air pollution. Our results indicate a doubling in the share of nonsedentary people in high- versus low-walkability neighborhoods (24.9% vs. 12.5%); however, all individuals—inactive and active—experience changes in air pollution exposures. For this study population, physical activity rates were higher (and exercise-attributable IHD mortality rates lower) in high- than in low-walkability neighborhoods. However, because variations in air pollution risk are similar to variations in physical inactivity risks, when comparing high- versus low-walkability neighborhoods, health benefits from increased physical activity may be offset by health risks from air pollution exposure.

Our study uses self-reported rather than objectively measured physical activity. Previous studies that have used objectively-measured physical activity to investigate effects of urban form on physical activity (Table 3) have reported mixed results: two studies reported

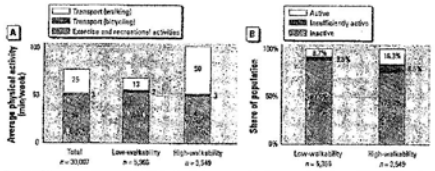

Figure 3. Differences among neighborhoods. (*A*) Average active transport (minutes walking and bicycling per person) and recreational activities. (*B*) Physical activity levels. The between-neighborhood difference in total physical activity is statistically significant ($p < 0.001$, two-tailed t-test).

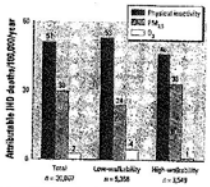

Figure 4. Estimated attributable IHD mortality rates for each risk factor and neighborhood type. Rates were calculated using means of individual RRs and prevalence of exposure within neighborhood type (referent, > 150 min/week of physical activity; 10th percentile of air pollution exposure (12.6 μg/m³ for $PM_{2.5}$, 39.8 μg/m³ for NO_2, and 88.3 μg/m³ for O_3)). The overall incidence of IHD mortality in California is 191 deaths/100,000/year (CDC 2011).

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Table 3. Comparison of results from studies using objective measures of physical activity with results from the present study.

Study	Location	Measure of physical activity	Measure of urban form	Core result
Sallis et al. 2009	Seattle, WA, and Baltimore, MD	Objective: 7-day accelerometer	Walkability (net residential density, intersection density, land use mix, retail floor area ratio)	41 min/week increase in physical activity between high- vs. low-walkability neighborhoods
Frank et al. 2005	Atlanta, GA	Objective: 2-day accelerometer	Walkability (net residential density, intersection density, land use mix)	Two-fold increase in meeting physical activity recommendations in high- vs. low-walkability neighborhoods
Forsyth et al. 2008	St. Paul, MN	Objective: 7-day accelerometer	Population density, block size (street pattern)	Significant increase in transport-related physical activity (high- vs. low-walkability neighborhoods) but no difference in total physical activity
Present study	South Coast Air Basin, CA	Self-report: one-day time activity diary	Walkability (population density, intersection density, land use mix)	34 min/week increase in physical activity between high- vs. low-walkability neighborhoods (2-fold increase in meeting physical activity recommendations)

differences in physical activity by neighborhood type (Frank et al. 2005; Sallis et al. 2009), and one indicated shifts in the purpose (transport vs. fitness) but not the amount of physical activity (Forsyth et al. 2008). These findings suggest that urban-scale differences in physical activity rates are similar between objectively measured physical activity and our self-reported measures of activity. For example, differences in per capita physical activity between high- and low-walkability neighborhoods in Seattle, Washington, and Baltimore, Maryland, were similar to differences in our southern California population [41 min/week (Seattle, Baltimore) versus 34 min/week (southern California) (Sallis et al. 2009)].

Our study limitations include those associated with travel surveys and self-reported information in general. For example, travel surveys typically undercount trips by all modes (Bricka and Bhat 2006), affecting estimates of travel time (Wolf et al. 2003). The SCAG survey suggests that vehicle undercount rates may approach 20–25% but gives little information regarding non-motorized trips (SCAG 2004). Undercount rates may be differential by trip length (SCAG 2004), mode, or neighborhood. Comparisons with studies using objectively measured physical activity (see preceding paragraph) suggest that our core findings are robust to trip undercounting and other problems with self-reported travel data.

Our work is motivated by the goal of understanding and designing clean, healthy, sustainable cities (Giles et al. 2011). Our investigation explores only one location (Los Angeles), one health outcome (IHD), one cohort, a small number of pollutants (NO_x, $PM_{2.5}$, O_3), and physical inactivity. Clearly, further analyses incorporating other risk factors (e.g., noise, transport injury) linked to the built environment are warranted. Interaction between physical activity and air pollution may vary on an even smaller scale than we have investigated in the present study (i.e., within neighborhoods). Future analyses could use age-specific risks of IHD mortality for air pollution and physical inactivity. Our analysis is descriptive (i.e., cross-sectional) in nature; more research is needed to explore causality between urban form and health risks (especially for physical activity, because ambient air pollution exposure is largely determined by geographical location).

Despite these limitations, our results are relevant to health officials, sustainability scientists, and urban planners. To our knowledge, ours is the first analysis that directly compares health risks for both air pollution and physical inactivity among neighborhoods based on activity patterns for a random sample of residents in an urban area, and thus is the first to quantify relationships between urban form and the health impacts of physical activity and air pollution. We found that attributes of the built environment were associated with both air pollution exposure and physical inactivity. These results emphasize that to be health protective, neighborhoods designed to decrease risks from one factor must avoid unintentionally increasing risks from other factors.

Conclusion

We compared the health impacts attributable to air pollution and physical inactivity among neighborhoods for one cohort (~ 30,000 individuals in Southern California). A larger proportion of our Southern California study population was classified as nonsedentary in high- versus low-walkability neighborhoods (25% vs. 13%). However, because only a small share of the total population was classified as physically active, we estimated only moderate differences in IHD mortality rates attributable to physical inactivity between neighborhood types. Spatial patterns of estimated attributable IHD mortality rates varied by pollutant: estimated mortality due to increased $PM_{2.5}$ and NO_x were greater in high- than in low-walkability neighborhoods, whereas estimated IHD mortality due to increased O_3 was greater in low- than in high-walkability neighborhoods. In general, differences in estimated IHD mortality between neighborhoods were comparable for exposure to air pollutants and physical inactivity. Our results suggest complex within-urban spatial trade-offs in health risks associated with air pollution and physical inactivity. Efforts to design healthy neighborhoods should account for many factors, including air pollution and physical inactivity, and not address one concern at the expense of others.

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Attachment G

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Near Highway Pollutants in Motor Vehicle Exhaust: A Review
of Epidemiologic Evidence of Cardiac and Pulmonary Health Risks
Environmental Health
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Review

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Near-highway pollutants in motor vehicle exhaust: A review of epidemiologic evidence of cardiac and pulmonary health risks

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Abstract

There is growing evidence of a distinct set of freshly-emitted air pollutants downwind from major highways, motorways, and freeways that include elevated levels of ultrafine particulates (UFP), black carbon (BC), oxides of nitrogen (NOx), and carbon monoxide (CO). People living or otherwise spending substantial time within about 200 m of highways are exposed to these pollutants more so than persons living at a greater distance, even compared to living on busy urban streets. Evidence of the health hazards of these pollutants arises from studies that assess proximity to highways, actual exposure to the pollutants, or both. Taken as a whole, the health studies show elevated risk for development of asthma and reduced lung function in children who live near major highways. Studies of particulate matter (PM) that show associations with cardiac and pulmonary mortality also appear to indicate increasing risk as smaller geographic areas are studied, suggesting localized sources that likely include major highways. Although less work has tested the association between lung cancer and highways, the existing studies suggest an association as well. While the evidence is substantial for a link between near-highway exposures and adverse health outcomes, considerable work remains to understand the exact nature and magnitude of the risks.

Background

Approximately 11% of US households are located within 100 meters of 4-lane highways [estimated using: [1,2]]. While it is clear that automobiles are significant sources of air pollution, the exposure of near-highway residents to pollutants in automobile exhaust has only recently begun to be characterized. There are two main reasons for this: (A) federal and state air monitoring programs are typically set up to measure pollutants at the regional, not local scale; and (B) regional monitoring stations typically do not measure all of the types of pollutants that are elevated next to highways. It is, therefore, critical to ask what is known about near-highway exposures and their possible health consequences.

Here we review studies describing measurement of near-highway air pollutants, and epidemiologic studies of cardiac and pulmonary outcomes as they relate to exposure to these pollutants and/or proximity to highways. Although some studies suggest that other health impacts are also important (e.g., birth outcomes), we feel that the case for these health effects are less well developed scientifically and do not have the same potential to drive public policy at this time. We did not seek to fully integrate the relevant cellular biology and toxicological literature, except for a few key references, because they are so vast by themselves.

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We started with studies that we knew well and also searched the engineering and health literature on Medline. We were able to find some earlier epidemiologic studies based on citations in more recent articles. We include some studies that assessed motor vehicle-related pollutants at central site monitors (i.e., that did not measure highway proximity or traffic) because we feel that they add to the plausibility of the associations seen in other studies. The relative emphasis given to studies was based on our appraisal of the rigor of their methodology and the significance of their findings. We conclude with a summary and with recommendations for policy and further research.

Motor vehicle pollution

It is well known that motor vehicle exhaust is a significant source of air pollution. The most widely reported pollutants in vehicular exhaust include carbon monoxide, nitrogen and sulfur oxides, unburned hydrocarbons (from fuel and crankcase oil), particulate matter, polycyclic aromatic hydrocarbons, and other organic compounds that derive from combustion [3-5]. While much attention has focused on the transport and transformation of these pollutants in ambient air – particularly in areas where both ambient pollutant concentrations and human exposures are elevated (e.g., congested city centers, tunnels, and urban canyons created by tall buildings), less attention has been given to measuring pollutants and exposures near heavily-trafficked highways. Several lines of evidence now suggest that steep gradients of certain pollutants exist next to heavily traveled highways and that living within these elevated pollution zones can have detrimental effects on human health.

It should be noted that many different types of highways have been studied, ranging from California "freeways" (defined as multi-lane, high-speed roadways with restricted access) to four-lane (two in each direction), variable-speed roadways with unrestricted access. There is considerable variation in the literature in defining highways and we choose to include studies in our review that used a broad range of definitions (see Table 1).

It should also be noted that there may be significant heterogeneity in the types and amounts of vehicles using highways. The typical vehicle fleet in the US is composed of passenger cars, sports utility vehicles, motorcycles, pickup trucks, vans, buses, and small, medium, and large trucks. The composition and size of a fleet on a given highway may vary depending on the time of day, day of the week, and use restrictions for certain classes of vehicles. Fleets may also vary in the average age and state of repair of vehicles, the fractions of vehicles that burn diesel and gasoline, and the fraction of vehicles that have catalytic converters. These factors will influence the kinds and amounts of pollutants in tailpipe emissions. Similarly, driving conditions, fuel chemistry, and meteorology can also significantly impact emissions rates as well as the kinds and concentrations of pollutants present in the near-highway environment. These factors have rarely been taken into consideration in health outcome studies of near-highway exposure.

Based on our review of the literature, the pollutants that have most consistently been reported at elevated levels near highways include ultrafine particles (UFP), black carbon (BC), nitrogen oxides (NOx), and carbon monoxide (CO). In addition, $PM_{2.5}$, and PM_{10} were measured in many of the epidemiologic studies we reviewed. UFP are defined as particles having an aerodynamic diameter in the range of 0.005 to 0.1 microns (um). UFP form by condensation of hot vapors in tailpipe emissions, and can grow in size by coagulation. $PM_{2.5}$ and PM_{10} refer to particulate matter with aerodynamic diameters of 2.5 and 10 um, respectively. BC (or "soot carbon") is an impure form of elemental carbon that has a graphite-like structure. It is the major light-absorbing component of combustion aerosols. These various constituents can be measured in real time or near-real time using particle counters (UFP) and analyzers that measure light absorption (BC and CO), chemiluminescence (NOx), and weight ($PM_{2.5}$ and PM_{10}). Because UFP, NO_x, BC, and CO derive from a common source – vehicular emissions – they are typically highly inter-correlated.

Air pollutant gradients near highways

Several recent studies have shown that sharp pollutant gradients exist near highways. Shi et al. [6] measured UFP number concentration and size distribution along a road-way-to-urban-background transect in Birmingham (UK), and found that particle number concentrations decreased nearly 5-fold within 30 m of a major roadway (>30,000 veh/d). Similar observations were made by Zhu et al. [7,8] in Los Angeles. Zhu et al. measured wind speed and direction, traffic volume, UFP number concentration and size distribution as well as BC and CO along transects downwind of a highway that is dominated by gasoline vehicles (Freeway 405; 13,900 vehicles per hour; veh/h) and a highway that carries a high percentage of diesel vehicles (Freeway 710; 12,180 veh/h). Relative concentrations of CO, BC, and total particle number concentration decreased exponentially between 17 and 150 m downwind from the highways, while at 300 m UFP number concentrations were the same as at upwind sites. An increase in the relative concentrations of larger particles and concomitant decrease in smaller particles was also observed along the transects (see Figure 1). Similar observations were made by Zhang et al. [9] who demonstrated "road-to-ambient" evolution of particle number distributions near highways 405 and 710 in both winter and sum-

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Table 1: Summary of near-highway pollution gradients

Citation	Location	Highway traffic intensity[a]	Pollutants measured[b]	Observed Pollution Gradients
Shi et al. 1999 (6)	Birmingham, UK	30,000 veh/d	UFP + FP ($10–10^4$ nm)	2–100 m[c]
Zhu et al. 2002 (8)	Los Angeles; Freeway 710	12,100 veh/h	UFP, CO, BC	17–300 m[c]
Zhu et al. 2002 (7)	Los Angeles; Freeway 405	13,900 veh/h	UFP, CO, BC	30–300 m[c]
Hitchins et al. 2002 (11)	Brisbane (Austr.)	2,130–3,400 veh/h	UFP + FP (15.2×10^4 nm), $PM_{2.5}$	15–375 m[c]
Fischer et al. 2000 (13)	Amsterdam	<3,000–30,974 veh/d	$PM_{2.5}$, PM_{10}, PPAH, VOCs	NA
Roorda-Knape et al. 1998 (14)	Netherlands	80,000–152,000 veh/d	$PM_{2.5}$, PM_{10}, BC, VOCs, NO_2	15–330 m[c]
Janssen et al. 2001 (15)	Netherlands	40,000–170,000 veh/d	$PM_{2.5}$, VOCs, NO_2	< 400 m[c]
Morawska et al. 1999 (12)	Brisbane (Austr.)	NA	UFP	10–210 m[c]

[a]As defined in article cited (veh/d = vehicles per day; veh/h = vehicles per hour).
[b]UFP = ultrafine particles; FP = fine particles; $PM_{2.5}$ = particles with aerodynamic diameter ≤ 2.5 um; PM_{10} = particles with aerodynamic diameter ≤ 10 um; BC = black carbon; PPAH = particle-bound polycyclic aromatic hydrocarbons; VOCs = volatile organic compounds
[c]Pollutant measurements were made along a transect away from the highway
NA = not applicable; measurements were not made.

mer. Zhang et al. observed that between 30–90 m downwind of the highways, particles grew larger than 0.01 um due to condensation, while at distances >90 m, there was both continued particle growth (to >0.1 um) as well as particle shrinkage to <0.01 um due to evaporation. Because condensation, evaporation, and dilution alter size distribution and particle composition, freshly-emitted UFP near highways may differ in chemical composition from UFP that has undergone atmospheric transformation during transport to downwind locations [10].

Two studies in Brisbane (Australia) highlight the importance of wind speed and direction as well as contributions of pollutants from nearby roadways in tracking highway-generated pollutant gradients. Hitchins et al. [11] measured the mass concentrations of 0.1–10 um particles as well as total particle number concentration and size distribution for 0.015–0.7 um particles near highways (2,130–3,400 veh/h). Hitchens et al. observed that the distance from highways at which number and mass concentrations decreased by 50% varied from 100 to 375 m depending on the wind speed and direction. Morawska et al. [12] measured the changes in UFP number concentrations along horizontal and vertical transects near highways to distinguish highway and normal street traffic contributions. It was observed that UFP number concentrations were highest <15 m from highways, while 15–200 m from highways there was no significant difference in UFP number concentrations along either horizontal or vertical transects – presumably due to mixing of highway pollutants with emissions from traffic on nearby, local roadways.

In addition to UFP, other pollutants – such as $PM_{2.5}$, PM_{10}, NO_2 (nitrogen dioxide), VOCs (volatile organic compounds), and particle-bound polycyclic aromatic hydrocarbons (PPAH) – have been studied in relation to heavily-trafficked roadways. Fischer et al. [13] measured $PM_{2.5}$, PM_{10}, PPAH, and VOC concentrations outside and inside homes on streets with high and low traffic volumes in Amsterdam (<3,000–30,974 veh/d). In this study, PPAH and VOCs were measured using methods based on gas chromatography. Fischer et al. found that while $PM_{2.5}$ and PM_{10} mass concentrations were not specific indicators of traffic-related air pollution, PPAH and VOC levels were ~2-fold higher both indoor and outdoor in high traffic areas compared to low traffic areas. Roorda-Knape et al [14] measured $PM_{2.5}$, PM_{10}, black smoke (which is similar to BC), NO_2, and benzene in residential areas <300 m from highways (80,000–152,000 veh/d) in the Netherlands. Black smoke was measured by a reflectance-based method using filtered particles, benzene was measured using a method based on gas chromatography. Roorda-Knape et al reported that outdoor concentrations of black smoke and NO_2 decreased with distance from highways, while $PM_{2.5}$, PM_{10}, and benzene concentrations did not change with distance. In addition, Roorda-Knape et al. found that indoor black smoke concentrations were correlated with truck traffic, and NO_2 was correlated with both traffic volume and distance from highways. Janssen et al. [15] studied $PM_{2.5}$, PM_{10}, benzene, and black smoke in 24 schools in the Netherlands and found that $PM_{2.5}$ and black smoke increased with truck traffic and decreased with distance from highways (40,000–170,000 veh/d).

In summary, the literature shows that UFP, BC, CO and NOx are elevated near highways (>30,000 veh/d), and that other pollutants including VOCs and PPAHs may also be elevated. Thus, people living within about 30 m of highways are likely to receive much higher exposure to

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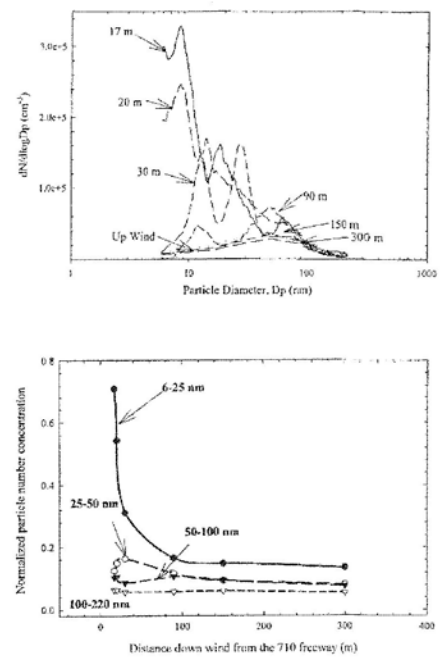

Figure 1
Ultrafine particle size distribution (top panel) and normalized particle number concentration for different size ranges (bottom panel) as a function of distance from a highway in Los Angeles. From Zhu et al. (8). Reprinted with permission from Elsevier.

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traffic-related air pollutants compared to residents living >200 m (+/- 50 m) from highways.

Cardiovascular health and traffic-related pollution

Results from clinical, epidemiological, and animal studies are converging to indicate that short-term and long-term exposures to traffic-related pollution, especially particulates, have adverse cardiovascular effects [16-18]. Most of these studies have focused on, and/or demonstrated the strongest associations between cardiovascular health outcomes and particulates by weight or number concentrations [19-21] though CO, SO_2, NO_2, and BC have also been examined. BC has been shown to be associated with decreases in heart rate variability (HRV) [22,23] and black smoke and NO_2 shown to be associated with cardiopulmonary mortality [24].

Short-term exposure to fine particulate pollution exacerbates existing pulmonary and cardiovascular disease and long-term repeated exposures increases the risk of cardiovascular disease and death [25,26].

Though not focused on near-highway pollution, two large prospective cohort studies, the Six-Cities Study [27] and the American Cancer Society (ACS) Study [28] provided the groundwork for later research on fine particulates and cardiovascular disease. Both of these studies found associations between increased levels of exposure to ambient PM and sulfate air pollution recorded at central city monitors and annual average mortality from cardiopulmonary disease, which at the time combined cardiovascular and pulmonary disease other than lung cancer. The Six-Cities Study examined $PM_{2.5}$ and $PM_{10/15}$. The ACS study examined $PM_{2.5}$. Relative risk ratios of mortality from cardiopulmonary disease comparing locations with the highest and lowest fine particle concentrations (which had differences of 24.5 and 18.6 ug/m³ respectively) were 1.37 (1.11, 1.68) and 1.31 (1.17, 1.46) in the Six Cities and ACS studies, respectively. These analyses controlled for many confounders, including smoking and gas stoves but not other housing conditions or time spent at home. The studies were subject to intensive replication, validation, and reanalysis that confirmed the original findings. $PM_{2.5}$ generally declined following implementation of new US Environmental Protection Agency standards in 1997 [17,29], yet since that time studies have shown elevated health risks due to long-term exposures to the 1997 PM threshold concentrations [29,30].

Much of the epidemiological research has focused on assessing the early physiological responses to short-term fluctuations in air pollution in order to understand how these exposures may alter cardiovascular risk profiles and exacerbate cardiovascular disease [31]. Heart rate variability, a risk factor for future cardiovascular outcomes, is altered by traffic-related pollutants particularly in older people and people with heart disease [22,23,32]. With decreased heart rate variability as the adverse outcome, negative associations between HRV and particulates were strongest for the smallest size fraction studied [33] (PM0.3–1.0); [34] (PM0.02–1). In two studies that included other pollutants, black carbon, an indicator of traffic particles, also elicited a strong association with both time and frequency domain HRV variables; associations were also strong for PM2.5 for both time and frequency HRV variables in the Adar et al study [23]; this and subsequent near highway studies are summarized in Table 2], however, PM2.5 was not associated with frequency domain variables in the Schwartz et al. study [22].

Several studies show that exposure to PM varies spatially within a city [35-37], and finer spatial analyses show higher risks to individuals living in close proximity to heavily trafficked roads [18,37]. A 2007 paper from the Woman's' Health Initiative used data from 573 $PM_{2.5}$ monitors to follow over 65,000 women prospectively. They reported very high hazard ratios for cardiovascular events (1.76; 95% CI, 1.25 to 2.47) possibly due to the fine grain of exposure monitoring [18]. In contrast, studies that relied on central monitors [27,28] or interpolations from central monitors to highways are prone to exposure misclassification because individuals living close to highways will have a higher exposure than the general area. A possible concern with this interpretation is that social gradients may also situate poorer neighborhoods with potentially more susceptible populations closer to highways [38-40].

At a finer grain, Hoek et al. [24] estimated home exposure to nitrogen dioxide (NO_2) and black smoke for about 5,000 participants in the Netherlands Cohort Study on Diet and Cancer. Modeled exposure took into consideration proximity to freeways and main roads (100 m and 50 m, respectively). Cardiopulmonary mortality was associated with both modeled levels of pollutants and living near a major road with associations less strong for background levels of both pollutants. A case-control study [41], found a 5% increase in acute myocardial infarction associated with living within 100 m of major roadways. A recent analysis of cohort data found that traffic density was a predictor of mortality more so than was ambient air pollution [42]. There is a need for studies that assess exposure at these scales, e.g., immediate vicinity of highways, to test whether cardiac risk increases still more at even smaller scales.

Although we cannot review it in full here, we note that evidence beyond the epidemiological literature support the contention that $PM_{2.5}$ and UFP (a sub-fraction of $PM_{2.5}$) have adverse cardiovascular effects [16,17]. $PM_{2.5}$ appears

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Table 2: Summary of near-highway health effects studies

Citation	Location	Highway traffic intensity[a]	Pollutants measured[b]	Distance from highway	Health Outcomes	Statistical associations[c]
Schwartz et al. 2005 (22)	Boston	NA	$PM_{2.5}$, BC, CO	NA	Heart rate variability	Decreases in measures of heart rate variability
Adar et al. 2007 (23)	St. Louis, Missouri	NA	$PM_{2.5}$, BC, UFP	On highway in buses	Heart rate variability	Decreases in measures of heart rate variability
Hoek et al. 2002 (24)	Netherlands	NA	BC, NO_2	Continuous[d]	Cardio-pulmonary mortality, lung cancer	1.41 OR for living near road
Tonne et al. 2007 (41)	Worchester, Mass.	NA	$PM_{2.5}$	Continuous[d]	Acute myocardial infarction (AMI)	5% increase in odds of AMI
Venn et al. 2001 (49)	Nottingham, UK	NA	NA	Continuous[d]	Wheezing in children	1.68 OR for living w/ in 150 m of road
Nicolai et al. 2003 (58)	Munich, Germany	>30,000 veh/d	Soot, benzene, NO_2	Traffic counts within 50 m of house	Asthma, respiratory symptoms, allergy	1.79 OR for asthma and high traffic volume
Gauderman et al. 2005 (65)	Southern California		NO_2	Continuous[d]	Asthma, respiratory symptoms	Increased asthma closer to freeways
McConnell et al. 2006 (57)	Southern California	NA	NA	Continuous[d]	Asthma	Large risk for children living w/in 75 m of road
Ryan, et al. 2007 (59)	Cincinnati, Ohio	> 1,000 trucks/d	PM2.5	400 m	Wheezing in children	NA
Kim et al. 2004 (60)	San Francisco	90,000 – 210,000 veh/d	PM, BC, NO_x	School sites	Childhood asthma	1.07 OR for high levels of NO_x
Wjst et al. 1993 (68)	Munich, Germany	7,000–125,000 veh/d	NO_x, CO	School sites	Asthma, bronchitis	Several statistical associations found
Brunekreef et al. 1997 (69)	Netherlands	90,000 – 152,000 veh/d	PM_{10}, NO_2	Continuous[d]	Lung function	Decreased FEV with proximity to high truck traffic
Janssen et al. 2003 (74)	Netherlands	30,000–155,000 veh/d	$PM_{2.5}$, NO_2, benzene	< 400 m[e]	Lung function, respiratory symptoms	No association with lung function
Peters et al. 1999 (82)	Southern California	NA	PM_{10}, NO_2	NA	Asthma, bronchitis, cough, wheeze	1.54 OR of wheeze for boys with exposure to NO_2
Brauer et al. 2007 (67)	Netherlands	Highways and streets	$PM_{2.5}$, NO_2, soot	Modeled exposure	Asthma, allergy, bronchitis, respiratory symptoms	Strongest association was with food allergies
Visser et al. 2004 (31)	Amsterdam	> 10,000 veh/d	NA	NA	Cancer	Multiple associations
Vineis et al. 2006 (87)	10 European countries	NA	PM_{10}, NO_2, SO_2	NA	Cancer	1.46 OR near heavy traffic, 1.30 OR for high exposure to NO_2
Gauderman et al. 2007 (73)	Southern California	NA	PM_{10}, NO_2	Continuous[d]	Lung function	Decreased FEV for those living near freeway

[a]As defined in article cited (veh/d = vehicles per day; veh/h = vehicles per hour).
NUFP = ultrafine particles; FP = fine particles; $PM_{2.5}$ = particles with aerodynamic diameter ≤ 2.5 um; PM_{10} = particles with aerodynamic diameter ≤ 10 um; BC = black carbon; PPAH = particle-bound polycyclic aromatic hydrocarbons; VOCs = volatile organic compounds
[b]Pollutant measurements were made along a transect away from the highway
[c]Proximity of each participant to a major road was calculated using GIS software
[d]Statistical association between proximity to highway or exposure to traffic-generated pollutants and measured health outcomes
NA = not applicable; measurements were not made.

to be a risk factor for cardiovascular disease via mechanisms that likely include pulmonary and systemic inflammation, accelerated atherosclerosis and altered cardiac autonomic function [17,22,43-46]. Uptake of particles or particle constituents in the blood can affect the autonomic control of the heart and circulatory system. Black smoke, a large proportion of which is derived from mobile source emissions [30], has a high pulmonary deposition efficiency, and due to their surface area-to-volume ratios can carry relatively more adsorbed and condensed toxic air pollutants (e.g., PPAH) compared to larger particles [17,47,48]. Based on high particle numbers, high lung deposition efficiency and surface chemistry, UFP may provide a greater potential than $PM_{2.5}$ for inducing inflammation [10]. UFPs have high cytotoxic reactive oxygen species (ROS) activity, through which numerous inflammatory responses are induced, compared to other particles [10]. Chronically elevated UFP levels such as those to which residents living near heavily trafficked roadways are likely exposed can lead to long-term or repeated increases in systemic inflammation that promote arteriosclerosis [18,29,34,37].

Asthma and highway exposures

Evidence that near highway exposures present elevated risk is relatively well developed with respect to child asthma studies. These studies have evolved over time with the use of different methodologies. Studies that used larger geographic frames and/or overall traffic in the vicinity of the home or school [49-52] or that used self-report of traffic intensity [53] found no association with asthma prevalence. Most recent child asthma studies have,

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instead, used increasingly narrow definitions of proximity to traffic, including air monitoring or modeling) and have focused on major highways instead of street traffic [54-59]. All of these studies have found statistically significant associations between the prevalence of asthma or wheezing and living very close to high volume vehicle roadways. Confounders considered included housing conditions (pests, pets, gas stoves, water damage), exposure to tobacco smoke, various measures of socioeconomic status (SES), age, sex, and atopy, albeit self-reported and not all in a single study.

Multiple studies have found girls to be at greater risk than boys for asthma resulting from highway exposure [55,57,60]. A recent study also reports elevated risk only for children who moved next to the highway before they were 2 years of age, suggesting that early childhood exposure may be key [57]. The combined evidence suggests that living within 100 meters of major highways is a risk factor, although smaller distances may also result in graded increases in risk. The neglect of wind direction and the absence of air monitoring from some studies are notable missing factors. Additionally, recent concerns have been raised that geocoding (attaching a physical location to addresses) could introduce bias due to inaccuracy in locations [61].

Studies that rely on general area monitoring of ambient pollution and assess regional pollution on a scale orders of magnitude greater than the near-roadway gradients have also found associations between traffic generated pollution (CO and NOx) and prevalence of asthma [62] or hospital admission for asthma [63]. Lweguga-Mukasa et al. [64] monitored air up and down wind of a major motor vehicle bridge complex in Buffalo, NY and found that UFP were higher downwind, dropping off with distance. Their statistical models did not, however, support an association of UFP with asthma. A study in the San Francisco Bay Area measured $PM_{2.5}$, BC and NO_X over several months next to schools and found both higher pollution levels downwind from highways and a linear association of BC with asthma in long-term residents [60].

Gauderman et al. [65] measured NO_2 next to homes of 208 children. They found an odds ratio (OR) of 1.83 (confidence interval (CI): 1.04–3.22) for outdoor NO_2 (probably a surrogate for total highway pollution) and lifetime diagnosis of asthma. They also found a similar association with distance from residence to freeway. Self-report was used to control for numerous confounders, including tobacco smoke, SES, gas stoves, mildew, water damage, cockroaches and pets which did not substantially affect the association. Gauderman's study suggests that ambient air monitoring at the residence substantially increases statistical power to detect association of asthma with highway exposures.

Modeling of elemental carbon attributable to traffic near roadways based on ambient air monitoring of $PM_{2.5}$ has recently emerged as a viable approach and a study using this method found an association with infant wheezing. The modeled values appear to be better predictors than proximity. Elevation of the residence relative to traffic was also an important factor in this study [66]. A 2007 paper reported on modeled NO_2, $PM_{2.5}$ and soot and the association of these values with asthma and various respiratory symptoms in the Netherlands [67]. While finding modest statistically significant associations for asthma and symptoms, it is somewhat surprising that they found stronger associations for development of sensitization to food allergens.

Pediatric lung function and traffic-related air pollution

Studies of association of children's lung function with traffic pollutants have used a variety of measures of exposure, including: traffic density, distance to roadways, area (city) monitors, monitoring at the home or school and personal monitoring. Studies have assessed both chronic effects on lung development and acute effects and have been both cross-sectional and longitudinal. The wide range of approaches somewhat complicates evaluation of the literature.

Traffic density in school districts in Munich was associated with decreases in forced vital capacity (FVC), forced expiratory volume in 1 second (FEV_1), FEV1/FVC and other measures, although the 2-kilometer (km) areas, the use of sitting position for spirometry and problems with translation for non-German children were limitations [68]. Brunekreef et al. [69] used distance from major roadways, considered wind direction and measured black smoke and NO2 inside schools. They found the largest decrements in lung function in girls living within 300 m of the roadways.

A longitudinal study of children (average age at start = 10 years) in Southern California reported results at 4 [70] and 8 years [71]. Multiple air pollutants were measured at sites in 12 communities. Due to substantial attrition, only 42% of children enrolled at the start were available for the 8-year follow-up. Substantially lower growth in FEV_1 was associated with PM_{10}, NO_2, $PM_{2.5}$, acid vapor and elemental carbon at 4 and at 8 years. The analysis could not indicate whether the effects seen were reversible or not [72]. In 2007, it was reported from this same cohort that living within 500 m of a freeway was reported to be associated with reduced lung function [73].

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A Dutch study [74] measured $PM_{2.5}$, NO_2, benzene and EC for one year at 24 schools located within 400 m of major roadways. While associations were seen between symptoms and truck traffic and measured pollutants, there was no significant association between any of the environmental measures and FVC < 85% or FEV_1 < 85%. Restricting the analysis to children living within 500 m of highways generally increased ORs.

Personal exposure monitoring of NO_2 as a surrogate for total traffic pollutants with 298 Korean college students found statistically significant associations with FEV_1, FEV_1/FVC, and forced expiratory volume between 25 and 75% (FEV_{25-75}), but not with FVC. The multivariate regression model presented suggests that FEV_{25-75} was the outcome measure that most clearly showed an effect [75]. Cross-sectional studies of children in Korea [76] and France [77] also indicate that lung function is diminished in association with area pollutants that largely derive from traffic.

Time series studies suggest there are also acute effects. A study of 19 asthmatic children measured PM via personally carried monitors, at homes and at central site monitors. The study found deficits in FEV_1 that were associated with PM, although many sources besides traffic contributed to exposure. In addition, the results suggest that ability to see associations with health outcomes improves at finer scale of monitoring [78]. PM was associated with reduced FEV_1 and FVC in only the asthmatic subset of children in a Seattle study [79]. Studies have also seen associations between PM and self reported peak flow measurements [80,81] and asthmatic symptoms [82].

Cancer and near highway exposures

As noted above, both the Six-Cities Study [27] and the American Cancer Society (ACS) Study [28] found associations between PM and lung cancer. Follow-up studies using the ACS cohort [29,37] and the Six-Studies cohort [83] that controlled for smoking and other risk factors also demonstrated significant associations between PM and lung cancer. The original studies were subject to intensive replication, validation, and re-analysis which confirmed the original findings [84].

The ASHMOG study [85] was designed to look specifically at lung cancer and air pollution among Seventh-day Adventists in California, taking advantage of their low smoking rates. Air pollution was interpolated to centroids of zip codes from ambient air monitoring stations. Highway proximity was not considered. The study found associations with ozone (its primary pollutant of consideration), PM10 and SO2. Notably, these are not the pollutants that would be expected to be substantially elevated immediately adjacent to highways.

A case control study of residents of Stockholm, Sweden modeled traffic-related NO2 levels at their homes over 30 years and found that the strongest association involved a 20 year latency period [86]. Another case control study drawn from the European Prospective Investigation on Cancer and Nutrition found statistically significantly elevated ORs for lung cancer with proximity to heavy traffic (>10,000 cars per day) as well as for NO_2 and PM_{10} at nearby ambient monitoring stations [87]. Nafstad et al. [88] used modeled NO_2 and SO_2 concentrations at the homes of over 16,000 men in Oslo to test associations with lung cancer incidence. The models included traffic and point sources. The study found small, but statistically significant associations between NO_2 and lung cancer. Problems that run through all these studies are weak measures of exposure to secondhand tobacco smoke, the use of main roads rather than highways as the exposure group and modeled rather than measured air pollutants.

A study of regional pollution in Japan and a case control study of more localized pollution in a town in Italy also found associations between NO_2 and lung cancer and PM and lung cancer [89,90]. On the other hand, a study that calculated SIRs for specific cancers across lower and higher traffic intensity found little evidence of an association with a range of cancers [91].

The plausibility of near-highway pollution causing lung cancer is bolstered by the presence of known carcinogens in diesel PM. The US EPA has concluded after reviewing the literature that diesel exhaust is "likely to be carcinogenic to humans by inhalation" [92]. An interesting study of UFP and DNA damage adds credibility to an association with cancer [93]. This study had participants bicycle in traffic in Copenhagen and measured personal exposure to UFP and DNA oxidation and strand breaks in mononuclear blood cells. Bicycling in traffic increased UFP exposure and oxidative damage to DNA, thus demonstrating an association between DNA damage and UFP exposure *in vivo*.

Policy and research recommendations

Based on the literature reviewed above it is plausible that gradients of pollutants next to highways carry elevated health risks that may be larger than the risks of general area ambient pollutants. While the evidence is considerable, it is not overwhelming and is weak in some areas. The strongest evidence comes from studies of development of asthma and reduction of lung function during childhood, while the studies of cardiac health risk require extrapolation from area studies of smaller and larger geographic scales and inference from toxicology laboratory investigations. The lung cancer studies, because they include pollutants such as O_3 that are not locally concentrated, are not particularly strong in terms of the case for near-high-

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way risk. There is a need for lung cancer research that uses major highways rather than heavily trafficked roads as the environmental exposure.

While more studies of asthma and lung function in children are needed to confirm existing findings, especially studies that integrate exposure at school, home and during commuting, to refine our knowledge about the association, we would point to the greater need for studies of cardiac health and lung cancer and their association with near highway exposures as the primary research areas needing to be developed. Many of the studies of PM and cardiac or pulmonary health have focused on mortality. Near highway mortality studies may be possible, but would be lengthy if they were initiated as prospective cohorts. Other possibilities include retrospective case control studies of mortality, cross sectional studies or prospective studies that have end points short of mortality, such as biological markers of disease. For all health end points there is a need for studies that adequately address the possible confounding of SES with proximity to highways. There is good reason to think that property values decline near highways and that control for SES by, for example, income, may be inadequate.

Because of the incomplete development of the science regarding the health risks of near highway exposures and the high cost and implication of at least some possible changes in planning and development, policy decisions are complicated. The State of California has largely prohibited siting of schools within 500 feet of freeways (SB 352; approved by the governor October 2, 2003). Perhaps this is a viable model for other states or for national-level response. As it is the only such law of which we are aware, there may be other approaches that will be and should be tried. One limitation of the California approach is that it does nothing to address the population already exposed at schools currently cited near freeways and does not address residence near freeways.

Conclusion

The most susceptible (and overlooked) population in the US subject to serious health effects from air pollution may be those who live very near major regional transportation route, especially highways. Policies that have been technology based and regional in orientation do not efficiently address the very large exposure and health gradients suffered by these populations. This is problematic because even regions that EPA has deemed to be in regional PM "attainment" still include very large numbers of near highway residents who currently are not protected. There is a need for more research, but also a need to begin to explore policy options that would protect the exposed population.

Abbreviations

UFP = ultra fine particles

BC = black carbon

NO_2 = nitrogen dioxide

NOx = oxides of nitrogen

CO = carbon monoxide

PM = particulate matter

$PM_{2.5}$ = particulate matter less than 2.5 um

PM_{10} = particulate matter less than 10 um

PPAH = particle bound polyaromatic hydrocarbons

EC = elemental carbon

VOC = volatile organic compounds

SO_2 = sulfur dioxide

ACS = American Cancer Society

SES = socioeconomic status

EPA = Environmental Protection Agency

OR = odds ratio

FEV_1 = forced expiratory volume in 1 second

FEV_1/FVC = ratio of FEV_1 and forced vital capacity

FEV_{25-75} = forced expiratory volume between 25 and 75

FVC = forced vital capacity

ug/m^3 = micrograms per cubic meter of air

m = meters

um = micrometers

veh/d = vehicles per day

veh/h = vehicles per hour

Competing interests

The author(s) declare that they have no competing interests.

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Authors' contributions

DB took the lead on the manuscript. He co-wrote the background and wrote the sections on asthma, lung function and cancer and the conclusions. JLD wrote the section on air pollutants near roadways and contributed substantially to the background. GR wrote the section on cardiovascular health. All authors participated in editing and refining the manuscript and all read it multiple times, including the final version.

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Attachment H

Gauderman, James W. et al.
Effects of Exposure to Traffic on Lung Development from
10 to 18 Years of Age: A Cohort Study
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Effect of exposure to traffic on lung development from 10 to 18 years of age: a cohort study

W James Gauderman, Hita Vora, Rob McConnell, Kiros Berhane, Frank Gilliland, Duncan Thomas, Fred Lurmann, Edward Avol, Nino Kunzli, Michael Jerrett, John Peters

Summary

Background Whether local exposure to major roadways adversely affects lung-function growth during the period of rapid lung development that takes place between 10 and 18 years of age is unknown. This study investigated the association between residential exposure to traffic and 8-year lung-function growth.

Methods In this prospective study, 3677 children (mean age 10 years [SD 0·44]) participated from 12 southern California communities that represent a wide range in regional air quality. Children were followed up for 8 years, with yearly lung-function measurements recorded. For each child, we identified several indicators of residential exposure to traffic from large roads. Regression analysis was used to establish whether 8-year growth in lung function was associated with local traffic exposure, and whether local traffic effects were independent of regional air quality.

Findings Children who lived within 500 m of a freeway (motorway) had substantial deficits in 8-year growth of forced expiratory volume in 1 s (FEV_1, −81 mL, p=0·01 [95% CI -143 to -18]) and maximum midexpiratory flow rate (MMEF, −127 mL/s, p=0·03 [-243 to -11]), compared with children who lived at least 1500 m from a freeway. Joint models showed that both local exposure to freeways and regional air pollution had detrimental, and independent, effects on lung-function growth. Pronounced deficits in attained lung function at age 18 years were recorded for those living within 500 m of a freeway, with mean percent-predicted 97·0% for FEV_1 (p=0·013, relative to >1500 m [95% CI 94·6–99·4] and 93·4% for MMEF (p=0·006 [95% CI 89·1–97.7]).

Interpretation Local exposure to traffic on a freeway has adverse effects on children's lung development, which are independent of regional air quality, and which could result in important deficits in attained lung function in later life.

Lancet 2006; 368:

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Introduction

Both cross-sectional[1-5] and longitudinal[6-8] studies have shown that lung function in children is adversely affected by exposure to urban, regional air pollution. Evidence has emerged that local exposure to traffic is related to adverse respiratory effects in children, including increased rates of asthma and other respiratory diseases.[9-13] Cross-sectional studies in Europe have shown that deficits in lung function are related to residential exposure to traffic.[12,14-16] However, does traffic exposure have an adverse effect on lung-function development in children? The answer to this question is important in view of the extent of traffic exposure in urban environments and the established relation between diminished lung function in adulthood and morbidity and mortality.[17-19]

We investigated the association between residential exposure to traffic and 8-year lung-function development on the basis of cohort data from the Children's Health Study. We also studied the joint effects of local traffic exposure and regional air quality on children's lung development.

Methods

Participants

The Children's Health Study recruited two cohorts of fourth-grade children (mean age 10 years (SD 0·44), one in 1993 (cohort 1, n=1718) and the other in 1996 (cohort 2, n=1959). All children were recruited from schools in 12 southern California communities as part of an investigation into the long-term effects of air pollution on children's respiratory health.[7,8,20] A consistent protocol was used in all communities to identify schools, and all students targeted for study were invited to participate.[21] Overall, 82% (3677) of available students agreed to participate. Pulmonary-function data were obtained yearly by trained field technicians, who travelled to study schools to undertake maximum effort spirometry on the children, using the same equipment and testing protocol used throughout the study period. Details of the testing protocol have been previously reported.[7,8] Children in both cohorts were followed up for 8 years.

A baseline questionnaire, completed at study entry by each child's parent or legal guardian, was used to obtain information on race, Hispanic ethnic origin, parental income and education, history of doctor-diagnosed asthma, in-utero exposure to maternal smoking, and household exposure to gas stoves, pets, and environmental tobacco smoke.[8] A yearly questionnaire, with similar structure to that of the baseline questionnaire, was used to update information on asthma status, personal smoking, and exposure to environmental tobacco smoke. For statistical modelling, a three-category socioeconomic status variable was created on the basis of total household income and education of the parent or guardian that completed the questionnaire. High socioeconomic status (23% of children, n=823) was defined as a parental

GL14 Continued

income greater than US$100 000 per year, or an income over US$15 000 per year and at least 4 years of college education. The middle category (36%, n=1283) included children with a parental income between US$15 000 and US$100 000 and some (less than 4 years) college or technical school education, and low socioeconomic status (41%, n=1483) included all remaining children.

The study protocol was approved by the institutional review board for human studies at the University of Southern California, and written consent was provided by a parent or legal guardian for every study participant.

Exposure Data

We characterised exposure of every study participant to traffic-related pollutants by two types of measures—proximity of the child's residence to the nearest freeway or to the nearest major non-freeway road, and model-based estimates of traffic-related air pollution at the residence, derived from dispersion models that incorporated distance to roadways, vehicle counts, vehicle emission rates, and meteorological conditions.[4] Regional air pollution was continuously monitored at one central site location within each study community over the course of the investigation. Further details of exposure assessment are available in the webappendix.

See Online for webappendix

Statistical methods

The outcome data consisted of 22686 pulmonary-function tests recorded from 3677 participants during 8 years in both cohorts. We focused on three pulmonary-function measures: forced vital capacity (FVC), forced expiratory volume in 1 s (FEV_1), and maximum midexpiratory flow rate (MMEF, also known as FEF_{25-75}). The exposures of primary interest were the traffic measures described above.

We used a hierarchical mixed-effects model to relate 8-year growth in each lung-function measure to traffic exposure, with basic structure that has been previously described.[22] To account for the growth pattern in lung function during this period, we used a linear spline model,[23] constructed so that 8-year growth in lung function was estimated jointly with other model parameters. We estimated and tested the effect of traffic exposure on 8-year growth, and in some analyses on mean values at 10 and 18 years of age. The model allowed for separate growth curves for each sex, race, ethnic origin, cohort, and baseline-asthma subgroup. The model also included adjustments for height, height squared, body-mass index (BMI), BMI squared, present asthma status, exercise or respiratory illness on the day of the test, any tobacco smoking by the child in the previous year, and indicator variables for field technician. Random effects for the intercept and 8-year growth parameters were included at the level of participant and community.

To keep the potential effect of outliers to a minimum and to examine possible non-linear exposure-response relations, we used categorical forms of each traffic indicator in our models. For distance to the freeway, we formed four categories—less than 500 m, 500–1000 m, 1000–1500 m, and more than 1500 m. Distances to non-freeway major roads were similarly categorized based on distances of 75 m, 150 m, and 300 m. Model-based estimates of pollution from freeways and non-freeways were categorised into quartiles on the basis of their respective distributions (see webappendix). The categorisation distances for all traffic indicators were fixed before any health analyses were done. Traffic effects are reported as the difference in 8-year growth for each category relative to the least exposed category, so that negative estimates signify reduced lung-function growth or values with increased exposure.

We also considered joint estimation of traffic effects within the community and pollution between communities, which was based on the long-term average pollutant concentrations measured at the central sites (see webappendix). Pollutant effects are reported as the difference in 8-year growth in lung function from the least to the most polluted community, with negative differences indicating growth deficits with increased exposure. Possible modification of a traffic effect by community-average ambient pollutant concentration was tested by inclusion of the appropriate interaction term in the model.

To examine attained lung function, we computed percent-predicted lung function for participants who were measured in 12th grade, our last year of follow-up (n=1497, mean age 17·9 years, [SD=0·41]). To estimate predicted FEV_1 values, we first fitted a regression model for observed FEV_1 (log transformed) with predictors log height, BMI, BMI squared, sex, asthma status, race or ethnic origin, field technician, and sex-by-log height, sex-by-BMI, sex-by-BMI squared, sex-by-asthma, and sex-by-race or ethnic origin interactions. We calculated predicted FEV_1 on the basis of this model and percent-predicted as observed divided by predicted FEV_1. We used a regression model to calculate the mean percent-predicted value for each category of distance to the freeway, with adjustment for community. To aid in interpretation, we scaled percent-predicted values so that children who lived furthest (>1500 m) from a freeway had a mean of 100%, and we give means for the remaining distance groups relative to this benchmark. Analogous calculations were used to obtain the percent-predicted mean for FVC and MMEF.

Regression procedures in SAS (version 9·0) were used to fit all models. Associations denoted as significant were those with a p value less than 0·05, assuming a two-sided alternative hypothesis.

Role of the funding source

The funding sources of this study had no role in the study design, collection, analysis, or interpretation of data, in the writing of the report, or in the decision to submit the paper for publication. The corresponding

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author had full access to all the data in the study and had final responsibility for the decision to submit for publication.

Results

An average of 6·2 pulmonary function tests were done per child. There were equal proportions of male and female participants (webtable 1). Most children were of non-Hispanic white or Hispanic ethnic origin. 440 (12%) children lived within 500 m of a freeway, with most of these children residing in six of the 12 communities (webtable 2 and webfigure). Model-based estimates of pollution from a freeway were skewed toward either high or low values within most study communities.

8-year growth in FVC, FEV_1 and MMEF averaged 1512 mL, 1316 mL, and 1402 mL/s, respectively, in girls, and 2808 ml. 2406 ml, and 2476 ml/s, respectively, in boys. Closer residential distance to a freeway was associated with reduced growth in lung function (table 1). In children who lived within 500 m of a freeway, 8-year growth was significantly reduced compared with those who lived at least 1500 m from a freeway. Large deficits in FEV_1 and MMEF growth were also estimated for the two highest-exposure quartiles of model-based pollution from a freeway, although neither deficit was statistically significant. Indicators of traffic from non-freeway roads, including both distance and model-based pollution estimates, were not associated with reduced growth.

The association between FEV_1 growth and distance to a freeway was significant in various sensitivity analyses (table 2). Compared with the results shown in table 1 (base model), distance-effect estimates were larger with additional adjustment for socio-economic status. Further investigation showed that low socioeconomic status was associated with increased traffic exposure, with mean residential distance to freeways of 1·8 km (SD 1·32), 2·0 km (1·65), and 2·5 km (1·91) for low, middle, and high groups respectively. However, socioeconomic status was not significantly associated with FEV_1 growth, and therefore adjustment for this variable induced only a modest change. Adjustment for indoor sources of air pollution including gas stoves, pets, and exposure to environmental tobacco smoke also resulted in little change in the estimated freeway-distance effects.

Significant distance effects were seen in the subset of children who reported never having had asthma, and in the subset of children who reported no active tobacco smoking. The relation between FEV_1 growth and distance was noticeably larger in boys than in girls, although a test of effect modification by sex was non-significant (p=0·10). Only six of the 12 communities had substantial numbers of children living within 500 m of a freeway. The estimated effects of freeway distance on lung development were more pronounced in these six higher-traffic communities than in the other communities. There was no significant evidence of heterogeneity in the local distance effects between these six communities (data not shown).

	FVC (mL) difference (95% CI)	FEV1 (mL) difference (95% CI)	MMEF (mL/sec) difference (95% CI)
Freeway distance*			
<500 m	−63 (−131 to 5)	−81 (−143 to −18)	−127 (−243 to −11)
500–1000 m	−31 (−93 to 32)	−41 (−99 to 17)	−35 (−142 to 73)
1000–1500 m	−19 (−84 to 46)	−33 (−93 to 26)	−94 (−204 to 15)
Model-based pollution from freeway†			
4th quartile (high)	−66 (−186 to 54)	−65 (−173 to 42)	−147 (−352 to 58)
3rd quartile	−61 (−151 to 29)	−78 (−161 to 5)	−144 (−298 to 9)
2nd quartile	−27 (−90 to 36)	−22 (−80 to 36)	−37 (−144 to 71)
Non-freeway distances‡			
<75 m	5 (−63 to 72)	−35 (−97 to 27)	−66 (−181 to 49)
75–150 m	4 (−59 to 68)	22 (−37 to 80)	35 (−74 to 144)
150–300 m	−10 (−63 to 47)	−8 (−56 to 40)	−16 (−105 to 73)
Model-based pollution from non-freeway†			
4th quartile (high)	13 (−70 to 96)	3 (−74 to 80)	2 (−140 to 144)
3rd quartile	42 (−27 to 111)	16 (−47 to 80)	−23 (−141 to 95)
2nd quartile	6 (−54 to 66)	2 (−53 to 57)	11 (−91 to 113)

*Difference in 8-year lung-function growth relative to children living at least 1500 m from a freeway. †Difference in 8-year lung-function growth relative to children in the first (lowest) quartile of exposure. ‡Difference in 8-year lung-function growth relative to children living at least 300 m from a non-freeway road.

Table 1: Association between 8-year lung-function growth and several indicators of residential traffic exposure

	Freeway Distance (m)					
	<500	p	500–1000	p	1000–1500	p
Base model*	−81	0·012	−41	0·165	−33	0·275
Additional covariates						
Base+socioeconomic status	−92	0·005	−50	0·092	−37	0·228
Base+gas stove in the home	−86	0·008	−42	0·160	−33	0·281
Base+pets in the home	−80	0·013	−41	0·165	−33	0·275
Base+in-utero exposure to maternal smoking	−83	0·011	−33	0·266	−36	0·245
Base+second-hand smoke exposure	−86	0·008	−41	0·163	−37	0·230
Subgroups						
Non-asthmatics only	−83	0·025	−70	0·047	−61	0·091
Non-smokers only	−93	0·006	−45	0·154	−48	0·182
Boys only	−158	0·003	−54	0·264	−77	0·123
Girls only	−12	0·750	−39	0·254	3	0·932
Six communities with closest freeway proximity†	−105	0·003	−56	0·101	−40	0·260
Deleting observations after a residence change‡	−86	0·030	−73	0·042	−53	0·148

*Base model results are the same as those in table 1. All models include adjustment for the covariates listed in the Methods section. Values are the difference in 8-year FEV_1 growth relative to those living >1500 m from a freeway. †Including only children from the six communities with the largest number of children living near a freeway (Riverside, Atascadero, Alpine, San Dimas, Long Beach, and Santa Maria). ‡Censoring any pulmonary function tests recorded after a participant left his or her baseline address.

Table 2: Sensitivity analysis of freeway-distance effects on 8-year FEV_1 growth

Furthermore, around 34% (1257) of children moved from their baseline residence during follow-up but remained in one of the 12 study communities and thus continued to participate. If we omitted post-move lung-function measurements from the analysis, the estimated effects of freeway-distance on FEV_1 growth were more pronounced.

See Online for webtables 1 and 2 and webfigure

GL14 Continued

	Regional pollutant effect*	p	Local freeway distance (m)						
			<500	p	500–1000	p	1000–1500	p	p for interaction†
1000–1800 ozone	−13	0·821	−81	0·012	−41	0·165	−33	0·275	0·51
Nitrogen dioxide	−109	0·003	−80	0·012	−41	0·156	−33	0·279	0·81
Acid	−111	0·002	−80	0·013	−41	0·164	−33	0·285	0·54
PM_{10}	−111	0·013	−81	0·012	−42	0·158	−32	0·287	0·24
$PM_{2.5}$	−110	0·009	−80	0·012	−41	0·160	−33	0·285	0·40
Elemental carbon	−101	0·001	−80	0·012	−42	0·156	−33	0·282	0·63

*Pollutant effects are the difference in 8-year FEV_1 growth from lowest to highest observed community-average concentration of the pollutant, specifically: per increase of 37·5 ppb ozone (1000–1800), 34·6 ppb of nitrogen dioxide, 9·6 ppb of acid vapour, 51·4 μg/m³ of PM10, 22·8 μg/m³ of PM2·5 and 1·2 μg/m³ elemental carbon. Distance effects are the difference in 8-year growth relative to those living >1500 m from a freeway. †A test of whether freeway-distance effect is modified by regional concentration of the pollutant. PM_{10}=particulate matter <10 μm aerodynamic diameter. $PM_{2.5}$=particulate matter <2·5 μm aerodynamic diameter.

Table 3: Joint effect of regional pollution and local distance to a freeway on 8-year FEV_1 growth

Reduced lung-function growth was independently associated with both freeway distance and with regional air pollution (table 3). Statistically significant joint models of regional pollution with distance to freeway were seen for nitrogen dioxide , acid vapour, elemental carbon, and particulate matter with aerodynamic diameter less than 10 μm and less than 2·5 μm. Ozone was not associated with reduced lung-function growth. There was no significant evidence of effect modification (interaction) of local traffic effects with any of the regional pollutants.

A subset of 1445 children were observed over the full 8 years of the study, from age 10 to 18 years. In this group, we noted significant deficits in 8-year FEV_1 growth and MMEF growth for those who lived within 500 m of a freeway (table 4). At 10 years of age, there was some evidence of reduced lung function for those who lived closer to a freeway than those who did not, although none of the differences between distance categories was statistically significant. However, by 18 years of age, participants who lived closest to a freeway had substantially lower attained FEV_1 and MMEF than those who lived at least 1500 m from a freeway.

These deficits in average FEV_1 and MMEF translated into pronounced deficits in percent-predicted lung function at 18 years of age (figure). There was a trend of lower percent-predicted lung function for children who lived closer to a freeway than for those who lived further away. The effect was most pronounced for those who lived less than 500 m from a freeway, with average percent predicted values of 97·0% (95% CI 94·6–99·4) for FEV_1 (p=0·013 relative to >1500 m) and 93·4% (89·1–97·7) for MMEF (p=0·006).

		Lung function		8-year growth
		Age 10 years	Age 18 years	Difference* (95% CI)
		Difference* (95% CI)	Difference* (95% CI)	
FVC	Freeway distance			
	<500 m	−17 (−70 to 37)	−05 (−192 to 22)	−69 (−160 to 22)
	500–1,000 m	−12 (−61 to 37)	−54 (−151 to 43)	−42 (−125 to 41)
	1000–1500 m	−10 (−80 to 71)	−81 (−181 to 19)	−52 (−137 to 33)
FEV_1	Freeway distance			
	<500 m	−23 (−73 to 28)	−121 (−219 to −23)	−98 (−182 to −15)
	500–1000 m	−32 (−78 to 14)	−93 (−183 to −4)	−61 (−137 to 15)
	1000–1500 m	−34 (−81 to 14)	−78 (−170 to 14)	−44 (−122 to 34)
MMEF	Freeway distance			
	<500 m	−57 (−169 to 56)	−230 (−432 to −28)	−173 (−327 to −19)
	500–1000 m	−92 (−195 to 10)	−105 (−289 to 79)	−12 (−152 to 128)
	1000–1500 m	−45 (−150 to 60)	−151 (−340 to 38)	−106 (−250 to 38)

*Difference in 8-year lung function or growth relative to children living >1500 m from a freeway.

Table 4: Cumulative effect of residential distance in the 1445 children with full 8-year of follow-up

Discussion

This study shows that residential proximity to freeway traffic is associated with substantial deficits in lung-function development in children. 8-year increases in both FEV_1 and MMEF were smaller for children who lived within 500 m of a freeway, than for those who lived at least 1500 m from a freeway. Freeway effects were seen in subsets of non-asthmatic and non-smoking participants, which is an indication that traffic exposure has adverse effects on otherwise healthy children. Deficits in 8-year growth resulted in lower attained FEV_1 and MMEF at 18 years of age for participants who lived within 500 m of a freeway than for those who lived further away. Since lung development is nearly complete by age 18 years, an individual with a deficit at this time will probably continue to have less than healthy lung function for the remainder of his or her life.

We previously reported an association between community-average pollutant concentrations and 8-year lung-function growth.[6] That result relied on comparisons in communities that had different concentrations of regional air pollution, and implicated many pollutants such as nitrogen dioxide, acid vapour, particulate matter with aerodynamic diameter less than 10 μm and 2·5 μm, and elemental carbon. Our present study builds on that result, and shows that in addition to regional pollution, local exposure to large roadways are associated with diminished lung-function

GL14 Continued

development in children. We did not find any evidence that traffic effects varied depending on background air quality, which suggests that even in an area with low regional pollution, children living near a major roadway are at increased risk of health effects. Our results also suggest that children who live close to a freeway in a high pollution area experience a combination of adverse developmental effects because of both local and regional pollution.

We noted a larger freeway effect in boys than in girls, although the difference between sexes was not significant. By contrast, a cross-sectional European study[20] reported larger traffic effects on lung function in girls than in boys.[20] Several factors could explain this discrepancy in sex-specific effects between studies, from differences in specific air pollution mixtures and underlying population susceptibilities, to the general difficulty of comparisons between longitudinal and cross-sectional study effect estimates. In general, however, both studies show that lung function in children is adversely affected by exposure to traffic.

The concentrations of several pollutants are raised near major freeways. Daytime concentrations of black carbon, ultrafine particulate, and other exhaust pollutants have been reported to be high, but decline exponentially, within 500 m of a freeway,[16–18] although night-time concentrations of ultrafine particulate remain above background concentrations for distances greater than 500 m from a freeway.[18] Some studies have reported increased traffic pollution, particularly nitrogen dioxide, at distances over 1000 m from a freeway.[16,19,20] Elemental carbon, an indicator of pollution from diesel exhaust, varies with nearby high-traffic roads[19,18] but can also be transported across large distances.[17] Diesel exhaust is one of the primary contributors to particulate-matter concentrations in those communities most affected by traffic.[11] A pollutant such as elemental carbon could explain our reported health effects both locally and regionally.

Both regional ambient and ultrafine particulate matter present in high concentration in close proximity to roadways can elicit oxidative and nitrosative stress in the airways, which results in inflammation.[1,21] Kulkarni and co-workers[15] reported that traffic-related particulate matter was correlated with the amount of carbon in the airway macrophages of children, which in turn was associated with reductions in FEV_1, MMEF, and FVC. Chronic airway inflammation could produce our reported deficits in increased MMEF and FEV_1. Additional research is needed to identify the specific traffic pollutants that bring about health effects, and to elucidate the contribution of each pollutant to regional and local associations.

A strength of this study was the long-term, prospective follow-up of two large cohorts of children, with exposure and outcome data obtained consistently. However, as in any epidemiological study, our results could be confounded by one or more other factors related to both traffic and lung-function growth. Our results were robust

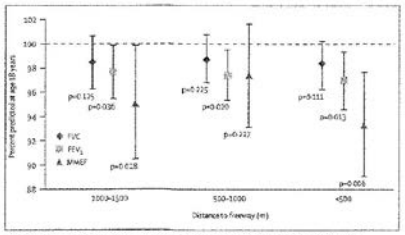

Figure. Percent predicted lung function at age 18 years versus residential distance from a freeway
The horizontal line at 100% corresponds to the referent group, children living >1500 m from a freeway.

to adjustment for several factors, including socioeconomic status and indoor sources of air pollution, but the possibility of confounding by other factors still exists. Throughout the 8-year follow-up, we noted around an 11% loss of study participants per year. Participant attrition is a potential source of bias in cohort studies. We analysed the subset of children who were followed up for the full 8-year duration of the study and also noted significant traffic-effect estimates, which make participant loss an unlikely explanation for our results. We did not note a significant association between growth and model-based pollution from a freeway, despite large estimated deficits in the highest-exposure quartiles (table 1). However, we were restricted in detection of an association with model-based pollution from freeways because there was little variation in this measure within most of our study communities (webtable 2).

We have shown that residential distance from a freeway is associated with significant deficits in 8-year respiratory growth, which result in important deficits in lung function at age 18 years. This study adds to evidence that the present regulatory emphasis on regional air quality might need to be modified to include consideration of local variation in air pollution. In many urban areas, population growth is forcing the construction of housing tracts and schools near to busy roadways, with the result that many children live and attend school in close proximity to major sources of air pollution. In view of the magnitude of the reported effects and the importance of lung function as a determinant of adult morbidity and mortality, reduction of exposure to traffic-related air pollutants could lead to substantial public-health benefits.

Contributors

W J Gauderman, R McConnell, F Gilliland, E Avol, J Peters, M Jerrett and N Kunzli participated in the writing of the manuscript. W J Gauderman, H Vora, K Berhane, D Thomas, and F Lurmann participated in the analysis of the data. All named authors took part in the interpretation of results, and approved the final version of the manuscript.

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Conflict of interest statement
We declare that we have no conflict of interest.

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Effect of exposure to traffic on lung development from 10 to 18 years of age: a cohort study

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	n	Mean number of PFTs	Children with 8-years' follow-up				Race/Ethnic origin (%)				
			n	(%)	Female (%)	Asthma (%)	AfAm	NW	AA	Asian	Other
Riverside	329	5·0	123	37·4	50·5	34·6	36·5	42·0	12·5	7·4	6·7
Mascotte	278	6·8	117	42·1	48·9	29·3	25·9	14·8	1·1	1·1	7·9
Alpine	308	6·2	121	39·3	50·1	32·9	25·0	28·5	0·0	0·3	5·8
Long Beach	370	6·1	141	44·1	47·5	13·9	32·0	24·7	18·4	25·3	9·4
San Dimas	293	6·4	117	39·9	50·2	15·3	50·7	32·4	3·1	9·7	5·1
Santa Maria	319	5·7	100	31·3	45·4	14·6	25·7	69·0	1·0	4·5	6·5
Lake Elsinore	305	6·0	104	34·0	50·0	12·5	64·5	25·8	2·3	2·0	5·6
Mira Loma	319	5·9	118	37·0	50·2	12·3	51·7	47·3	1·6	0·9	3·5
Upland	283	6·9	150	53·0	51·7	14·7	66·4	27·3	4·3	8·5	3·5
Lancaster	315	5·5	110	34·9	52·1	14·7	53·4	29·8	9·2	2·2	6·7
Lompoc	281	6·3	113	40·2	47·0	10·3	55·7	28·1	5·7	5·3	5·7
Lake Arrowhead	335	6·2	131	39·1	51·3	14·6	73·1	20·0	0·3	0·9	5·7
Overall	3677	6·2	1445	39·3	49·9	14·3	54·5	30·2	5·6	4·4	5·0

NW=Non-Hispanic white; HW=Hispanic white; AA=African American; PFT=pulmonary function test.

Webtable 1: Participants' characteristics by community

GL14 Continued

Webtable

Effect of exposure to traffic on lung development from 10 to 18 years of age: a cohort study

	n	Residential distance to closest								Model-based pollution from							
		Freeway (m)				Major non-freeway road (m)				Freeway (quartile*)				Major non-freeway roads (quartile*)			
		<500	500-1000	1000-1500	>1500	<75	75-150	150-300	>300	4th	3rd	2nd	1st	4th	3rd	2nd	1st
Riverside	309	103	66	61	99	46	45	90	148	159	123	14	2	146	138	41	1
Atascadero	278	81	60	46	89	11	8	35	244	9	70	155	53	4	17	58	189
Alpine	308	51	54	47	131	41	9	31	227	14	135	141	18	21	43	73	171
Long Beach	320	54	64	54	148	55	79	78	108	264	54	2	0	331	9	0	0
San Dimas	299	47	145	83	18	46	47	62	139	182	8	1	2	169	114	5	1
Santa Maria	310	44	24	58	184	25	47	104	134	0	7	73	230	18	191	64	37
Lake Elsinore	305	22	17	7	259	37	33	56	181	1	41	184	80	17	77	103	159
Mira Loma	319	9	30	45	235	20	37	57	205	11	104	2	2	12	43	212	52
Upland	283	4	0	0	279	53	57	67	115	4	2	85	192	83	100	60	40
Lancaster	315	3	35	31	246	52	24	91	148	0	21	168	186	48	127	128	12
Compton	281	0	0	0	281	5	21	33	222					4	26	88	163
Lake Arrowhead	335	0	0	0	335	0	0	0	335	–	–	–	–	–	–	–	–
Total	3677	449	545	402	2281	385	407	673	2212	766	795	765	766	836	835	829	835

*Tertile is for freeway, but for Compton or Lake Arrowhead, and for major non-freeway road with no Lake Arrowhead.

Webtable 2: Number of study participants with in categories of four traffic indicators

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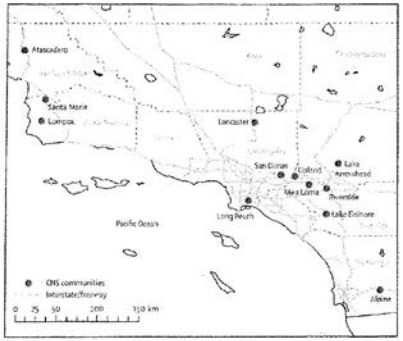
GL14 Continued

Webfigure

Effect of exposure to traffic on lung development from 10 to 18 years of age: a cohort study



Webfigure: Location of the 12 Children's Health Study communities and the major freeways (purple lines) in southern California.

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GL14 Continued

Webappendix

Effect of exposure to traffic on lung development from 10 to 18 years of age: a cohort study

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Details of exposure assessment

Traffic exposures were assigned to each child on the basis of the residence at study entry. Residence addresses were standardised and their locations geocoded by use of the TeleAtlas database and software (Tele Atlas Inc., Menlo Park, CA, www.na.teleatlas.com). We used ERSI ArcGIS version 8.3 (ESRI, Redland, CA www.esri.com) software to calculate the distance from each residence to the nearest freeway, defined as an Interstate freeway, US highway, or restricted-access highway, and to the nearest major non-freeway road, which included other types of highways and large roads. Yearly average daily traffic volumes were obtained from the California Department of Transportation Highway Performance Monitoring System for the year 2000. To obtain model-based estimates of traffic-related pollution exposure, we used the CALINE4 line-source air-quality dispersion model, separately for freeways and non-freeway roads.[1] The main model inputs included roadway geometry, traffic volumes, meteorological conditions (wind speed and direction, atmospheric stability, and mixing heights), and vehicle emission rates. We used the CALINE4 model to predict nitrogen dioxide concentrations derived from freeways and non-freeways at each child's home. Categories of exposure were then formed on the basis of quartiles of the within-community distribution of child-specific predictions, specifically based on cutpoints 0·6, 1·9, and 7·1 parts per billion (ppb) from freeways, and 1·5, 2·6, and 5·3 ppb from non-freeway roads. We also used the CALINE4 model to predict concentrations of other traffic-related pollutants, including oxides of nitrogen, elemental carbon, and carbon monoxide. However, predictions for each of these pollutants were almost perfectly correlated (around 0·99) with predictions of nitrogen dioxide. Thus, our model-based concentrations should be viewed as general measures of traffic-related pollution rather than this pollutant specifically. For both distance and model-based traffic indicators, within-community deviations from the corresponding community mean of the indicator were used in the health models to assess local (rather than between-community) effects.

Air-pollution monitoring stations were established in each of the 12 study communities and provided continuous monitoring data from 1994 to 2003. Each station measured average hourly concentrations of ozone, nitrogen dioxide, and particulate matter with aerodynamic diameter less than 10 μm (PM_{10}). Stations also collected 2-week integrated filter samples for measuring acid vapour and $PM_{2.5}$ mass and chemistry. Acid vapour included both inorganic (nitric, hydrochloric) and organic (formic, acetic) acids. For statistical analysis, we used total acid calculated as the sum of nitric, formic, and acetic acid concentrations. Hydrochloric acid was excluded from this sum, because concentrations were very low and close to the detection limit. In addition to measurement of $PM_{2.5}$ mass, we measured concentrations of elemental carbon and organic carbon, using the NIOSH 5040 method.[2] We calculated yearly averages on the basis of 24 h (PM_{10}, nitrogen dioxide) or 2-week ($PM_{2.5}$, elemental carbon, organic carbon, acid) average concentrations. For ozone, we calculated the yearly average of the 1000–1800 h (8 h daytime) average. Long-term mean pollutant concentrations (between 1994 and 2000 for cohort 1 and 1996 and 2003 for cohort 2) were also calculated for use in the statistical analysis of the lung function outcomes. The distribution and correlation structure of these pollutants across communities, and their effect on lung function development, have been previously reported.[1,3] In this paper, we used community-average pollutant concentrations in models of local traffic exposure to investigate their combined effects and to explore the possibility that traffic effects vary according to regional air quality.

References

1 Benson P. CALINE4—A dispersion model for predicting air pollution concentrations near roadways. Sacramento: California Department of Transportation, 1989.

2 NIOSH Method 5040 Issue 3 (interim): Elemental Carbon (Diesel Exhaust). In NIOSH Manual of Analytical Methods. Cincinnati, Ohio: National Institute of Occupational Safety and Health, 1999.

3 Gauderman W, McConnell R, Gilliland F, et al. Association between air pollution and lung function growth in southern California children. *Am J Respir Crit Care Med* 2000; 162: 1383–90.

4 Gauderman W, Gilliland F, Vora H, et al. Association between air pollution and lung function growth in southern California children: results from a second cohort. *Am J Respir Crit Care Med* 2002; 166: 76–84.

5 Gauderman W, Avol E, Gilliland F, et al. The effect of air pollution on lung development from 10 to 18 years of age. *N Engl J Med* 2004; 351: 1057–67

GL14 Continued

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GL15

City of Seal Beach

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Rose C. Niall B
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July 16, 2012

Orange County Transportation Authority
c/o Paul Glaab, Chair, Board of Directors
550 S. Main Street
Orange, CA 92863-1584

Subject: I-405 Widening Project

Dear Chairperson Glaab:

The City of Seal Beach recognizes the fact that Orange County has a world class network of infrastructure and freeways. The quality of this system is responsible in large part by the voter's approval of Measure M and the Orange County Transportation Authority's ability to successfully manage this program. The I-405 Freeway is a concern of the voter's and is in need of improvement. It is extremely difficult to manage the Measure M program and in particular this I-405 Improvement project with competing interests and concerns from every agency and resident.

The City of Seal Beach does have concerns over the project. Seal Beach appreciates the efforts that OCTA has made to work with our staff and residents regarding concerns over the alternatives listed in the Environmental Impact Report/Environmental Impact Statement (EIR/EIS). Solutions to alleviate those concerns have to this point not been reached and the City of Seal Beach is compelled to communicate with OCTA prior to the closure of the comment period of the EIR/EIS document. 1

The main concerns expressed by residents of Seal Beach are:

1. Retention of existing College Park East sound wall in the current location;
2. Possible relocation of 2 gas/petroleum pipelines through College Park East;
3. Creation of a toll road (Alternative 3);
4. Increased traffic congestion along the I-405 freeway, including northbound bottlenecks resulting from required lanes merging before the LA County line;
5. Air quality and public health concerns

In August of 2009 the Notice of Intent/Notice of Preparation (NOI/NOP) was issued announcing commencement of the project. Seal Beach has been actively participating in the project having representation on both the Technical Advisory Committee and the Policy Advisory Committee throughout the Major Investment Study phase. The NOI/NOP stated that four "build" alternatives would be considered in the EIR/EIS. As indicated therein, within the confines of available Measure M/M2 funding, Alternative 4: Localized Improvements would provide an additional General Purpose (GP) lane at various locations and improve certain interchanges. In addition, the NOP/NOI and accompanying scoping notices stated that a "Transportation Systems Management/Transportation Demand Management/Mass Transit (TSM/TDM/Mass Transit) Alternative" would be examined in the EIR/EIS. That additional alternative would involve low-cost operational improvements rather than major capital projects and include auxiliary lanes, ramp metering, ridesharing, and traffic signal timing optimization. 2

GL15 Continued

Orange County Transportation Authority
Page Two
July 16, 2012

Those two notices announced alternatives are not adequately examined in the EIR/EIS. Without these alternatives, the project's "stakeholders" are deprived the opportunity to review the environmental impact and submit comments under the California Environmental Quality Act (CEQA) and National Environmental Protection Act (NEPA). In lieu of the presentation of a reasonable range of alternatives designed to foster public dialogue and discourse, the EIR/EIS is limited to a discussion of only three "build" alternatives comprising nothing more than minor variations to what amounts as the same project. A substantially broader array of possible alternatives, design variations, and operational changes are not considered. As such, for those and other reasons (e.g., lack of effective mitigation), the current EIR/EIS is inadequate and fails to comply the statutory intent and purpose. 2

By examining only a short segment of the freeway and ignoring the consequences of those adverse conditions, substantive issues affecting Seal Beach are all but ignored. Among its purposes, CEQA and NEPA are intended to foster informed decision making. Agencies are not mandated to take the most environmentally sensitive course of action but are required to first be fully informed about the choices they elect to make. The deficiencies of the existing EIR/EIS are so substantial as to prevent the City from understanding the consequences of the three "build" alternatives on both the natural and human environment, ensuring its constituents that the project's impacts are effectively mitigated, and allowing the City to support one course of action over another. The EIR/EIS document needs to be revised technically with the required additional alternatives and analysis to be a legally adequate assessment. 3

The City of Seal Beach appreciates working with OCTA and Caltrans regarding the concerns over this project, and requests that the partnership continue. Seal Beach's concerns as detailed within this letter will not be resolved without the continued effort to partner on the project.

Declaration of a formal position by the City of Seal Beach is premature and remains dependent upon the completion of an adequate environmental review. In order to preserve its legal remedies, however, the City of Seal Beach will formally respond to Caltrans before July 17, 2012. Despite this inadequacy, as Mayor, I am writing on behalf of the City Council and Seal Beach to oppose Alternatives 2 and 3. Seal Beach takes very seriously these concerns and is considering all options towards having those concerns addressed including outright opposition to the project. 4

If there are any questions please call 562.431.2527 ext. 1300.

Sincerely,

Michael Levitt
Mayor
City of Seal Beach

cc: OCTA Board
Will Kempton, CEO
California State Senator Tom Harman
California State Senator Lou Correa
California State Assembly Jose Solario
California State Assembly Jim Silva

GL16

City of Westminster

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www.westminster-ca.gov

MARGIE L. RICE
Mayor

TRI TA
Mayor Pro Tem

FRANK G. FRY
Council Member

ANDY QUACH
Council Member

TYLER DIEP
Council Member

J. MITCHELL WALLER
City Manager

Thursday, July 12, 2012

Smita Deshpande
Branch Chief - Caltrans District 12
2201 Dupont Drive, Suite 200
Irvine, CA 92612

RE: City of Westminster's Comments to Draft I-405 Improvement Project
Environmental Impact Statement/Environmental Impact Report (EIS/EIR)

Dear Ms. Deshpande:

On behalf of the Westminster City Council, I would like to present you with comments to the Draft I-405 Improvement Project EIS/EIR.

We appreciate your effort in the I-405 Improvement Project and need your assistance in mitigating potential impacts to residents and businesses in our City. Please receive these comments to the Draft EIS/EIR. Take note that it is our goal to preserve quality of life for our residents and continue to promote a business-friendly environment during and after the construction of the project. Since the release of the Draft EIS/EIR, we have been in contact with OCTA in an effort to mitigate major areas of concern in our City. We would like the following to be entered into public record as formal comments to the Draft EIS/EIR:

Comment 1 - Westminster/Springdale Bridge Crossings

Impact: The proposed bridge reconstruction at this location has created grade differentials that require that ramps be installed to facilitate the transition from street elevation to private property elevation. This will impact the on-site parking and traffic circulation.

Mitigation: Work with city staff to revise on-site circulation for more effective traffic flow. Consider relocating the Springdale Avenue driveway to align with the new signalized Springdale Avenue Off-Ramp for improved site access. **1**

Comment 2 - Goldenwest/Bolsa Bridge Crossings

Impact: The proposed bridge reconstruction at this location has resulted in the redesign of the northbound Goldenwest Street approach at Bolsa Avenue; a dedicated right-turn lane is proposed and necessary to maintain acceptable traffic signal operations and satisfy forecast traffic demand.

Mitigation: Work with city staff to revise the roadway alignment for Goldenwest Street at Bolsa Avenue. The proposed intersection capacity improvement is impactful to the City of Westminster only. A loss of **2**

GL16 Continued

private property and city right-of-way is proposed for the east side of Goldenwest Street. For example at this location, the current design would impact 35 parking spaces, a sidewalk and a parkway, all in the City of Westminster, with zero property impacts on the west side of the street in Huntington Beach right-of-way. We request that the design team take a more balanced approach to right-of-way acquisition between the Cities of Westminster and Huntington Beach. **2**

Comment 3 - Vacate Land to the City

The City would like surplus property, not used for the project and deemed unusable by the State, to be vacated to the City to enhance areas impacted by the project. For example, the reconstruction of the southbound I-405 on-ramp (east of Goldenwest Street) will result in an unused section of land immediately behind the commercial development at 15042 Goldenwest Street. This commercial development is regularly parked over capacity due to the successful businesses on site (El Torito and IHOP restaurants, retail commercial, etc.). Vacating the excess land would facilitate a parking lot expansion that would benefit the businesses and the City. **3**

Comment 4 - Interstate 405 Southbound On/Off-Ramp at Westminster Mall Road

The south leg of the subject intersection connects the I-405 ramp and Westminster Mall Road to Bolsa Avenue. The local connector is a one-way street without ADA compliant pedestrian facilities. It has the potential to provide congestion relief to the intersection of Goldenwest Street and Bolsa Avenue. We ask that the design team work with city staff to improve the connector as an access to Bolsa Avenue from the freeway and enhance pedestrian safety. **4**

Comment 5 - Bolsa Avenue West of Goldenwest Street

Impact: The proposed bridge reconstruction at this location requires that the vertical elevation transitions be extended further than they are today. The transition to the west of the Bolsa Bridge, per the Draft EIR, would result in the removal of 20 parking spaces at 100 Westminster Mall (Sears Auto Center).

Mitigation: Work with city staff to revise the roadway alignment on Bolsa Avenue west of Goldenwest Street. We request that the design team take a more balanced approach to right-of-way acquisition and consider all possible methods of limiting property impacts. These methods include, but are not limited to, roadway realignment, reduced width travel lanes, etc. **5**

Comment 6 - Sound Wall Installation and Replacement

The City requests that a more balanced and fair approach to sound wall installation and replacement be considered by the design team. The current sound wall section of the Draft EIS/EIR does not accurately address the issue of aging sound walls that are in need of repair and/or sound walls that were not property constructed in the first place. It presents very strict and unrealistic criteria for implementing sound mitigation. We ask that additional analysis be performed during the design phase of the project that considers other sound wall installation measures outside the current criteria. For example, sound walls that were not properly constructed need to be reconstructed to the latest standards. Sound wall concerns that have previously been reported to Caltrans must be revisited as part of this project and be considered for reconstruction on a case by case basis. **6**

The project team (OCTA, Caltrans and Parsons) have been very helpful and accommodating to the City of Westminster. However, overcoming the challenges as outlined in the aforementioned comments will require even more collaboration. We support the I-405 Improvement Project as outlined in the **7**

GL16 Continued

Renewed Measure M; the project will improve the I-405 freeway for the benefit of County. However, the Westminster City Council and I take the concerns listed in this letter very seriously. We reserve the right to mitigate unknown issues that may arise after the inception of the "design-build" phase of the project implementation. The City will consider all build options, with the exception of Alternative 3. This option is unacceptable to Westminster residents, and will create a toll/express facility that will restrict access to our business community. 7

Respectfully Yours,

Margie L. Rice

MARGIE L. RICE
MAYOR

RESPONSE TO GOVERNMENT (LOCAL) COMMENTS (GL)

Response to Comment Letter GL1

Comment GL1-1

Caltrans and OCTA thank the City of Costa Mesa for participating in the environmental process for the I-405 Improvement Project. The City's comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. The City will be notified when the Final EIR/EIS is available for review.

Your comment letter contained many exhibits, including a letter from Mayor Bever to Paul Glaab. That letter contains information in summary form more fully elucidated in your comment letter. Consequently, that letter has not received separate responses.

Your comment letter also contained many e-mails from residents. All of those e-mails were sent prior to circulation of the Draft EIR/EIS and consequently cannot be comments on the Draft EIR/EIS. Consequently, those e-mails have not been responded to.

The Draft EIR/EIS and this Final EIR/EIS were prepared by Caltrans and OCTA's consultant. Caltrans has a multilevel rigorous independent review process that is completed independently at the District and Headquarters Levels. Additionally, the document has been through an independent legal review prior to releasing the Draft EIR/EIS and has gone through a legal sufficiency review prior to certifying the Final EIR/EIS. Detailed requirements of the independent review process are provided on the Caltrans SER Web site, which is continually updated to reflect changes in environmental regulations and/or Caltrans policies. Caltrans maintains records of their compliance with the 5-step review, which documents the independent review by technical specialists and senior environmental planners, headquarters staff, and Caltrans Legal.

As disclosed in Section 3.2.6.3 of the Draft EIR/EIS, at the time the Draft EIR/EIS was circulated to the public, the project description in the RTP/FTIP included a design concept and scope for Alternative 1; however, the design concept and scope for Alternatives 2 and 3, as described in Chapter 2, were substantially different from what was analyzed in the 2008 RTP. OCTA, not Caltrans, initiated the change in the project description shown in Attachment A of the comment letter. All alternatives were represented equally in the Draft EIR/EIS, and there is no proclivity toward any of the build alternatives. Alternatives 2 and 3 are required to go through the SCAG RTP and FTIP amendment process prior to being able to determine consistency with the plans; however, the regional operational emissions analysis was completed for all alternatives

and would be less than the no-build conditions in years 2020 and 2040. The amendment process is required to be completed prior to approval of the Final EIR/EIS. The Preferred Alternative identified in the Final EIR/EIS is consistent with the description in the 2012 RTP and FTIP.

Comment GL1-2

The Draft EIR/EIS, including specialized technical studies (all technical studies are available for review on the Caltrans D12 Web site at http://www.dot.ca.gov/dist12/405/index.htm#Technical), represents a comprehensive analysis of the reasonably foreseeable environmental effects of the proposed build alternatives on the Human (Section 3.1), Physical (Section 3.2), and Biological (Section 3.3) environments. Where applicable, the Final EIR/EIS has been revised/updated to clarify/correct information based on the public comments received on the Draft EIR/EIS. As described in the Draft EIR/EIS, only Alternative 3 would require demolition/reconstruction of the Fairview Road Overcrossing and Harbor Boulevard southbound loop on-ramp. Should Alternative 3 be identified as the Preferred Alternative, Caltrans/OCTA will continue to work with the City to minimize project effects on the City and its residents.

Please also see Common Response –Preferred Alternative Identification.

Construction Impacts: Construction impacts are discussed in detail, based on the preliminary engineering and analysis for all of the build alternatives. Construction impacts are discussed for all of the build alternatives in every section, as applicable, within the environmental consequences subsection as temporary impacts. Caltrans and OCTA have evaluated options to minimize project effects from Alternative 3 on the City, including revised project geometrics to avoid reconstruction of the Fairview Road Overcrossing or truncating the project to modify the southern project limits to begin north of Fairview Road. Project construction impacts are typical of large construction projects, and other than those impacts that were identified as significant in Chapter 4 of the Draft and Final EIR/EIS, no other significant impacts were identified.

Ramp Closures: A ramp closure study was prepared for the project in accordance with the Caltrans Project Development Procedures Manual and was provided in “Appendix C Ramp Closure Study” of the Community Impact Assessment. Proposed detour routes associated with the long-term ramp closures (i.e., ramps closed at least 10 consecutive days) were provided in the Draft EIR/EIS Appendix M, Proposed Ramp Closure Detour Routes. Caltrans and OCTA will continue to work with all affected cities to minimize construction closures/impacts on special events and venues, including the OC Fair & Event Center. Although the contractor may not be working during holidays, it is not likely that all ramps within the corridor will be available during the holiday seasons. Caltrans and OCTA will continue to work with the City to minimize/coordinate closure of ramps during the holiday seasons.

Traffic Management Plan (TMP): As described in the Draft EIR/EIS, coordination with the City of Costa Mesa, as well as all other affected cities, will be conducted during development of the final TMP to minimize direct, indirect, and cumulative construction impacts on the community. The Draft TMP is provided in Appendix D of the Community Impact Assessment. The Final TMP shall be submitted with the construction plan to local agencies, affected cities, and police and fire departments within the affected cities prior to commencement of construction activities. Preparation of a Final TMP is not feasible at this time because (1) the final TMP will utilize on-the-ground conditions to minimize direct and cumulative traffic impacts; and (2) during final design, a final construction staging plan will be developed and is a key input into the Final TMP. As described in Minimization Measure COM-3, ramps that provide access immediately adjacent to South Coast Plaza (i.e., South Coast Drive northbound off-ramp), Bella Terra (i.e., Beach Boulevard off-ramps), or Westminster Mall (i.e., Bolsa Avenue northbound and Goldenwest Street southbound off-ramps) will not be closed from November 1 to January 31. Caltrans and OCTA will continue to coordinate with all affected cities to minimize project short- and long-term ramp closures for special events and during the holiday seasons.

Comment GL1-3

Toll gantries are not designed, and locations for them have not been determined. They are anticipated to be similar to sign supports or light stanchions with limited visual intrusion into adjacent neighborhoods.

Comment GL1-4

The Noise Study Report and Noise Abatement Decision Report (NADR) were prepared using available roadway and other design aspects of the project. If changes occur to the design during the environmental evaluation process or final design, such as modifying roadway alignments or profiles, then the noise abatement measures would need to be verified or modified according to the updated design parameters. This is why it is appropriate that the EIR/EIS defers the decision to build soundwalls until after completion of the project design.

Comment GL1-5

Under the Federal Highway Administration (FHWA) guidelines and Caltrans' Traffic Noise Analysis Protocol used for this study, noise levels are addressed and examined using the NAC of Title 23, Part 772 of the CFR, titled "Procedures for Abatement of Highway Traffic Noise and Construction Noise" (23 CFR 772).

Once the outdoor frequent use areas have been provided the required 5-dB abatement, possible interior traffic noise impacts are also considered to be abated. Based on Caltrans' Protocol, if noise-sensitive land uses would experience an hourly equivalent continuous traffic noise level of

75 dBA or higher and a soundwall cannot provide feasible noise abatement to the exterior outdoor use areas, then interior noise abatement measures, such as building façade upgrades (e.g., double-paned windows and air-conditioning so that windows can be closed for a prolonged period of time), may be considered. For all cases in this project, recommended soundwalls provide required abatement to the exterior use areas with noise levels of 75 dBA or higher; therefore, no interior acoustical abatement measures were considered.

Comment GL1-6

The addresses of the represented receivers are located in Appendix B of the Noise Study Report. The reasonableness of noise abatement is determined by considering factors such as cost, absolute predicted noise levels, predicted future increase in noise levels, expected noise abatement benefits, build date of surrounding residential development along the highway, environmental impacts of abatement construction, opinions of affected residents, and input from public and local agencies.

Caltrans' Traffic Noise Analysis Protocol defines the procedure for assessing reasonableness of noise barriers from a cost perspective. A cost-per-residence allowance is calculated for each benefited residence (i.e., residences that receive at least 5 dB of noise reduction from a noise barrier). Soundwalls S614A and S614B at two different locations were considered to provide traffic noise abatement to the pool area of a hotel. Results of the analysis conducted in accordance with the Caltrans procedures determined that a soundwall for this area would not meet the reasonableness requirement based on cost; therefore, in accordance with State regulations, Soundwalls S614A and S614B are not recommended for the pool area.

Comment GL1-7

Text has been added to Section 3.2.7.4, Avoidance, Mitigation, and/or Minimization Measures, of the Final EIR/EIS to include NOI-4, which specifies the provisions for preparation of the Noise and Vibration Construction Monitoring and Mitigation Plan. The plan will be prepared by the contractor and will be reviewed and approved by OCTA and Caltrans. The City may obtain a copy and share it with the affected property owners.

Comment GL1-8

In accordance with Caltrans' Traffic Noise Analysis Protocol, existing soundwalls could only be replaced by higher soundwalls if an additional 5-dB noise reduction can be achieved. Most of the time, increasing the height of a 10- or 12-ft-high soundwall to the maximum height of 16 ft did not provide an additional 5-dB noise reduction. This is the main reason why the heights of some existing soundwalls were not increased and were replaced in-kind at a new location at the original soundwall heights. Before a reasonableness determination can be made, feasibility –

providing 5 dB of traffic noise reduction – must be achieved for at least one frequent outdoor use area. Residences behind existing soundwalls for which feasibility could not be attained by raising the existing soundwall are not counted as benefitted residences, and construction costs for raising the soundwall are not calculated. Therefore, in Table 3, "N/A" was used where data were not needed for determining reasonableness because soundwalls that are "replace in-kind" will be reconstructed regardless of the cost.

The addresses of the represented receivers are located in Appendix B of the technical Noise Study Report.

Please also see Common Response – Noise/Noise Analysis for more details about procedures to determine feasibility and reasonableness of soundwalls.

Comment GL1-9

Traffic noise impact analysis was performed along SR-73 within the project limits for Alternative 3 with the existing soundwalls. The noise abatement measures constructed for the I-405/SR-73 Confluence Project are the reason that there are no traffic noise impacts as a result of the I-405 Improvement Project along SR-73.

Comment GL1-10

I-405 is a state highway owned by the State of California. FHWA has limited control over I-405, which includes approval authority for the implementation of tolling. FHWA has been participating in the development of the project but issued no formal project approvals prior to release of the Draft EIR/EIS. Approval to implement tolling is typically not granted by FHWA until after circulation of the Draft EIR/EIS. The HOV lane is being incorporated into the Express Lanes and will still be available free to HOVs, but the HOV occupancy requirement will change. For a discussion of the need to adjust the occupancy requirement, please see Common Response – Opposition to Tolling.

Comment GL1-11

The population and employment forecasts used for traffic forecasting are approved by SCAG. Because of the recent economic recession, there has been a significant reduction in traffic volumes throughout the region. Caltrans published traffic data for I-405 shows a reduction in daily traffic of approximately 20 percent between 2005 and 2009 for the freeway segment south of Euclid Street.

Because the business cycle is largely unpredictable, traffic forecasts are prepared independent of the business cycle. The traffic forecasts for years 2020 and 2040 are based on the population and employment forecasts for those years. The percent growth in traffic between 2009 and

2020/2040 seems high only in the context of reduced traffic volumes caused by the recession. With the economy expected to rebound in the future, traffic volumes are expected to quickly reach pre-recession levels and increase further as projected.

A comparison of pre-recession traffic data (year 2005) to forecast volumes shows annual growth rates of 1.0 to 1.5 percent from 2005 to 2040 and annual rates of 1.1 percent or less from 2020 to 2040, consistent with the referenced City forecasts.

Comment GL1-12

There are no traffic impacts on the mainline freeway identified in the Draft EIR/EIS within Costa Mesa. The Draft EIR/EIS characterizes the segment of I-405 from SR-73 to Brookhurst Street by saying that: "The segment from SR-73 to Brookhurst Street is characterized by lane drops and adds." Freeway segments do not necessarily correspond to jurisdictional boundaries. A finer breakdown of the segment information is provided in the Traffic Study.

Comment GL1-13

The number of lanes does not reflect the number of lanes in Costa Mesa because the segment is not confined to Costa Mesa. Freeway segments do not necessarily correspond to jurisdictional boundaries. The number of lanes shown for the segment from SR-73 to Brookhurst Street reflects the minimum number of lanes in the segment from SR-73 to Brookhurst Street, which is characterized by lane drops and adds. Please see Response to Comment GL1-12.

Maximum flows, such as the 12,000 value cited in the comment, occur under LOS E conditions; however, LOS F conditions are expected in the GP lanes of I-405 during the peak hours in year 2040 under any of the proposed alternatives, as shown in Draft EIR/EIS Tables 3.1.6-12 and 3.1.6-13. Under LOS F conditions, traffic flow is unstable and substantially lower.

The throughput value of 1,200 vphpl cited in the comment is for the peak hours in year 2040 during which LOS F conditions are expected. Section 2.1 of the Traffic Study explains the reasoning behind the use of the 1,200 vphpl used to calculate throughput.

Comment GL1-14

The data recited in the comment are accurate at the interchange-to-interchange level, as presented in the Traffic Study. The segment data provided in the Draft EIR/EIS group the interchange-to-interchange data into large segments with common characteristics, as explained in the Draft EIR/EIS on page 3.1.6-2. The Draft EIR/EIS refers the reader to the Traffic Study for more-detailed interchange-to-interchange data. Language has been added to the Final EIR/EIS to state that the segment data present the worst case of interchange-to-interchange data as the

segment data because traffic flows within a stretch of roadway are generally limited by the location with the heaviest constraint. Please see Response to Comment GL1-12.

Comment GL1-15

On the referenced page, the Draft EIR/EIS states "The project condition traffic volumes were developed using the highest of the three project alternative traffic volume projections (Alternative 1, 2, or 3 condition) and are evaluated assuming the worst-case condition…." Some alternatives may be provided with more local street improvements and mitigations than necessary by using this approach.

Comment GL1-16

Hourly, not daily, values are used for the operational analysis. Table 3.1.6-2 provides daily traffic values. The higher daily traffic volumes on the mainline freeway are for Alternative 3 Additional traffic is anticipated as a result of a shift from the arterial system onto I-405 during off-peak hours of the day due to the reduced congestion resulting from the combination of the lower demand during off-peak hours and the added capacity provided under the build alternative.

Comment GL1-17

Please see Response to Comment GL1-14.

Comment GL1-18

The lane drop of the #7 GP lane north of the merge of the northbound branch connector from SR-73 onto the northbound I-405 mainline creates a point of congestion. Lengthening the #7 lane would not remove the congestive effect of dropping the lane because the volume is anticipated to exceed the capacity downstream of the lane drop regardless of where the lane drop occurs. Removing the congestive effect from the northbound I-405 mainline can be accomplished by reducing the number of lanes permitted to enter northbound I-405 as proposed in Alternative 3. The branch connector would thereby become congested, as acknowledged by the Draft EIR/EIS statement on page 3.1.6-101 that "the GP branch connector is anticipated to be over capacity in 2040 during the PM peak hour."

Comment GL1-19

Under the Caltrans' Traffic Noise Analysis Protocol, which was used for this study, interior noise levels are addressed and examined using the NAC of Federal Title 23, Part 772 of the CFR, titled "Procedures for Abatement of Highway Traffic Noise and Construction Noise" (23 CFR 772). This regulation specifies an interior limit of 52 dBA; therefore, if a typical residential building shell would attenuate exterior noise levels by approximately 20 dB, exterior noise levels less than 72 dBA would be attenuated below the Caltrans interior NAC.

Within Costa Mesa, the predicted future exterior traffic noise levels with soundwalls ranged from 56 to 69 dBA, with one occurrence of 72 dBA for the pool area of La Quinta Inn. The building shell of hotels will typically have an insertion loss greater than 20 dB to abate the exterior noise. Based on typical attenuation provided by building shells, interior noise levels of single-family residences would range from 36 to 49 dBA, which would be less than the NAC for interior noise levels. Interior noise levels at the hotel would also be below 52 dBA and would not qualify for building acoustical insulation.

Comment GL1-20

According to the results of the detailed traffic noise analysis in the Noise Study Report, the future predicted traffic noise levels would remain unchanged after construction of the soundwall and retaining wall with any of the project alternatives. Moving this soundwall closer to the residences would reduce traffic noise levels by moving the shadow zone of the wall to encompass the entire property adjacent to the soundwall.

The air quality analysis presented in the Draft EIR/EIS in Section 3.2.6, Air Quality, indicates that air quality is generally better under the build alternatives than under the No Build Alternative. OCTA/Caltrans will be developing an I-405 Aesthetic and Landscape Master Plan. The plan will be developed as part of the final design process and will address vegetation. It is not anticipated that excess land available for sale would be created by the project in the area referenced in the comment.

Comment GL1-21

The proposed project does not have any significant noise impacts, as concluded in Section 3.2.7, Noise, of the Draft EIR/EIS. Please see Response to Comment GL1-7 regarding the first paragraph of the comment.

Please see Response to Comment GL1-4 regarding the second paragraph of the comment.

Comment GL1-22

Text in the document identifies the location where electronic and hard copies of the technical studies can be obtained. Electronic copies of the technical studies for the project are at the following Web address: http://www.dot.ca.gov/dist12/405/index.htm.

Comment GL1-23

The Noise Element set forth in the Costa Mesa General Plan uses the Community Noise Equivalent Level (CNEL) noise metric, which differs from the peak-hour Equivalent Sound Level over 1-hour ($L_{eq[h]}$) used by Caltrans in accordance with the NAC of Federal Title 23, Part

772 of the CFR, titled "Procedures for Abatement of Highway Traffic Noise and Construction Noise."

Noise measurements conducted for the project within Costa Mesa indicate that the existing CNEL are between 60 and 65 dBA. Results of the analysis indicate that the future predicted traffic noise levels within Costa Mesa would be zero to 2 dB higher than the existing levels during the peak hour for traffic noise. It is anticipated that the future CNEL would also increase by less than 2 dB.

City of Costa Mesa General Plan Policy N-1A.4 "encourages" Caltrans to meet the City's requirements; however, this interstate facility operates within the State of California ROW and is only obligated to fulfill federal and State laws, policies, and procedures. In addition, Costa Mesa's Noise Element Policy N-1A.3 requires property developers to adhere to the provisions set forth in the General Plan and incorporate design features for residential buildings close to the freeways.

A detailed noise study has been prepared for this project. As appropriate, Caltrans is recommending construction or replacement of soundwalls in accordance with Title 23, Part 772 of the CFR, titled "Procedures for Abatement of Highway Traffic Noise and Construction Noise."

Please see Common Response – Noise/Noise Analysis.

Comment GL1-24

Please see Response to Comment GL1-18. Consideration of the trade-off between congestion on the northbound I-405 freeway mainline downstream of the SR-73 branch connector with congestion on the branch connector will be included in the identification of the Preferred Alternative.

Comment GL1-25

Analysis of impacts discussed in the Draft EIR/EIS or as revised/updated for the Final EIR/EIS meets the requirements of NEPA and CEQA and follows established protocols. Although patrons to Costa Mesa utilize I-405 to access major employment and commercial centers, these commercial and employment centers were not determined to be freeway dependent. As described in Section 3.1.4.1.3, the proposed detour routes (see Appendix M) were anticipated to result in increased travel times ranging between approximately 1.5 and 5.5 minutes. Access to all businesses would be maintained during construction of the I-405 Improvement Project, and all businesses would be accessible from alternate freeway off-ramps and by utilizing local streets. The anticipated increased travel times and distances would not result in either a substantial

economic effect on businesses or substantial delays or travel costs for residents or business patrons.

Incorporation of toll lanes into the highway system is not unprecedented. Toll lanes are currently operational on Interstate 10 (I-10) and Interstate 110 (I-110) in Los Angeles County, are under development on an extension of the toll lanes on SR-91 in Riverside County, and are being studied on I-10 in San Bernardino/Los Angeles counties.

Comment GL1-26

The May 2012 Draft EIR/EIS, including specialized technical studies, represents a comprehensive and accurate analysis of the potential environmental effects of the proposed build alternatives on the environment. The analysis of impacts discussed in the Draft EIR/EIS or as revised/updated for the Final EIR/EIS meets the requirements of NEPA and CEQA and follows established protocols. A Supplemental Traffic Study has been prepared and a Supplemental Draft EIR/EIS prepared and circulated covering potential traffic impacts in Los Angeles County. The analysis and measures presented in the Supplemental Draft EIR/EIS are included in Section 3.1.6 of the Final EIR/EIS.

The preference noted in the comment for Alternative 2 will be considered by Caltrans and OCTA in the identification of the Preferred Alternative. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter GL2

Comment GL2-1

This letter was submitted to Caltrans after the close of the public review period. The comments provided in this letter mirror the comments provided by the City of Costa Mesa in their letter dated July 17, 2012 (GL-1). Please see Responses to Comments GL1-1 through GL1-26.

Response to Comment Letter GL3

Comment GL3-1

Caltrans and OCTA thank the City of Cypress for participating in the environmental process for the I-405 Improvement Project. The City's comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. The City will be notified when the Final EIR/EIS is available for review.

Caltrans/OCTA will coordinate with the City regarding impacts to the City's local street system, if any, during development of the Final TMP, as described in Response to Comment GL1-2.

Response to Comment Letter GL4

Comment GL4-1

Caltrans and OCTA thank the City of Fountain Valley for participating in the environmental process for the I-405 Improvement Project. The City's comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. The City will be notified when the Final EIR/EIS is available for review.

There has been no consideration given to extend Alternative 2 to SR-73, and it will not be considered as part of this project.

Comment GL4-2

Alternative 3 provides the greatest mobility based on its having the highest throughput. Alternative 3 provides limited, not restricted, access. Alternative 3 provides an additional GP lane in each direction consistent with the additional capacity promised in Measure M2. Although there is a fee or toll associated with use of the toll Express Lane Facility, the greater throughput per lane in the Express Lanes will take trips out of the GP lanes, resulting in reduced travel times for both the toll Express Lane Facility and GP lane users.

Comment GL4-3

Under Alternative 3, the existing HOV lane would be incorporated into the Express Lane Facility. HOVs would use the Express Lanes free, provided they meet the occupancy eligibility requirement. Regarding the change in occupancy requirement to three persons per vehicle, please see Common Response – Opposition to Tolling.

Comment GL4-4

The intermediate access point located between the Bolsa Avenue and Goldenwest Street interchanges include acceleration/deceleration lanes, whereas the intermediate access point located between the Warner Avenue and Magnolia Street interchanges does not include such lanes. Refer to Appendix P, Project Plans, P3: ALTERNATIVE 3 Project Plans L-8, L-10, L-16 and L-17, of the Draft EIR/EIS. Additional ROW impacts would result if an acceleration/ deceleration lane were included at the intermediate access point located between the Warner Avenue and Magnolia Street interchanges and would involve acquisition of land from the backyards of 10 to 14 homes on the north side of I-405 in the vicinity of the interchanges. Page 3.1.6-98 of the Draft EIR/EIS summarizes the operations at the two intermediate access areas. The Express Lanes at the Bolsa Avenue/Goldenwest Street intermediate access area are anticipated to be unaffected by the lane changes and speed differentials between the GP and Express Lanes. The Express Lanes at the Magnolia Street/Warner Avenue intermediate access area are anticipated to be affected. The Draft EIR/EIS states: "Slower speeds are expected in the

#2 Express Lane as motorists exiting the Express Lanes match the slower speed of the GP lanes before making the lane change to the #1 GP lane. Slower speeds are also expected in the #2 Express Lane as motorists entering the Express Lanes move out of the LOS F conditions in the #1 GP lane into the #2 Express Lane. This condition is similar to the condition experienced in the existing limited-access HOV lanes along I-405 during periods of congestion in the adjacent GP lanes."

Comment GL4-5

On July 6, 2012, President Obama signed into law P.L. 112-141, the Moving Ahead for Progress in the 21st Century Act (MAP-21). Prior to the passage of MAP-21, public authorities were required to execute a tolling agreement with FHWA prior to converting an HOV facility to an HOT lane under the terms of Section 129 of Title 23 of the U.S.C. Under MAP-21, such agreements will no longer be required. Lack of such approval does not render the alternative infeasible at the Draft EIR/EIS stage of the process; although a tolling agreement would no longer be needed from FHWA, approval to institute tolling would be needed prior to completion of the Final EIR/EIS.

Comment GL4-6

Only full acquisitions are specifically discussed in the Draft EIR/EIS. A list of all property acquisitions, both full and partial, are provided in Appendix A of the Community Impact Assessment. Potential acquisition and TCEs at the Mike Thompson R.V. (MTRV) property (Freeway Frontage [296,902 square ft]: APN #'s 156-152-01, 156-152-02 and Ward Street Frontage [60,984 square ft]: 156-152-03) are described in detail below. The property owner would be compensated for permanent acquisition and TCEs in accordance with Caltrans ROW process in accordance with the Uniform Relocation and Real Property Acquisition Act as described in Section 3.1.4.3 and Appendix D of the Draft EIR/EIS.

Freeway Frontage: Only Alternative 3 would require permanent acquisition (13,561 square ft) along I-405 to accommodate the proposed freeway cross section. The amount of encroachment varies from 9 to 10 ft, of which 6 to 8 ft is paved parking lot and the remainder is landscaped. The permanently acquired area is approximately 3.5 percent of the parcels and would not substantially reduce or restrict MTRV use of the property or affect the desirability or future lease revenues. Alternative 3 would also require a TCE (3,666 square ft) within the property to accommodate construction of the alternative if identified as the Preferred Alternative.

Ward Street Frontage: All of the build alternatives would require permanent acquisition (4,918 square ft) along Ward Street to accommodate widening of the Ward Street Overcrossing. The proposed acquisition area is within the landscaped area between MTRV and Ward Street. The

acquisition area is approximately 8 percent of the parcel and would not substantially reduce or restrict MTRV use of the property or affect the desirability or future lease revenues. The build alternatives would also require a TCE (1,180 square ft) within the property to accommodate construction of the build alternatives.

Comment GL4-7

All of the build alternatives would result in full acquisition of the Days Inn property. Days Inn accounts for approximately 21 percent (70 of 330) of the rooms in Fountain Valley. Based on the 2011 data from the State controller's office, maximum lost transient tax revenue would be approximately $154,000 (21 percent of $753,000) or 0.4 percent ($37,362,269) of City revenue. OCTA and Caltrans have developed design options for all of the alternatives that would remove the braided ramps between Warner Avenue and Magnolia Street on the north and/or south sides of I-405. If the design option for removal of the ramps on the south side of I-405 is incorporated into the Preferred Alternative, no acquisition of the Days Inn property would be required and would not affect transient occupancy revenues within Fountain Valley. Please see Common Response – Impacts to Businesses.

Comment GL4-8

A Draft Relocation Impact Memorandum was prepared in accordance with the Caltrans ROW manual. Pertinent information from the memorandum is summarized in the Draft EIR/EIS. The memorandum, including data and assumptions, is available for review in Appendix B of the Community Impact Assessment. The Community Impact Assessment is available for review online at http://www.dot.ca.gov/dist12/405/index.htm. OCTA and Caltrans have developed design options for all of the alternatives that would remove the braided ramps between Warner Avenue and Magnolia Street on the north and/or south sides of I-405. If the design option for removal of the ramps on the south side of I-405 is incorporated into the Preferred Alternative, no acquisition or relocation of any business would be required, and there would be no lost revenue within Fountain Valley. Please see Common Response – Impacts to Businesses.

Comment GL4-9

OCTA and Caltrans have developed a design option for all of the build alternatives that would remove the braided ramps between Warner Avenue and Magnolia Street on the southbound side of I-405. Please see Common Response – Impacts to Businesses.

Impacts to the MTRV property are unavoidable, as described in Response to Comment GL4-6.

As shown in project Layout Sheets 4 and 5 in Appendix P (P1, P2, and P3), acquisition of property from Truckee River Court in the Tiburon residential community and Spencer Avenue

would only be required if Alternative 3 is identified as the Preferred Alternative. The ROW impacts created by Alternative 3 at Truckee River Court and Spencer Avenue result from a new GP lane that begins at the southbound Talbert Avenue on-ramp. These ROW impacts are unavoidable. Alternative 3 would require 2,059 and 12,808 square ft from Truckee River Court and Spencer Avenue, respectively. All of the build alternatives would require TCEs (Alternatives 1 and 2: 3,624 square ft; Alternative 3: 5,561 square ft) along Spencer Avenue, and Alternative 3 would also require a TCE (1,009 square ft) on Truckee River Court..

Comment GL4-10

The impacts to the private parking lots have been considered and are reflected in Table 3.1.4-7 on pages 3.1.4-17 and 3.1.4-18 of the Draft EIR/EIS. Reconfiguration of the parking lots due to the impacted spaces would occur during final design. Additional TCEs within the affected parking lots will be reflected in the Final EIR/EIS, as needed. Measure COM-10, on page 3.1.4-31 of the Draft EIR/EIS, describes the project commitment to work closely with affected property owners and to identify means to avoid and minimize parking impacts, including space management such as restriping of parking areas and identifying parking replacement options. Where applicable, and where impacts are unavoidable, the property owners shall receive compensation for the partial loss of property through the ROW acquisition process.

Comment GL4-11

The 13 on-street parking spaces, located along northbound Beach Boulevard approaching McFadden Avenue in Westminster are shown in Table 3.1.4-7, page 3.1.4-18, of the Draft EIR/EIS. Only Alternative 3 requires encroachment onto Spencer Avenue. Based on preliminary engineering and the Spencer Avenue cross section, parking along the street will remain available if Alternative 3 is identified as the Preferred Alternative. As discussed in Response to Comment GL4-9, if Alternative 1 or 2 is identified as the Preferred Alternative, no encroachment into Spencer Avenue is required.

Comment GL4-12

Any sales of excess lands are not typically completed until completion of the project. Any excess ROW will be processed in accordance with the Caltrans ROW manual “Chapter 16: Excess Lands.”

Comment GL4-13

Soundwall lengths and heights are evaluated for acoustic feasibility in accordance with Caltrans’ Traffic Noise Analysis Protocol and Title 23, Part 772 of the CFR, titled “Procedures for Abatement of Highway Traffic Noise and Construction Noise” (23 CFR 772). As described in the project Noise Study Report and shown in Appendix N (N1 Existing and Future Noise Levels)

of the Draft EIR/EIS, future predicted peak-hour traffic noise levels at the residences close to Brookhurst Street do not approach or exceed the NAC and would not be impacted. This result is related primarily to their distance from the freeway travel lanes and the presence of existing property walls; therefore, a soundwall is not proposed for this area.

Please also see Common Response – Noise/Noise Analysis.

Comment GL4-14

In most cases where roadways and surrounding areas are at the same elevation, soundwalls are effective at providing the feasible traffic noise abatement of 5 dB when located at the shoulder of the roadway or along the State ROW line. If feasible traffic noise abatement cannot be provided at the preferred locations, options of placing a soundwall outside of the State ROW are explored. Where soundwalls are constructed on private property, the property owner is responsible for future maintenance of the soundwall after construction and requires 100 percent of the property owners to vote in favor of the wall during sound barrier survey prior to completion of the Final EIR/EIS and a maintenance agreement with Caltrans prior to construction. Generally speaking, moving the proposed soundwall farther from the noise source does not increase the insertion loss of the soundwall for the residents. The Noise Study Report shows that Soundwall S718 follows the ROW and edge of the shoulder of the northbound Brookhurst Street off-ramp; however, subsequently it was determined that parts of Soundwall S718 would need to be constructed over the channel between the roadway and the residences to address safety issues involving line-of-sight for traffic exiting I-405 at Brookhurst Street. Space between soundwalls and property walls is very common. Caltrans standards require space to maintain the soundwall from both sides. The desired maintenance access would allow a vehicle to drive behind the wall; however, due to common ROW constraints (i.e., residences, businesses, and acquisition costs), the minimum access required would allow enough room for a person to walk behind the wall for maintenance activities.

Comment GL4-15

Soundwall heights and lengths are evaluated for acoustic feasibility in accordance with the Caltrans' Traffic Noise Analysis Protocol Federal Title 23, Part 772 of the CFR, titled "Procedures for Abatement of Highway Traffic Noise and Construction Noise" (23 CFR 772). As described in the project Noise Study Report and shown in Appendix N (N1 Existing and Future Noise Levels) of the Draft EIR/EIS, future predicted peak-hour traffic noise levels at the residences close to Magnolia Street do not approach or exceed the NAC and would not be impacted. This result is related primarily due to their distance from the freeway travel lanes and the presence of existing property wall; therefore, a soundwall is not proposed for this area.

Please also see Common Response – Noise/Noise Analysis.

Comment GL4-16

Soundwall heights and lengths are evaluated for acoustic feasibility in accordance with the Caltrans' Traffic Noise Analysis Protocol Federal Title 23, Part 772 of the CFR, titled "Procedures for Abatement of Highway Traffic Noise and Construction Noise" (23 CFR 772). As described in the project Noise Study Report and shown in Appendix N (N1 Existing and Future Noise Levels) of the Draft EIR/EIS, future predicted peak-hour traffic noise levels at the residences close to Talbert Avenue do not approach or exceed the NAC and would not be impacted. This result is related primarily due to their distance from the freeway travel lanes and the presence of existing property walls; therefore, the soundwall is not extended to cover the entire complex.

Please also see Common Response – Noise/Noise Analysis.

Comment GL4-17

Soundwall heights and lengths are evaluated for acoustic feasibility in accordance with the Caltrans' Traffic Noise Analysis Protocol Federal Title 23, Part 772 of the CFR, titled "Procedures for Abatement of Highway Traffic Noise and Construction Noise" (23 CFR 772). Soundwall S747B for Alternative 1 (see Draft EIR/EIS Appendix N: N3 Layout Figure 9) and Soundwall S745B for Alternatives 2 and 3 (see Draft EIR/EIS Appendix N: N4 and N5 Figure 9, respectively) are recommended to close the gap between the existing soundwalls on either side of Slater Avenue. The view from Dolphin Avenue and the park to the freeway will be blocked with the recommended soundwall.

Please also see Response to Comment PC-K23-1.

Comment GL4-18

Soundwall heights and lengths are evaluated for acoustic feasibility in accordance with the Caltrans' Traffic Noise Analysis Protocol Federal Title 23, Part 772 of the CFR, titled "Procedures for Abatement of Highway Traffic Noise and Construction Noise" (23 CFR 772). As described in the project Noise Study Report and shown in Appendix N (N1 Existing and Future Noise Levels) of the Draft EIR/EIS, future predicted peak-hour traffic noise levels at the residences close to El Cortez Avenue do not approach or exceed the NAC and would not be impacted. This result is related primarily due to their distance from the freeway travel lanes and the presence of existing property walls; therefore, a soundwall is not proposed for this area.

Please also see Common Response – Noise/Noise Analysis.

Comment GL4-19

If arterial closures are necessary to accommodate construction of overcrossings, traffic would be redirected to alternate routes. When arterial closures are determined necessary, prior to approval of the closure, the contractor will be required to update the TMP and is required to complete any additional studies necessary to evaluate potential effects of the closures during final design. Based on the results of the studies, the contractor will be required to evaluate the locations and feasibility of the proposed long-term closure. Based on the studies, Caltrans/OCTA will require the contractor to update the TMP, including incorporating and implementing recommended additional avoidance and minimization measures, as a condition of approval.

Emergency access within and around the project area will be analyzed as part of the Traffic Handling Contingency Plan that will be developed during final design and coordinated with emergency service providers and affected cities. Traffic handling contingency strategies will be identified in the Traffic Handling Contingency Plan and will be employed in the event of work zone incidents and/or unforeseen construction related delays (e.g., late lane closure pickups) that could affect emergency vehicle access and/or response times within the project area.

Comment GL4-20

The requested detailed design for Brookhurst Street/Talbert Avenue and Talbert Avenue/Mt. Coulter will not be available until the next phase of the project. The design for these locations, based on preliminary engineering, is provided in Draft EIR/EIS Appendix P: P1 (Alternative 1) L-5, P2 (Alternative 2) L-5, and P3 (Alternative 3) L-5.

The eastbound fourth lane, east of Brookhurst Street, would perform similar to existing conditions where access to both southbound I-405 and the shopping center will be maintained. Lane Number 3 would have the option to enter I-405 or to continue eastbound on Brookhurst Street. There are no proposed ROW acquisitions west of the Talbert Avenue/Brookhurst Street intersection, including the intersection of Talbert Avenue/Mt. Coulter.

Comment GL4-21

The proposed design for the intersection of Slater Avenue/Brookhurst Street is provided in Draft EIR/EIS Appendix P: P1 (Alternative 1) L-6, P2 (Alternative 2) L-6, and P3 (Alternative 3) L-6.

The proposed increased queue storage is required to ensure that the intersection operates at an acceptable LOS. The proposed improvements would impact a portion of the landscaped median; however, the proposed improvements are not anticipated to have any detrimental effect on access to private property. Typically, project impacts to city streets are handled through a cooperative

agreement. OCTA will execute a cooperative agreement with each affected city prior to beginning construction.

Comment GL4-22

The proposed design for the dual left northbound and three through lanes southbound at the Warner Avenue/Magnolia Street intersection is provided in Draft EIR/EIS Appendix P: P1 (Alternative 1) L-9, P2 (Alternative 2) L-9, and P3 (Alternative 3) L-9.

The dual left northbound and three through lanes southbound at the Warner Avenue/Magnolia Street intersection utilize an existing striped-out channelization area to create the northbound dual left-turn lanes and by converting the existing southbound right-turn lane to a shared through-right. These improvements can all be accommodated within the existing ROW.

Comment GL4-23

Lane widths and sidewalks along local street arterials within State ROW are required to meet Caltrans design standards (5-ft sidewalks and 12-ft lanes). From the shared boundary between the State and City ROW, the lanes and sidewalks would transition to the existing city street condition.

Comment GL4-24

The project will continue to coordinate with cities regarding future improvements. Typically, the project will accommodate City improvements through the end of construction as applicable. The City improvement at Brookhurst Street will be incorporated into the final design plans as the existing condition.

Comment GL4-25

Utility relocations are considered routine and are not anticipated to result in any long-term or permanent disruptions in service as a result of protection, relocation, or replacement. It is mutually beneficial to Caltrans/OCTA and the utility owner to ensure proper coordination and planning is completed, as required by Measure UT-1 described in Section 3.1.5.3 of the Draft EIR/EIS, to minimize planned and unplanned service disruption.

Comment GL4-26

The coordination and cost of protection or relocation of the utilities identified in Appendix K of the Draft EIR/EIS is typically the responsibility of the project; however, at this preliminary project stage, it is not feasible to say that under no circumstance would the City have to pay for relocation (e.g., City-requested betterments or existing utility agreements that would supersede the typical project obligations). The Utility Conflict Matrix will be updated, as applicable, during final design.

Comment GL4-27

OCTA/Caltrans are interested in obtaining local jurisdiction input for consideration as part of the development of the I-405 Aesthetic and Landscape Master Plan. The plan will be developed as part of the final design process. Where feasible, local agencies will be invited to participate/ comment on aesthetic features/landscaping within their jurisdiction.

Comment GL4-28

Best management practice (BMP) elements are typically basins or ditch/swales that would be difficult to incorporate into a visual theme; however, Caltrans/OCTA have placed requirements to ensure that they do not detract from the visual aesthetics of the corridor. Caltrans/OCTA has identified nine measures, VIS-8 through VIS-16, discussed in Section 3.1.7.4 of the Draft EIR/EIS.

Comment GL4-29

A Floodplain Evaluation Report, Location Hydraulic Study, and Preliminary Drainage Report were prepared for the project and are available for review on the Caltrans District 12 Web site (http://www.dot.ca.gov/dist12/405/index.htm). Flood hazard areas within the project area are discussed in Section 3.2.1.2 of the Draft EIR/EIS. As described in Section 3.2.1.3 of the Draft EIR/EIS, none of the build alternatives would affect hydrology and floodplains within the project area with inclusion of Measures HYD-1 through HYD-8. Consequently, no changes to floodplain designations are anticipated.

Comment GL4-30

Pile and installation method are dependent on site conditions and ultimately the contractor's proposal. A specification will be included in the construction contract requiring the contractor to monitor vibration during construction. The specification will include allowable vibration and require measures to reduce vibration to allowable amounts. In addition, Measure NOI-4, which requires preparation of a Noise and Vibration Monitoring and Mitigation Plan and Measure NOI-5, which includes has been added in Final EIR/EIS Section 3.2.4.7.

Comment GL4-31

Discussions related to redevelopment within the Final EIR/EIS will be revised and/or deleted as applicable due to AB1X26.

Comment GL4-32

This interstate facility operates within the State of California ROW; Caltrans is obligated to fulfill federal and State laws, policies, and procedures; however, contractors will be obligated to follow the noise mitigation measures shown in Section 3.2.7.4, Avoidance, Mitigation, and/or

Minimization Measures, of the environmental document. Variance or approval may be required by Caltrans and/or local jurisdictions for proposed nighttime construction work. The contractor will be responsible for obtaining the necessary variances and permits for the nighttime construction. All work shall conform to the provisions in Section 14-8.02, "Noise Control," of the Standard Specifications and S5-310 “Noise Control” of the Standard Special Provisions. According to requirements of these specifications, construction noise cannot exceed 86 dBA at 50 ft from the jobsite activities from 9:00 p.m. to 6:00 a.m. Any work outside of the State ROW will comply with City noise ordinances. Furthermore, as outlined in Measure NOI-4, the contractor will be obligated to prepare a noise and vibration monitoring and control plan, which will outline construction noise mitigation measures for daytime and nighttime construction activities.

Comment GL4-33

Effects on private property are all considered by the contractor when determining construction methodology. Damage to private property is not anticipated; however, if property damage does occur, there is already a formal process to file damage claims with Caltrans/OCTA.

Comment GL4-34

No revisions were received to date.

Response to Comment Letter GL5

Comment GL5-1

Caltrans and OCTA thank the City of Garden Grove for participating in the environmental process for the I-405 Improvement Project. The City’s comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. The City will be notified when the Final EIR/EIS is available for review.

Response to Comment Letter GL6

Comment GL6-1

Caltrans and OCTA thank the City of Huntington Beach for participating in the environmental process for the I-405 Improvement Project. The City’s comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. The City will be notified when the Final EIR/EIS is available for review.

It is OCTA policy to convert all HOV lanes in Orange County to “continuous ingress and egress.” Under the No Build Alternative, it is assumed that the next time HOV lanes are restriped on I-405, which would occur before 2020, they would be striped for continuous access. If either

Alternative 1 or 2 is identified as the Preferred Alternative, HOV lanes within the project area would be restriped for continuous access during construction. Under Alternative 3, the HOV lane would be managed jointly as part of the tolled Express Lane Facility. The tolled Express Lane Facility would be a controlled-access facility and would not have continuous access.

Comment GL6-2

Thank you for the notification. Growth estimates and traffic analysis in both the Draft and Final EIR/EIS are based on the SCAG 2008 RTP Growth Forecast.

Comment GL6-3

Thank you for your detailed review of the Draft EIR/EIS. The Bella Terra Mall description was updated in the Final EIR/EIS to include Costco and Bella Terra Mixed Use.

Comment GL6-4

A table showing all properties where partial acquisitions are proposed for all of the build alternatives has been included in the Final EIR/EIS in Appendix T. It should be noted that all discussion of ROW is preliminary and subject to change during final design.

Comment GL6-5

A table showing all properties where TCEs are proposed for all of the build alternatives has been included in the Final EIR/EIS in Appendix T. It should be noted that all discussion of ROW is preliminary and subject to change during final design.

Comment GL6-6

Thank you for your detailed review of the Draft EIR/EIS. The requested changes on pages 3.1.4-27 and 3.1.6-103 have been made in the Final EIR/EIS.

Comment GL6-7

Based on the utility research for the project and coordination with the City and utility providers, there are no sewer or water lines along Beach Boulevard within the project footprint. As shown in the utility plans in Draft EIR/EIS Appendix K (K1: U-12 and U-13), the only known utilities in Long Beach Boulevard are electrical lines.

Comment GL6-8

Thank you for your detailed review of the Draft EIR/EIS. The information on page 3.1.5-8 of the Draft EIR/EIS was revised in the Final EIR/EIS to include discussion of the Huntington Beach police substation at Bella Terra.

Comment GL6-9

The proposed improvements will increase the profile at the intersection of Bolsa Avenue/ Goldenwest Street. To minimize ROW impacts to the Mobil gas station, acquisition of 156 square ft is necessary to accommodate a small retaining wall to support the reconstructed sidewalk. The acquisition area would be a sliver of the vegetated area directly adjacent to the sidewalk.

Comment GL6-10

Thank you for your detailed review of the Draft EIR/EIS. Table 3.6-1 of the Draft EIR/EIS was revised in the Final EIR/EIS to include information on the "Boardwalk Mixed Use Project."

Comment GL6-11

Thank you for your detailed review of the Draft EIR/EIS. The information on page 3.1.6-23 of the Draft EIR/EIS was reviewed and shading was adjusted as applicable in the Final EIR/EIS.

Comment GL6-12

The information requested is in the Draft EIR/EIS in Section 3.1.4 on page 3.1.4-27 (see text provided below). Additionally, this is also a requirement as described in avoidance and minimization Measure COM-12.

> "Under all of the build alternatives, the existing pedestrian crossing of I-405 at Heil Avenue would be replaced by the proposed project with a longer pedestrian bridge meeting current ADA [Americans with Disabilities Act] standards. The current pedestrian crossing would remain open for use until the new bridge is constructed."

Comment GL6-13

The build alternatives would require reconstruction of the driveway and acquisition of 135 square ft from property containing the "Extra Space Storage Company." Additionally, the build alternatives would require various TCEs along McFadden Avenue to accommodate the proposed improvements to McFadden Avenue. Layout Sheets for McFadden Avenue are provided in the EIR/EIS in Appendix P (P1, P2, and P3) on sheet L-14. See also Responses to Comments GL6-4 and GL6-5.

Comment GL6-14

The Huntington Beach Fire Department and all other emergency service providers will receive advance notification. Emergency service provider notification is required and is discussed in Measure UT-2 in the Draft EIR/EIS in Section 3.1.5.3 on page 3.1.5-18. In addition, the Final

TMP shall be submitted with the construction plan to local agencies, affected cities, and police and fire departments within the affected cities prior to commencement of construction activities.

Response to Comment Letter GL7

Comment GL7-1

Caltrans and OCTA thank the City of Irvine for participating in the environmental process for the I-405 Improvement Project. The City's comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. The City will be notified when the Final EIR/EIS is available for review.

Additional GP lanes included in Alternatives 1 and 2 would terminate into existing lanes at Brookhurst Street and Euclid Street and would not create a physical bottleneck. Similarly, the GP lane in Alternative 3 would terminate at Euclid Street into an existing lane. The new Express Lane included in Alternative 3 would terminate into the Express Lane direct connector to SR-73. Because all of the proposed lanes terminate into continuing lanes, bottlenecks are not anticipated at the south end of the project. OCTA completed a Project Study Report for Project L. Based on the schedule in the Project Study Report, construction on Project L would begin in 2021.

Comment GL7-2

No significant impacts were found to arterials immediately south of the project improvements on Bristol Street at I-405 or on Bear Street at SR-73; therefore, it is not reasonable to expect impacts farther away on such arterials as Main Street, MacArthur Boulevard, or Michelson Avenue in the City of Irvine. The Draft EIR/EIS is required to evaluate locations where potential impacts can be expected, and no additional analysis of potential impacts south of the project will be conducted.

Response to Comment Letter GL8

Comment GL8-1

Caltrans and OCTA thank the City of La Palma for participating in the environmental process for the I-405 Improvement Project. The City's comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. The City will be notified when the Final EIR/EIS is available for review.

Response to Comment Letter GL9

Comment GL9-1

Caltrans and OCTA thank the City of Los Alamitos for participating in the environmental process for the I-405 Improvement Project. The City's comments were considered during

identification of the Preferred Alternative as described in the Final EIR/EIS. The City will be notified when the Final EIR/EIS is available for review.

With respect to a potential traffic bottleneck near the Los Angeles county line, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

There has been extensive coordination regarding the project with local and regional agencies. Please see Common Response – Coordination between Caltrans Districts 7 and 12, OCTA, Los Angeles Metro, COG, and the City of Long Beach. The location of the proposed improvements to the I-405 corridor are consistent with the location of improvements contained in the SCAG FTIP and RTP, as noted in the Draft EIR/EIS on page 1-1. Extensive coordination during development of the proposed project is documented in the Draft EIR/EIS in Chapter 5, Comments and Coordination.

Analysis of the Katella Avenue/Interstate 605 (I-605) interchange is included in the Draft EIR/EIS throughout Section 3. The interchange is shown in Figure 3.1.6-1, Traffic Study Area. The interchange is described on page 3.1.6-20, and analysis results are presented in Tables 3.1.6-1, 3.1.6-10, and 3.1.6-16. No significant impacts to traffic were identified.

A Supplemental Traffic Study has been prepared and a Supplemental Draft EIR/EIS prepared and circulated covering potential traffic impacts in Los Angeles County, including along I-405 in Long Beach. The analysis and measures presented in the Supplemental Draft EIR/EIS are included in Section 3.1.6 of the Final EIR/EIS.

Caltrans acknowledges your support of Alternative 1 and opposition to Alternatives 2 and 3. With respect to the Almond Avenue soundwall, please see Common Response – Almond Avenue Soundwall.

Comment GL9-2

The Draft EIR/EIS, including specialized technical studies, represents a comprehensive analysis of the potential environmental effects of the proposed build alternatives on the environment. Analysis of impacts discussed in the Draft EIR/EIS or as revised/updated for the Final EIR/EIS meets the requirements of NEPA and CEQA and follows established protocols; a Supplemental Draft EIR/EIS has been recirculated. With respect to legal sufficiency, please see Response to Comment GL1-1.

Response to Comment Letter GL10

Comment GL10-1

Caltrans and OCTA thank the Los Alamitos Unified School District for participating in the environmental process for the I-405 Improvement Project. The District's comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. The District will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. These alternatives would likely include parking restrictions along Almond Avenue, which would minimize impacts to bus turning radius. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Response to Comment Letter GL11

Comment GL11-1

Caltrans and OCTA thank the City of Long Beach for participating in the environmental process for the I-405 Improvement Project. The City's comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. The City will be notified at the address provided in your comments when the Final EIR/EIS is available for review.

As requested, meetings were held among the referenced parties and are among those described in Common Response – Coordination between Caltrans Districts 7 and 12, OCTA, Los Angeles Metro, COG, and the City of Long Beach. Caltrans granted the requested extension of the public comment period. The comment period was extended 15 days to July 17.

Response to Comment Letter GL12

Comment GL12-1

Caltrans and OCTA thank the City of Long Beach for participating in the environmental process for the I-405 Improvement Project. The City's comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. The City will be notified at the address provided in your comments when the Final EIR/EIS is available for review.

A Supplemental Traffic Study has been prepared covering potentially affected portions of Long Beach and Los Angeles County. The Supplemental Traffic Study includes the locations identified in the letter received from the City of Long Beach dated October 22, 2009. A Supplemental Draft EIR/EIS was prepared and circulated covering potential traffic impacts in the

locations in Los Angeles County and Long Beach. The analysis and measures presented in the Supplemental Draft EIR/EIS are included in Section 3.1.6 of the Final EIR/EIS.

Comment GL12-2

Please see Response to Comment GL12-1.

Comment GL12-3

Please see Response to Comment GL12-1.

Comment GL12-4

The COG recently adopted the *SR-91/I-605/I-405 Congestion Hot Spots* study, which includes conceptual alternatives for improvements to I-405 and I-605 in Los Angeles County. Please see Common Response – Coordination between Caltrans Districts 7 and 12, OCTA, Los Angeles Metro, COG, and the City of Long Beach.

Comment GL12-5

The comments of the City of Long Beach consultant are addressed as Comments GL12-6 through GL12-38.

Comment GL12-6

A conceptual TMP was developed for the project. At this stage in project development, a more-detailed TMP is not required and would be subject to substantial change during development of final design. During final design, municipalities will be involved in development of a final TMP with more specific information such as that referred to in the comment. The Final EIR/EIS shows that no ramps at Seal Beach Boulevard are anticipated for long-term closure (i.e., 10 or more days). No detour routes are currently anticipated in Long Beach.

Please see Response to Comment GL12-1.

Comment GL12-7

For information related to the potential bottlenecks at the county line, see Common Response – Traffic Flow at the Orange County/Los Angeles County Line. Information related to the design transitions at the northern termination of the project alternatives and how the proposed additional lanes would “integrate thru the interchange” at I-605 is shown for each of the build alternatives in Appendix P (P1, P2, and P3) of the Draft EIR/EIS on project layout sheets L-29 through L-36.

Comment GL12-8

Thank you for your comment.

Comment GL12-9

A Supplemental Traffic Study has been prepared and a Supplemental Draft EIR/EIS prepared and circulated covering potential traffic impacts in Long Beach. The analysis and measures presented in the Supplemental Draft EIR/EIS are included in Section 3.1.6 of the Final EIR/EIS. The OCTAM model was used for the traffic forecasting.

As explained in the Draft EIR/EIS Traffic Study on page 2.2-3, a single demand forecast was used to identify traffic volumes to be used for operations analysis in the corridor under all alternatives. This represents a worst case within the project limits and enables an identification of the extent to which the proposed alternatives would not satisfy demand in the corridor. However, this approach was not used in the Supplemental Traffic Study, because it would result in no differences among the alternatives; if the approach were used, all of the alternatives would have the same forecast traffic, and all would have the same geometrics because no improvements are proposed in Long Beach. Separate traffic forecasts were prepared for each alternative in the Long Beach study area.

Comment GL12-10

A Supplemental Traffic Study has been prepared and a Supplemental Draft EIR/EIS prepared and circulated covering potential traffic impacts in Long Beach, including those areas referenced in the comment. The analysis and measures presented in the Supplemental Draft EIR/EIS are included in Section 3.1.6 of the Final EIR/EIS.

Comment GL12-11

A Supplemental Traffic Study has been prepared and a Supplemental Draft EIR/EIS prepared and circulated covering potential traffic impacts in Long Beach, including those areas referenced in the comment. The analysis and measures presented in the Supplemental Draft EIR/EIS are included in Section 3.1.6 of the Final EIR/EIS.

Comment GL12-12

A Supplemental Traffic Study has been prepared and a Supplemental Draft EIR/EIS prepared and circulated covering potential traffic impacts in Long Beach, including those areas referenced in the comment. The analysis and measures presented in the Supplemental Draft EIR/EIS are included in Section 3.1.6 of the Final EIR/EIS.

Comment GL12-13

Please see Response to Comment GL12-6.

Comment GL12-14

A Supplemental Traffic Study has been prepared and a Supplemental Draft EIR/EIS prepared and circulated covering potential traffic impacts in Long Beach, including those areas referenced in the comment. The analysis and measures presented in the Supplemental Draft EIR/EIS are included in Section 3.1.6 of the Final EIR/EIS.

Comment GL12-15

A Supplemental Traffic Study has been prepared and a Supplemental Draft EIR/EIS prepared and circulated covering potential traffic impacts in Long Beach, including those areas referenced in the comment. The analysis and measures presented in the Supplemental Draft EIR/EIS are included in Section 3.1.6 of the Final EIR/EIS.

Comment GL12-16

The deficiencies along I-405 do not end at I-605. The logical termini requirement does not require that all transportation deficiencies along the 73 miles of I-405 be addressed in a single project, but only that there is some logical basis for the termini identified for the proposed project. The explanation that the termini are logical is provided on page 1-23 of the Draft EIR/EIS. A Supplemental Traffic Study has been prepared and a Supplemental Draft EIR/EIS prepared and circulated covering potential traffic impacts in Long Beach. The analysis and measures presented in the Supplemental Draft EIR/EIS are included in Section 3.1.6 of the Final EIR/EIS.

Comment GL12-17

A Supplemental Traffic Study has been prepared and a Supplemental Draft EIR/EIS prepared and circulated covering potential traffic impacts in Long Beach, including those areas referenced in the comment. The analysis and measures presented in the Supplemental Draft EIR/EIS are included in Section 3.1.6 of the Final EIR/EIS. Please see Response to Comment GL12-28.

Comment GL12-18

A Supplemental Traffic Study has been prepared and a Supplemental Draft EIR/EIS prepared and circulated covering potential traffic impacts in Long Beach, including those areas referenced in the comment. The analysis and measures presented in the Supplemental Draft EIR/EIS are included in Section 3.1.6 of the Final EIR/EIS.

Comment GL12-19

A Supplemental Traffic Study has been prepared and a Supplemental Draft EIR/EIS prepared and circulated covering potential traffic impacts in Long Beach, including those areas referenced

in the comment. The analysis and measures presented in the Supplemental Draft EIR/EIS are included in Section 3.1.6 of the Final EIR/EIS.

Comment GL12-20

The average annual daily traffic (AADT) provided in the Caltrans Count Book provided in the comment are not actual measure field counts but calculated data based on a limited number of actual field counts at Census Control Stations. Daily traffic volumes presented in the Draft EIR/EIS are reasonable estimates of daily traffic volumes based on the data available at the time the Draft EIR/EIS Traffic Study was developed, which did not include the 2009 Count Book. Deviations of 0.77 to 1.55 percent are not significant.

Comment GL12-21

A Supplemental Traffic Study has been prepared and a Supplemental Draft EIR/EIS prepared and circulated covering potential traffic impacts in Long Beach, including those areas referenced in the comment. The analysis and measures presented in the Supplemental Draft EIR/EIS are included in Section 3.1.6 of the Final EIR/EIS. Population and employment projections and growth trends for Long Beach have been included in Tables 1-7 and 1-8 of the Final EIR/EIS .

Comment GL12-22

The design transitions at the northern termination of the project alternatives and how the proposed additional lanes would “integrate thru the interchange” at I-605 are shown for each of the build alternatives in Appendix P (P1, P2, and P3) of the Draft EIR/EIS on project layout sheets L-29 through L-36. A Supplemental Traffic Study has been prepared and a Supplemental Draft EIR/EIS prepared and circulated covering potential traffic impacts in Long Beach, including those areas referenced in the comment. The analysis and measures presented in the Supplemental Draft EIR/EIS are included in Section 3.1.6 of the Final EIR/EIS.

Comment GL12-23

Please see Response to Comment GL12-16 regarding logical termini. A Supplemental Traffic Study has been prepared and a Supplemental Draft EIR/EIS prepared and circulated covering potential traffic impacts in Long Beach, including those areas referenced in the comment. The analysis and measures presented in the Supplemental Draft EIR/EIS are included in Section 3.1.6 of the Final EIR/EIS. Regarding a potential chokepoint, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Comment GL12-24

Please see Response to Comment GL12-22.

Comment GL12-25

OCTA and Caltrans will work with SCAG to ensure the project descriptions in the RTP and FTIP are consistent with the Preferred Alternative. Please see Response to Comment GL1-1.

Comment GL12-26

Please see Response to Comment GL1-1.

Comment GL12-27

The Final EIR/EIS shows that no ramps at Seal Beach Boulevard are anticipated for long-term closure (i.e., 10 or more days). Please see Response to Comment GL12-6.

Comment GL12-28

A Supplemental Traffic Study has been prepared and a Supplemental Draft EIR/EIS prepared and circulated covering potential traffic impacts in Long Beach, including those areas referenced in the comment. The analysis and measures presented in the Supplemental Draft EIR/EIS are included in Section 3.1.6 of the Final EIR/EIS.

Traffic is expected to shift from the arterial system onto I-405 due to the added capacity provided under the build alternatives. This expectation is based on a qualitative assessment of diversion from the freeway under existing and no-build conditions due to the levels of congestion on I-405.

Comment GL12-29

A Supplemental Traffic Study has been prepared and a Supplemental Draft EIR/EIS prepared and circulated covering potential traffic impacts in Long Beach, including those areas referenced in the comment. The analysis and measures presented in the Supplemental Draft EIR/EIS are included in Section 3.1.6 of the Final EIR/EIS.

Comment GL12-30

Please see Response to Comment GL12-22.

Comment GL12-31

Please see Response to Comment GL12-20.

Comment GL12-32

A Supplemental Traffic Study has been prepared and a Supplemental Draft EIR/EIS prepared and circulated covering potential traffic impacts in Long Beach, including those areas referenced in the comment. The analysis and measures presented in the Supplemental Draft EIR/EIS are included in Section 3.1.6 of the Final EIR/EIS. Regarding a potential chokepoint, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Comment GL12-33

The Final EIR/EIS incorporates information regarding model assumptions used to forecast traffic in the corridor. The single demand used for the project was based on OCTAM output for Alternative 2, the alternative modeled with the highest volumes; therefore, it represents a worst case for identification of environmental impacts. Where there are limited parallel alternative routes, as in the case of I-405 in western Orange County, a single demand forecast is an acceptable approach for evaluating future conditions. Model reassignment for each alternative does not accurately reflect demand for the I-405 corridor, but it artificially diverts that demand to other routes because of freeway delay.

The No Build Alternative OCTAM output volumes were used as the basis for determination of traffic impacts outside the area of project improvements. For example, on arterial streets in the vicinity of the project, the single demand forecast volumes were compared to the No Build Alternative volumes to determine potential project impacts.

All reasonably foreseeable transportation projects were included in the forecast modeling for the project. Page 3.6-11 of the Draft EIR/EIS indicates that all projects with committed funding in the 2008 RTP, as well as those with environmental clearance, were included in the project's traffic analysis.

The 2020 forecasts account for conditions by adjusting volume growth from 2009 to 2040 based on population and employment growth in the corridor, as explained in the Traffic Study on page 2.2-4.

A Supplemental Traffic Study has been prepared and a Supplemental Draft EIR/EIS prepared and circulated covering potential traffic impacts in Long Beach, including those areas referenced in the comment. The analysis and measures presented in the Supplemental Draft EIR/EIS are included in Section 3.1.6 of the Final EIR/EIS.

Comment GL12-34

As noted in Response to Comment GL12-33, the Final EIR/EIS provides additional information regarding model assumptions used to forecast traffic in the corridor. Additional explanation of the assignment of peak-hour volumes to the Express Lanes is included in that additional information. The tolled Express Lanes are not anticipated to change travel demand but change the way that demand is served. Allocation of traffic between the GP and Express Lanes is included in the additional information provided in the Final EIR/EIS that is noted in Response to Comment GL12-33.

The Draft EIR/EIS information presented regarding Alternative 3 assumes that the Express Lanes are not continued into Los Angeles County. Table 3.1.6-17 shows the Alternative 3 Express Lane transition area on I-405 at the northern terminus of the Express Lanes, and it is labeled "I-405 – I-605 to San Gabriel."

Currently, there are no projects programmed for I-405 within or immediately north of the project area of the I-405 Improvement Project in Orange County, including Express Lanes. If Alternative 3 becomes the Preferred Alternative and if Express Lanes are implemented at some time thereafter in Los Angeles County, cooperation would be required and would be addressed at the time that such a project in Los Angeles County actually advances through the project development process. A traffic analysis of any future proposal to extend Express Lanes into Los Angeles County would be required during the project development process for the extension and would evaluate traffic with and without such an extension, provided that Alternative 3 becomes the Preferred Alternative for the I-405 Improvement Project in Orange County.

A Supplemental Traffic Study has been prepared and a Supplemental Draft EIR/EIS prepared and circulated covering potential traffic impacts in Long Beach, including those areas referenced in the comment. The analysis and measures presented in the Supplemental Draft EIR/EIS are included in Section 3.1.6 of the Final EIR/EIS.

Comment GL12-35

A Supplemental Traffic Study has been prepared and a Supplemental Draft EIR/EIS prepared and circulated covering potential traffic impacts of each alternative in Long Beach. The analysis and measures presented in the Supplemental Draft EIR/EIS are included in Section 3.1.6 of the Final EIR/EIS.

Comment GL12-36

Table 3.1.6-17 shows the Alternative 3 Express Lane transition area on the I-405 at the northern terminus of the Express Lanes, and it is labeled "I-405 – I-605 to San Gabriel." The transition area on I-605 is shown in the table and is labeled "I-605 – Express/HOV Transition to Katella Avenue." A Supplemental Traffic Study has been prepared and a Supplemental Draft EIR/EIS prepared and circulated covering potential traffic impacts in Long Beach, including those areas referenced in the comment. The analysis and measures presented in the Supplemental Draft EIR/EIS are included in Section 3.1.6 of the Final EIR/EIS.

Comment GL12-37

Please see Response to Comment GL12-6.

Comment GL12-38

The cumulative analysis was updated in the Final EIR/EIS to include Long Beach. Please also see Responses to Comments GL12-21 and GL12-33.

Response to Comment Letter GL13

Comment GL13-1

Caltrans and OCTA thank the Rossmoor Community Services District for participating in the environmental process for the I-405 Improvement Project. The District's comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. The District will be notified at the address provided in your comments when the Final EIR/EIS is available for review.

Please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Comment GL13-2

As stated in Chapter 11 of the Caltrans SER, diesel exhaust is an important issue on facilities with large volumes of truck traffic. It is known that exposure to diesel exhaust over time can have effects on health. Criteria and quantitative methods for assessing diesel impacts are not yet developed at the regulatory level; however, it is important to document any sensitive land uses in the vicinity of the project. These include schools, medical centers, and similar health-care facilities, child-care facilities, parks, and playgrounds located 500 ft from the edge of the nearest traveled lane. Figures 3.2.6-3 through 3.2.6-5 show sensitive receptors within 500 ft of the ROW. No Rossmoor schools, including Hopkinson Elementary School, are located within 500 ft of the ROW. Please also see Responses to Comments RG4-5 and RG4-6 and Common Responses – Air Quality and Health Risks.

Comment GL13-3

The highest traffic noise level from a freeway occurs when traffic is at full capacity but flowing at the posted speed. Noise levels are reduced substantially when traffic is at stop-and-go conditions. Future traffic noise levels are predicted for the free-flowing conditions, and soundwalls are recommended to provide noise abatement for the highest possible traffic noise that can be produced by I-405.

Comment GL13-4

The May 2012 Draft EIR/EIS, including specialized technical studies, represents a comprehensive analysis of the potential environmental effects of the proposed build alternatives on the environment. Analysis of impacts discussed in the Draft EIR/EIS or as revised/updated for

the Final EIR/EIS meets the requirements of NEPA and CEQA and follows established protocols.

Response to Comment Letter GL14

Comment GL14-1

Caltrans and OCTA thank the City of Seal Beach for participating in the environmental process for the I-405 Improvement Project. The City's comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. The City will be notified when the Final EIR/EIS is available for review.

The letter from Mayor Levitt transmitting the "Third-Party Review Technical Comments" prepared by Peter Lewandowski summarizes the points made by Mr. Lewandowski. Consequently, separate responses to the points raised in the Mayor's letter have not been provided.

There is no plan to convert the southern California highway system into toll ways. A transponder would be required to use the Express Lanes proposed in Alternative 3. The ownership and proposed operation of the Express Lanes in Alternative 3 would be public.

Excess toll revenues (i.e., net revenues after all operating, capital, debt service, and other expenditures) from the Express Lanes in Alternative 3 would be available for OCTA to expend on transportation improvements in the I-405 corridor consistent with the provisions of the California Streets and Highways Code Section 143 (j)(1). If Alternative 3 is identified as the Preferred Alternative, the OCTA Board would adopt a policy regarding the use of net revenues, which would be listed on the OCTA Web site at www.octa.net. Design-build delivery is an accepted method for delivering large projects in a shorter period of time than design-bid-build. Delivery of the project in and of itself does not change the potential environmental impacts of the project and is not a subject of the Draft EIR/EIS.

Comment GL14-2

It is the purpose of the project, as identified in Section 1.2.1, Purpose of the Project, of the Draft EIR/EIS to address reduced congestion in the I-405 corridor from SR-73 to I-605, which is the project defined in Section 1.2.2, Need for the Project, of the Draft EIR/EIS.

The proposed action is limited to the I-405 corridor. Based on Table 3.1.6-6 of the Draft EIR/EIS, peak-hour speeds are improved compared to the No Build Alternative under all of the build alternatives.

Comment GL14-3

OCTA is not a responsible agency pursuant to CEQA. Cooperating and responsible agencies pursuant to NEPA and CEQA are shown on the cover page for the EIR/EIS.

Comment GL14-4

Caltrans is the Lead Agency for both CEQA and NEPA. Caltrans has carried out its responsibilities and concurs with the analysis and conclusions presented in all of the project environmental technical studies (see Appendix F), the Draft EIR/EIS and this Final EIR/EIS, and the Project Report (preliminary engineering). OCTA is funding the Consultant Contract to prepare the described documentation, and OCTA is a PDT participant and project sponsor. The referenced comment from their independent review resulted in the content of the documents as released to the public consistent with the Caltrans oversight program. See also Common Response – Insufficient Environmental Document/Mitigation Measures.

Comment GL14-5

PDT meetings are attended by Caltrans and the project sponsor, OCTA, for internal project planning purposes. Interested stakeholders were consulted in various ways during the process, including the requirement under Section 6002 that includes Participating Agencies and the Cooperating Agency. There is no requirement to invite or notice the public for PDT meetings. See also Common Response – Preferred Alternative Identification.

Comment GL14-6

With respect to the identification of the alternative to be implemented, please see Common Response – Preferred Alternative Identification.

Comment GL14-7

Caltrans, the Lead Agency on the project, posted the Draft EIR/EIS for public review as they do for all projects. This allows easy 24/7 access to the public. The format for submittal of comments by the sponsoring agency is consistent with Caltrans' role. Caltrans received and reviewed all of the comments submitted.

Comment GL14-8

Alternative 1 would avoid the Almond Avenue soundwall, and Alternatives 2 and 3 would require relocation of the wall up to 10 and 3 ft to the north, respectively. Alternatives 2 and 3 would also likely include parking restrictions along Almond Avenue to maintain the City street standards for two-way travel and would not require revision of the Seal Beach general plan. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under

Alternatives 2 and 3. Please see Common Responses – Preferred Alternative Identification and Almond Avenue Soundwall.

Comment GL14-9

The City of Seal Beach was invited to be a participating agency on June 30, 2009, pursuant to SAFETEA-LU Section 6002. The City did not reply to the invitation; however, as discussed on page 5-7 of the Draft EIR/EIS, at the time of the August 2011 Summary of Methodology/Impacts Table, the City, along with four other cities, requested to become a 6002 participating agency. All five of the cities were added and were considered as participating agencies in August 201l. Changes to the project have been made to the build alternatives to address the City's concerns, including the Preferred Alternative avoiding the Almond Avenue soundwall and additional study of traffic at the county line and into the County of Los Angeles.

Please see Common Responses – Preferred Alternative Identification, Almond Avenue Soundwall, and Traffic Flow at the Orange County/Los Angeles County Line.

Comment GL14-10

Please see Response to Comment GL14-9.

Comment GL14-11

The Traffic Study and the Draft EIR/EIS examine the potential for impacts to streets and highways in Seal Beach. The Draft EIR/EIS includes improvements along Seal Beach Boulevard within Seal Beach to avoid potential impacts to Seal Beach Boulevard as a result of the project.

Comment GL14-12

The public participation process for both CEQA and NEPA for the I-405 Improvement Project have exceeded all minimum legal requirements. The public outreach process, from Notice of Intent (NOI)/NOP through publication of the Final EIR/EIS, is described in Chapter 5.

Comment GL14-13

All portions of College Park West within the study area for the affected resource or RSAs for cumulative project effects were included within the project analysis. Analysis for College Park West is consistent with the level of detail for all other affected areas along the project corridor.

Comment GL14-14

Typical Viewpoint No. 57, shown in the Draft EIR/EIS in Figure 3.1.7-8, is a view of the existing Almond Avenue soundwall. Simulations showing pre- and post-construction were only completed for Key Viewpoints, as discussed on page 3.1.7-24. Consistent with FHWA analysis methodology, analysis of every viewpoint is not required.

Comment GL14-15

Please see Response to Comment GL14-14 and Common Response – Almond Avenue Soundwall.

Comment GL14-16

Please see Response to Comment GL14-14 and Common Response – Almond Avenue Soundwall.

Comment GL14-17

Please see Response to Comment GL14-14 and Common Response – Almond Avenue Soundwall.

Comment GL14-18

No on-street parking in cul-de-sacs off of Almond Avenue is affected by the project. Please also see Response to Comment GL14-8 and Common Response – Almond Avenue Soundwall.

Comment GL14-19

The preliminary parking impact analysis did not include any on-street parking, as disclosed in the Draft EIR/EIS on the last line of Table 3.1.4-7. Please also see Response to Comment GL14-8 and Common Response – Almond Avenue Soundwall.

Comment GL14-20

There is currently no pedestrian sidewalk along the south side of Almond Avenue due to the absence of land uses requiring pedestrian access (i.e., adjacent to soundwall and I-405). This would also be the future condition under all of the build alternatives, and no sidewalk on the south side of Almond Avenue is proposed.

Comment GL14-21

Please see Response to Comment GL14-14.

Comment GL14-22

The referenced gas lines in the comment on page 2-4 are the same high-pressure gas lines described in Section 3.1.5 of the Draft EIR/EIS.

Please see Common Response – Relocation of Gas Lines.

Comment GL14-23

Please see Response to Comment GL14-22.

Comment GL14-24

No permanent impacts on resident and nonresident safety as a result of the proposed project improvements were identified for College Park West in the Draft EIR/EIS, Chapters 3 and 4. This information is consistent with the analysis completed for land uses adjacent to the project.

Temporary impacts anticipated during construction are included in the draft TMP. The project will also be addressed in the Final TMP to be prepared during the final design phase. Construction staging areas have been identified as likely occurring within the interchanges areas, as well as construction access. The specific areas will be finalized in the construction phase. The TMP will identify and require minimization of adverse effects on traffic and circulation, pedestrians, and bicyclists by applying a variety of techniques, including public information, motorist information, incident management, construction strategies, demand management, and alternate route strategies.

Comment GL14-25

No permanent impacts on resident and nonresident safety as a result of the proposed project improvements were identified in the Draft EIR/EIS, Chapters 3 and 4.

Temporary impacts during construction will be addressed in the Final TMP to be prepared during the final design phase, which will be based on final design. The TMP will identify and require minimization of adverse effects on traffic and circulation, pedestrians, and bicyclists by applying a variety of techniques, including public information, motorist information, incident management, construction strategies, demand management, and alternate route strategies.

Comment GL14-26

All applicable general plan goals, zoning designations, and agency plans applicable to the project corridor were included in the consistency analysis with adopted local and regional plans and are included in Section 3.1.1 of the Final EIR/EIS.

Comment GL14-27

With the exception of local improvements, most of the project will be constructed within existing and proposed Caltrans ROW; therefore, there is no need to submit a TDM to the City of Seal Beach. Neither the proposed local nor mainline improvements would affect the City's ability to implement TDM strategies within the city. There is very limited ROW acquisition proposed under the build alternatives in Seal Beach. The proposed local street and mainline freeway improvements would have minimal or no impact on the balance between the City's land uses and transportation facilities and services.

Comment GL14-28

Many alternatives were evaluated within the I-405 MIS (see Section 2.2.7). Based on the results of the I-405 MIS, environmental and financial constraints and project purpose and need, the EIR/EIS has analyzed a reasonable range of alternatives consistent with State and federal environmental regulations. One of the main objectives of this project is to minimize ROW necessary for any of the projects being considered. To that end, although some small partial acquisition of land could be required along the Caltrans ROW, there are no full residential takes along the entire length of the project, including Seal Beach. Additionally, no businesses have been identified to be impacted in Seal Beach.

Comment GL14-29

Forecasted increased traffic volumes and increased congestion on the mainline will result in additional cut-through traffic and increased congestion on local arterials. Increased congestion on local arterials could result in increased emergency response times on the affected local system.

The additional lanes and improved performance on I-405 under the build alternatives compared to the No Build Alternative will encourage traffic currently diverting from the congested freeway to local streets to remain on I-405. This is anticipated to reduce congestion on local streets and effectuate better traffic circulation, as well as emergency response times.

Comment GL14-30

The I-405 Improvement Project's purpose and need is to reduce congestion, enhance operations, increase mobility, improve trip reliability, maximize throughput, and optimize operations while minimizing environmental impacts and ROW acquisition. It is not the objective of the project to decrease VMT. The project's objective is to reduce congestion on an existing oversubscribed roadway.

The increase in VMT for the build alternatives shown in Table 3.1.6-3 of the Draft EIR/EIS is a result of a combination of factors, including redevelopment and infill development within the corridor, new development outside the corridor, increasing VMT per person, and reduction in diversion away from I-405 due to increased capacity of the alternatives compared to the no-build condition. Additional traffic is expected to shift from the arterial system onto I-405 during other off-peak hours of the day due to the reduced congestion resulting from the combination of the lower demand during off-peak hours and the added capacity provided under the build alternatives.

A variety of transit and HOV options were considered and are identified in Section 2.2.7, Alternatives Considered but Eliminated from Further Consideration, of the Draft EIR/EIS. Please see Common Response – Elimination of LRT and BRT Alternatives.

Comment GL14-31

It is within the lead agency's authority to make conclusions with respect to consistency of the project with local and state plans and programs.

Comment GL14-32

Improvements that are on the mainline and do not require any ROW acquisition do not require any jurisdiction changes because all of the improvements would occur within the Caltrans ROW; however, each city determines whether their jurisdiction requires any changes to their General Plan. Any general plan amendment would only be required to account for changes in land use associated with ROW acquisition within Seal Beach. The change in land use from city zoned to transportation would occur through changes associated with the land acquisition.

Comment GL14-33

Please see Response to Comment GL14-14 and Common Response – Almond Avenue Soundwall.

Comment GL14-34

No pedestrian facilities are proposed on the south side of Almond Avenue (see Response to Comment GL14-20). Under Alternative 1 or 3 (with the design option that avoids relocation), the existing condition would remain. Under Alternative 2 or 3 (without the design option that avoids relocation), landscape/vine on the soundwall and irrigation system will be replaced in-kind, to the extent feasible. Caltrans is responsible for maintenance activities within the State ROW.

Comment GL14-35

The conflict area is where relocation of the soundwall also requires relocation of the utilities. As shown in Draft EIR/EIS, Appendix K (Sheets U-22 and U-24 through U-26), the overhead lines are the only utilities within the utility easement. Under Alternative 1 or 3 (with the design option that avoids relocation), relocation of the overhead lines along Almond Avenue would not be required. Under Alternative 2 or 3 (without the design option that avoids relocation), the overhead utility lines would likely be relocated to the north side of Almond Avenue. Current policy on relocation of overhead utilities is to only pay for relocation in-kind. The coordination and cost of protection or relocation of the utilities affected by the project is typically the responsibility of the project; however, at this preliminary project stage, it is not feasible to say that under no circumstance would the City have to pay for relocation (e.g., City-requested

betterments, such as undergrounding overhead lines, or existing utility agreements that would supersede the typical project obligations). Please see Common Response – Relocating Utilities Underground.

Comment GL14-36

In an effort to limit ROW impacts on the south side of I-405 in Seal Beach, NAVWPNSTA Seal Beach was consulted on the feasibility of obtaining additional ROW. The Navy indicated that substantial impacts to the mission of the base would result from encroachment into the base. The Navy is amenable to allowing the high-pressure gas line remain on their property, avoiding the need to relocate it to another location. Caltrans respects the opinion of the Navy on their mission needs as it relates to their ability to provide additional ROW for the roadway. See Common Response – Relocation of Gas Lines.

Comment GL14-37

Caltrans does not monitor, nor is it required to maintain, records of type, quantity, or frequency of legal loads (i.e., normal transport and does not require specialized permit), which is most of what is referenced in the comment. DTSC keeps records of hazardous waste manifests. There are many instances along California highways of releases of hazardous substances within State ROW. As discussed in Section 3.2.5, a spill of 220 gallons of diesel fuel that occurred during a traffic accident in 1987 at northbound I-405, south of I-605, is listed in the ERNS database. There are no records of injuries or fatalities or site cleanup available. The exact location of the spill was also not available, and it should be assumed that the soil in the area of release is impacted by total petroleum hydrocarbons (TPH). As discussed on pages 3.1.5-15 through 3.1.5-17 of Section 3.1.5.2, Environmental Consequences, of the Draft EIR/EIS, three options were evaluated for relocation of the gas lines in the Caltrans ROW just north of the NAVWPNSTA Seal Beach. The option (Option 1) that retains the gas/petroleum lines on the south side of I-405 within Navy jurisdiction is the preferred option and will be pursued. Please see Common Response – Relocation of Gas Lines.

Comment GL14-38

State ROW is a common location for illegal dumping of hazardous materials and general refuse. As discussed in Section 3.2.5, within the project area, approximately 10 cubic yards of unidentified soil were observed on the southeast side of the Newland Street undercrossing, and two 30-gallon open trash bins and two 5-gallon buckets with lids that appeared to be dumped were observed on the I-405 northbound shoulder, just south of the I-605 interchange. Please also see Response to Comment GL14-37.

Comment GL14-39

Only the future No Build Alternative (2020 and 2045) assumes that the existing limited-access HOV lane would be converted to "continuous ingress and egress." It was assumed that the next time HOV lanes are restriped on I-405, which would occur before 2020, they would be striped for continuous access.

Comment GL14-40

No change to the HOV lanes is anticipated under Alternatives 1 and 2 except that continuous access would be provided. Under Alternative 3, HOVs would use the Express Lanes free, provided they meet the occupancy eligibility requirement. Regarding the change in occupancy requirement to three persons per vehicle, please see Common Response – Opposition to Tolling.

Comment GL14-41

Project EA 0J440K is described on page 2-8 of the Draft EIR/EIS, where it is also stated that "This separate project has not yet been programmed or funded; however, the proposed continuous access would be implemented as part of Alternative 1 of the proposed project for the segment of I-405 between Euclid Street and I-605." Similar language is provided with respect to Alternative 2 on page 2-9 of the Draft EIR/EIS.

Access to the Express Lanes in Alternative 3 is described on page 2-11 of the Draft EIR/EIS. Transition areas between each termination point of the Express Lanes and the adjacent facilities are described on page 3.1.6-96 of the Draft EIR/EIS. The transition areas are not tolled.

HOV lanes would have continuous access under Alternatives 1 and 2. Lack of continuous access to the Express Lanes in Alternative 3 was not considered in assessing travel time. Assessments of travel time and speed presented in the Draft EIR/EIS are only for travel of the entire corridor between SR-73 and I-605 and do not include assessments of vehicles entering or exiting the Express Lanes at intermediate access points. Speed, which is a surrogate for travel time, on segments of the corridor by lane type is presented in the Traffic Study (Draft EIR/EIS Appendix L) in Tables 2.4.10, 2.5.10, 2.6.10, and 2.7.10.

Under Project EA 0J440K, continuous access would be provided to the HOV lanes. The longest distance a vehicle would have to travel between an entrance ramp to I-405 and an intermediate access point to the Express Lanes is approximately 5 miles. There are three intermediate access points to the Express Lanes identified in the Draft EIR/EIS on page 3.1.6-98.

Comment GL14-42

Please see Response to Comment GL14-8 and Common Response – Almond Avenue Soundwall.

Comment GL14-43

As shown in Figure 23 in Appendix N (N3, N4, and N5) of the Draft EIR/EIS, a soundwall at the Seal Beach Tennis Center is only recommended under Alternative 3. As discussed in the Draft EIR/EIS on page 3.2.7-26, with consideration of the acoustic benefit and the incremental cost, construction of Soundwall S1162 is reasonable and recommended to be a 12-ft-high masonry wall, as shown in Figure 23 and Table 3 in Appendix N, Section N5. Prior to completion of the Final EIR/EIS, benefited receivers will vote whether they want the wall. If most of the votes are in favor of the wall, then the wall would be constructed at 12 ft as discussed.

Comment GL14-44

Please see Response to Comment GL14-8 and Common Response – Almond Avenue Soundwall.

Comment GL14-45

The population and employment forecasts used for traffic forecasting are approved by SCAG. A comparison of prerecession traffic data (year 2005) to forecast volumes shows annual growth rates of 1.0 to 1.5 percent from 2005 to 2040 and annual rates of 1.1 percent or less from 2020 to 2040. I-405 is forecast to operate over capacity during peak hours, as shown in Draft EIR/EIS Tables 3.1.6-4, 3.1.6-5, 3.1.6-12, and 3.1.6-13; it is anticipated that the over-capacity condition will result in additional traffic during other hours.

Comment GL14-46

Table 3.1.6-2 of the Draft EIR/EIS shows the different average daily traffic (ADT) expected under each alternative in years 2020 and 2040.

Comment GL14-47

Section 3.1.2 of the Draft EIR/EIS covers induced growth. Anticipated growth in the region is reflected in the forecast traffic demand based on the OCTAM use of forecasts to 2035 of population and employment data identified on page 3.1.2-1 of the Draft EIR/EIS. On page 3.1.2-9, the conclusion is stated that "the proposed project would have no substantial potential for stimulating the location, rate, timing, or amount of growth locally or regionally." In short, the proposed project would not add more growth to the already expected growth. In part, this is because communities within the study area are almost entirely built out or contain few large, undeveloped parcels. It is not anticipated that the proposed alternatives would induce substantial traffic.

The increase in VMT for the build alternatives shown in Table 3.1.6-3 of the Draft EIR/EIS is a result of a combination of factors, including redevelopment and infill development within the corridor, new development outside the corridor, increasing VMT per person, and reduction in

diversion away from I-405 due to increased capacity of the alternatives compared to the no-build condition. Additional traffic is expected to shift from the arterial system onto I-405 during other off-peak hours of the day due to the reduced congestion resulting from the combination of the lower demand during off-peak hours and the added capacity provided under the build alternatives.

Comment GL14-48

The Draft EIR/EIS and all of the supporting technical studies were developed based on the RTP approved by SCAG in 2008, which was current at the time of the NOP and NOI. SCAG adopted a revised and updated RTP in April 2012, prior to circulation of the Draft EIR/EIS; however, FHWA had not issued an air quality conformity finding at the time of circulation of the Draft EIR/EIS. Subsequent to circulation of the Draft EIR/EIS, FHWA issued an air quality conformity finding for the 2012 RTP. The 2012 RTP includes a project description of the improvements proposed in the I-405 corridor consistent with Alternative 3. Consideration has been given to the revised population and employment forecasts used in traffic forecasting, and it was concluded that the need for the project was not affected by the difference in forecasts and that potential impacts as disclosed in the Draft EIR/EIS would either be the same or reduced.

Comment GL14-49

An overestimation of population in 2035 for the cities in the commenter's table does not indicate a similar overestimation of traffic, nor would such an overestimation be critical to the need for the proposed project. I-405, in the project area, is currently heavily congested, as shown in Tables 3.1.6-4 and 3.1.6-5. All of the jurisdictions noted in the commenter's table show some population growth, except for Seal Beach. Additionally, the cities north and south of the proposed improvements, Long Beach and Irvine, show growth of 16 and 49 percent, respectively, from 2008 to 2035, reflecting increases of 71,900 people in Long Beach and 100,600 in Irvine. (See Table 18, Proposed 2012-2035 RTP/SCS Growth Forecast, in SCAG's 2012-35 RTP Growth Forecast Appendix.)

While employment in the cities listed in the commenter's table shows a combined decrease of 2035 employment of 8,900 jobs, Long Beach and Irvine show a combined increase of 85,000.

This growth indicates that conditions on I-405 will deteriorate further over time, and the need for the project remains.

Consideration has been given to the revised population and employment forecasts used in traffic forecasting, and it was concluded that the need for the project was not affected by the difference in forecasts and that potential impacts, as disclosed in the Draft EIR/EIS, would either be the same or reduced.

Comment GL14-50

Please see Response to Comment GL14-49.

Comment GL14-51

The commenter's Table 7 is inaccurate in that it ascribes growth in VMT to induced traffic. Traffic is forecast to grow but not due to induced growth. With respect to the sources of growth in VMT and induced growth, please see Response to Comment GL14-47.

The estimated direct/indirect/induced jobs were developed from estimates from FHWA (http://www.fhwa.dot.gov/policy/otps/pubs/impacts/index.htm) based on the creation of 27,500 jobs (i.e., direct, indirect, and induced jobs) for every $1 billion in highway infrastructure investment. It should be noted that the employment impacts of highway infrastructure investment do not remain constant over time. Increases in construction materials prices and wages over time will tend to reduce the number of jobs supported by each $1 billion invested. Other factors, such as changes in worker productivity and consumer's typical rate of savings, will also affect the average number of jobs supported.

Comment GL14-52

The Draft EIR/EIS inherently acknowledges that, while all of the build alternatives are anticipated to reduce congestion in the I-405 corridor, none are expected to eliminate congestion in the corridor; however, the project provides benefits to congestion in the corridor that vary among the build alternatives. The benefits to congestion of the build alternatives are summarized in the Draft EIR/EIS in Tables 3.1.6-4 through 3.1.6-8 and Tables 3.1.6-12 through 3.1.6-14.

Comment GL14-53

The mechanisms for multimodal planning referenced in the comment include the regional planning process managed by SCAG and resulting in the RTP. The 2008 and 2012 RTPs include freeway capacity improvements in the project corridor, which represent the regional multimodal planning consensus for improvements in the corridor. While a goal of LOS D or better is reasonable, achieving that goal must be balanced against the environmental impacts of achieving it. On balance, the planning and environmental processes concluded that the goal of achieving LOS D was not the preferred solution for this corridor, but that those benefits achievable with acceptable environmental impacts should be implemented.

Comment GL14-54

The proposed project is in the OCTA transportation plan and program; therefore, it is consistent with the Orange County transportation approach. The author seems to have a different opinion

about what an appropriate transportation approach would be. It is Caltrans practice to work with those transportation plans that are adopted and approved.

Comment GL14-55

All CEQA mitigation measures are consistent with Caltrans standards. The mitigation measures are provided in Section 4.2.8 of the Draft and Final EIR/EIS.

Comment GL14-56

The referenced measures CUL-1 and CUL-2 are for inadvertent discovery or required by law when human remains are unearthed and are not mitigation measures. Please see Response to Comment GL14-55.

Comment GL14-57

Please see Response to Comment GL14-55.

Comment GL14-58

The proposed mitigation measures described in Section 4.2.8 of the Draft and Final EIR/EIS are required to reduce significant impacts described in Chapter 4 pursuant to CEQA. Caltrans is legally required to adopt a mitigation and monitoring plan. The measures listed in Section 4.2.8 are the measures that will be adopted and implemented to reduce potentially significant impacts during construction and/or operation of the Preferred Alternative.

Comment GL14-59

As described in the Final EIR/EIS, only Alternative 2 would have a funding shortfall. Alternative 1 would be fully funded by Measure M Funding, and Alternative 3 would be fully funded through Measure M and tolls/user fees.

Please see Common Response – Measure M Funding.

Comment GL14-60

Measure M funding fluctuates based on sales tax.

Please see Common Response – Measure M Funding.

Comment GL14-61

Caltrans guidance when developing mitigation measures is the measure must be buildable, biddable, and enforceable. All mitigation measures listed in Section 4.2.8 meet this criterion and will be incorporated into the contract documents through either Caltrans Standard and/or nonstandard special provisions.

Comment GL14-62

Please see Response to Comment GL14-59.

Comment GL14-63

Please see Response to Comment GL14-59.

Comment GL14-64

In accordance with FHWA guidance for Major Projects, a draft financial management plan will be submitted prior to completion of the Final EIR/EIS, as is required by the NEPA process. Please see also Response to Comment GL14-59.

Comment GL14-65

As described in Section 2.2.7, Alternative 4 was considered and withdrawn, but all of the elements of this alternative are included within all of the build alternatives. Please see also Response to Comment GL14-59.

Comment GL14-66

No specific criteria to assess cost effectiveness were developed. Costs for each build alternative are provided in Section 1.2.2.4 of the Draft EIR/EIS; traffic benefits of each build alternative are provided in various tables in Section 3.1.6 of the Draft EIR/EIS in Tables 3.1.6-4 through 3.1.6-8 and Tables 3.1.6-12 through 3.1.6-14. Stakeholders may evaluate the data and develop their own measures of cost effectiveness.

Comment GL14-67

The reasons presented in Section 2.2.7, Alternatives Considered but Eliminated from Further Discussion, of the Draft EIR/EIS indicate that alternatives do not include funding as a reason for elimination from further consideration; high cost is cited in some cases, but in no case is it the only reason. It is common for transportation projects to have a funding shortfall in the planning phase. The project is considered a Major Project by FHWA, and a Draft FP must be submitted to FHWA prior to approval of the Final EIR/EIS. The Draft FP must identify full funding for the project. Please see Common Responses – Preferred Alternative Identification and Measure M Funding.

Comment GL14-68

The statement on page 2-4 of the Draft EIR/EIS is a summary of a more-detailed paragraph on page 2-37. The statement on page 2-4 has been revised to better summarize the paragraph on page 2-37.

Comment GL14-69

With respect to anticipated congestion under any of the alternatives, please see Responses to Comments GL14-52 and -53. All of the build alternatives are anticipated to reduce congestion in the I-405 corridor; none are expected to eliminate congestion in the corridor. The benefits to congestion vary among the build alternatives and are summarized in the Draft EIR/EIS in Tables 3.1.6-4 through 3.1.6-8 and Tables 3.1.6-12 through 3.1.6-14.

Comment GL14-70

Congested conditions are generally considered to exist under LOS E and F. LOS is defined by a variety of different metrics that include capacity but also include delay and vehicle density. V/C ratios in excess of 0.90 are generally considered indicators of congestion, with values in excess of 1.00 indicating demand and/or volume exceeds capacity and traffic service breakdown is imminent. LOS and v/c ratios are explained on page 3.1.6-1 of the Draft EIR/EIS, which states: "A v/c ratio is a comparison of an amount of traffic on a road with the capacity of that road. A v/c ratio is expressed as a decimal, with values less than 1.00 indicating that volume is less than capacity and values more than 1.00 indicating that volume exceeds capacity. As values approach 1.00, congestion becomes more severe, with values more than 1.00 indicating severe congestion. Because much of I-405 within the project area operates and is expected in the future to operate at LOS F conditions, v/c ratios are provided as an indicator of the severity of congestion. For future conditions, the v/c ratio is the demand-to-capacity ratio, where the demand volume is used." These statements define "congestion" as used in the Draft EIR/EIS and relate congestion to capacity.

Comment GL14-71

A TSM/TDM Alternative is included in the Draft EIR/EIS. It does not meet the purpose and need of the project, as described in Section 2.2.4 of the Draft EIR/EIS. TSM/TDM elements are included in each of the build alternatives. As described in Section 2.2.7, Alternatives Considered but Eliminated from Further Discussion, of the Draft EIR/EIS, TSM and TDM components, including multimodal alternatives, were included and evaluated in various forms in the initial 13 MIS alternatives (see Section 2.2.4). All of the alternatives included park-and-ride facilities, as well as either enhanced local bus service, express bus service, or both. Although a TSM/TDM Alternative as an effective stand-alone alternative does not meet the project purpose, as explained in Draft EIR/EIS Section 2.2.7, Alternatives Considered but Eliminated from Further Discussion, the PDT identified the proposed TSM and TDM elements for the corridor. These elements would be implemented as part of the build alternatives, as described in Draft EIR/EIS Section 2.2.1, Common Design Features of the Build Alternatives.

Additionally, numerous transit options are included in Section 2.2.7, Alternatives Considered but Eliminated from Further Discussion. Additional HOV facilities, LRT, and BRT were considered. See Common Response – Elimination of LRT and BRT Alternatives.

Comment GL14-72

Many more metrics other than speed and throughput are available to compare the traffic characteristics of the alternatives. The Draft EIR/EIS provides tables throughout Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, that show LOS, vehicle density, v/c ratios, ADT, VMT, corridor travel time, vehicle hours of delay, vehicle storage, and queuing, as well as speed and throughput.

Comment GL14-73

Speed is one indicator of congestion on a freeway. Unless a collision or other incident occurs to reduce freeway speeds, freeway speeds decrease when traffic volumes reach critical levels and the freeway becomes congested, such that individual drivers are not able to operate at speeds of their own choosing; however, the Draft EIR/EIS also provides LOS, vehicle density, and v/c ratios as other indicators of congestion throughout Section 3.1.6, Traffic and Transportation/ Pedestrian and Bicycle Facilities.

Comment GL14-74

With respect to induced demand, please see Response to Comment GL14-47. With respect to latent demand, the comment is accurate in that there is no explicit discussion of latent demand for I-405 in the Draft EIR/EIS; however, there is an implicit acknowledgement of it in Section 3.1.1 where numerous references are made to cut-through traffic within neighborhoods located adjacent to I-405 during congested conditions (pages 3.1.1-20 through 3.1.1-22, 3.1.1-24 through 3.1.1-27, 3.1.1-33, and 3.1.1-49).

Comment GL14-75

An increase in GHG emissions will occur with or without the project due to increased traffic volumes, as reported for the No Build Alternative in 2020 and 2040 in Tables 4-8 and 4-9 of the EIR/EIS. All of the build alternatives would result in lower GHG emissions than the No Build Alternative, consistent with the trend shown in Figure 4-2 of the EIR/EIS. Please see also Response to Comment GL14-79.

Comment GL14-76

An increase in VMT does not mean that congestion will increase. Increased VMT on I-405 is anticipated under the build alternatives as a result of the provision of additional capacity. The Draft EIR/EIS provides ample evidence that congestion levels will decrease under the build

alternatives, as summarized in the Draft EIR/EIS in Tables 3.1.6-4 through 3.1.6-8 and Tables 3.1.6-12 through 3.1.6-14. Increases in VMT have several potential causes, as noted in Response to Comment GL14-30.

Comment GL14-77

Traffic is forecast to grow, but it is not due to induced growth. With respect to the sources of growth in VMT and induced growth, please see Response to Comment GL14-47. The commenter is correct that the build alternatives will affect traffic diversion. The additional lanes and improved performance on I-405 under the build alternatives compared to the No Build Alternative will encourage traffic currently diverting from the congested freeway to local streets to remain on I-405.

Comment GL14-78

Single-occupant vehicles (SOVs) would not be promoted by the proposed project. HOV lanes are unchanged in Alternatives 1 and 2; Alternative 3 would increase the occupancy requirement for free use of the Express Lanes by HOVs from two to three persons per vehicle. With respect to that increase in the occupancy requirement, please see Common Response – Opposition to Tolling. While the proposed build alternatives increase VMT and fuel consumption on the freeway, they do not induce travel. The additional lanes and improved performance on I-405 under the build alternatives compared to the No Build Alternative will encourage traffic currently diverting from the congested freeway to local streets to remain on I-405. With respect to induced travel, please see Response to Comment GL14-47.

Comment GL14-79

An increase in GHG emissions will occur with or without the project due to increased traffic volumes, as reported for the No Build Alternative in 2020 and 2040 in Tables 4-8 and 4-9. All of the build alternatives would result in lower GHG emissions than the No Build Alternative. As described below, the reductions in GHGs are likely associated with the higher speeds described in Section 3.1.6. These increased speeds/decreased travel times occur in Tables 3.1.6-6 and 3.1.6-7.

The Preferred Alternative future GHG emissions (2020 and 2040) would be greater than the existing GHG emissions; however, the build alternatives would result in fewer GHG emissions than the future No Build Alternative in 2020 and 2040. It should be noted that the GHG emission reductions shown in Section 4.2.7, Tables 4-8 and 4-9, were developed using EMFAC2007 and, unlike criteria pollutants, EMFAC2007 does not make assumptions that technological enhancement in engine technology would result in reduced GHG emissions in the future; however, the model does result in fewer GHG emissions under higher speeds. Table 3.1.6-6 shows that speeds are higher under the build alternatives than under the No Build Alternative.

The GHG emissions estimates are the potential project contributions to GHGs; however, estimates could vary from actual GHG emissions. GHG emissions are dependent on other factors that are not part of the EMFAC2007 methodology, such as the fuel mix, rate of acceleration, and aerodynamics and efficiency of the vehicles.

Comment GL14-80

The distance from SR-73 to I-605 along I-405 is approximately 14 miles. This is the area in which proposed improvements are concentrated. Transitions north of I-605 and south of SR-73 account for the additional 1 to 2 miles of project length. The postmiles on the cover page, provided below, are consistent with the descriptions of alternatives in Chapter 2 and the project description on page 1-1. "The project limits extend 0.2-mile south of Bristol Street (12-ORA-405 Postmile [PM] 9.3) to the Orange County/Los Angeles County line (12-ORA-405 PM 24.2) and in Los Angeles County from the county line (07-LA-405 PM 0.00) to 1.4 miles north of Interstate 605 (I-605) (07-LA-405 PM 1.2). Improvements are proposed on SR-22 West in Orange County from 0.2-mile west of I-605 (12-ORA-22 PM R0.5) to I-405 (12-ORA-22 PM R0.7) and on SR-22 East in Orange County from I-405 (12-ORA-22 PM R0.7) to 0.2-mile east of the Beach Boulevard Undercrossing (12-ORA-22 PM R3.8). Improvements on SR-73 will be from the Bear Street Overcrossing (12-ORA-73 PM R27.2) to I-405 (12-ORA-73 PM R27.8). Improvements on I-605 in Orange County will be from I-405 (12- ORA-605 PM 3.5) to the county line (12-ORA-605 PM R1.6) and in Los Angeles County from the county line (07-LA-605 PM R0.0) to 0.9-mile north of the Spring Street Overcrossing (07-LA-605 PM R1.2)."

Postmiles listed on the cover page are provided below.

"ORANGE AND LOS ANGELES COUNTIES, CALIFORNIA
12-ORA-405 PM 9.3/24.2 / 07-LA-405 PM 0.0/1.2
12-ORA-22 PM R0.7/R3.8 / 12-ORA-22 PM R0.5/R0.7
12-ORA-73 PM R27.2/R27.8 / 12-ORA-605 PM 3.5/R1.6
07-LA-605 PM R0.0/R1.2"

Comment GL14-81

The referenced information was included in the Draft EIR/EIS, as discussed in Chapter 2 and as shown on the cover page. Please see Response to Comment PC-GL14-80.

Comment GL14-82

The EIR/EIS includes the most current air quality analysis and is accurate. This will be modified in the Final EIR/EIS.

Comment GL14-83

The purpose of the project is as stated in the Draft EIR/EIS, Section 1.2.1, which was determined by Caltrans as the Lead Agency. As the environmental document demonstrates, all of the alternatives would improve air quality compared to the No Build Alternative.

Comment GL14-84

OCTA has many objectives stated for their organization. The language quoted in the comment refers to reducing transit costs and is not related to tolls for the Express Lanes in Alternative 3. No one is obligated to use the Express Lanes in Alternative 3. Express Lanes provide an option for a reliable uncongested trip in exchange for payment of a toll through volunteer usage. There is no requirement that a project expenditure in excess of the amount cited in the ordinance be subject to a voter approval by OCTA.

Comment GL14-85

The proposed project is included in the RTP, which provides a regional consensus of transportation improvements needed throughout the region. The proposed project has also been coordinated with the Gateway Cities COG, whose member entities include Los Angeles County jurisdictions adjacent to Orange County. Please see Common Response – Coordination between Caltrans Districts 7 and 12, OCTA, Los Angeles Metro, COG, and the City of Long Beach.

Traffic service standards were applied in the evaluation of the proposed alternatives as evidenced in Draft EIR/EIS Tables 3.1.6-1through 3.1.6-5, 3.1.6-9, 3.1.6-12, 3.1.6-13, and 3.1.6-15 through 3.1.6-17. While LOS goals are reasonable, achieving LOS goals must be balanced against the environmental impacts of achieving them. On balance, the planning and environmental processes concluded that the goal of achieving LOS D was not the preferred solution for this corridor, but that those benefits achievable with acceptable environmental impacts should be implemented.

Alternative forms of transportation were considered in the Draft EIR/EIS. They are covered in Section 2.2.7, Alternatives Considered but Eliminated from Further Discussion. A TSM/TDM Alternative was also considered and is covered in the Draft EIR/EIS in Section 2.2.3, Transportation System Management/Transportation Demand Management Alternative.

Please see also Response to Comment GL14-86.

Comment GL14-86

The proposed project is not included in Measure M. It is included in Renewed Measure M.

Comment GL14-87

Context-sensitive design is the FHWA policy committed to the advancement of context-sensitive solutions nationwide as one of the objectives of its Vital Few Goal on Environmental Stewardship and Streamlining. The objective is to improve the environmental quality of transportation decision making by incorporating context-sensitive solutions principles in all aspects of planning and the project development process. Context-sensitive solutions could mean adding color to concrete, incorporating design exceptions, or developing design modification to further reduce project effects as described in Common Responses – Almond Avenue Soundwall, Impacts to Businesses, and Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes. The coordination referenced is for project coordination within the project area. System coordination is completed at the system planning through route concepts. As a result of the project moving into the planning phase, Caltrans has already determined that the project concept is consistent with the planned I-405 concept both north and south of the project area.

Comment GL14-88

The Final EIR/EIS includes language related to coordination with the activities of the COG. There are no programmed projects for major freeway capacity enhancements along I-405 or I-605 in the area served by the COG.

Comment GL14-89

MIS Alternative 4 added one GP lane to I-405 and is included in the Draft EIR/EIS as Alternative 1. There is nothing in Renewed Measure M that either precludes or requires additional improvements beyond the single GP lane proposed in Alternative 1. OCTA has indicated that improvements to I-405, in addition to those identified in Alternative 1, would not be funded with Renewed Measure M revenues.

Comment GL14-90

With respect to Renewed Measure M and tolling, please see Common Response – Opposition to Tolling.

Comment GL14-91

The EIR/EIS is a joint document. With joint Caltrans NEPA/CEQA documents, as is the case with this EIR/EIS, the project purpose also is the objective. All of the specific noted absences (i.e., increase capacity, improve traffic and interchange operations, and enhance safety) are a subset of the more general purpose of the project provided below:

- Reduce congestion;
- Enhance operations;

- Increase mobility, improve trip reliability, maximize throughput, and optimize operations;
- Minimize environmental impacts and ROW acquisition; and
- Enhanced safety is not stated in the Purpose and Need statement.

Comment GL14-92

The difference in purpose and need between the NOI and NOP and the EIR/EIS is a result of more refined planning that took place after circulation of the NOI/NOP. There is no requirement that the purpose and need of the document must match exactly the purpose and need of the NOI and NOP.

Comment GL14-93

Please see Response to Comment GL14-91.

Comment GL14-94

All three of the build alternatives are viable alternatives, and they are discussed and analyzed in the Draft EIR/EIS. Only Alternative 2, based on Measure M and other project funding estimates, currently has a funding shortfall. All of the proposed alternatives could meet the referenced objective.

Please see Common Response – Measure M Funding.

Comment GL14-95

Consistent with Caltrans policy, the design concept, scope, and cost in the planning documents must be consistent with the proposed alternatives. Alternative 3 has the largest footprint, and components of Alternatives 1 and 2 are included within the general overall general concept, scope, and cost of Alternative 3. A modification to the project description does not mean predetermination or that the project description could not be changed. Based on some of the project modification in response to comments received during the public circulation period, the project description will require another modification prior to approval of the Final EIR/EIS and completion of the FHWA Project Level Air Quality Conformity Finding.

Please see Common Responses – Preferred Alternative Identification, Almond Avenue Soundwall, and Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes.

Comment GL14-96

Under CEQA and NEPA, only the formal environmental process may form the basis for the identification or rejection of alternatives. Previous planning efforts may not be substituted for the

formal environmental process. Similarly, previous planning efforts do not dictate the purpose and need of the project, although they may partially inform the effort to develop the purpose and need for the project. For these reasons, there is no strict continuity between previous efforts of the environmental process.

Comment GL14-97

SAFETEA-LU's 6002 requirements were met during the environmental process. The specifics of the coordination activities can be found in Chapter 5, Comments and Coordination. Please see Response to Comment GL14-91.

Comment GL14-98

Tolling and revenue generation in Alternative 3 is a way to address the purpose and need, such as maximizing throughput and providing a cost-effective early solution for delivery by using toll revenue to fund construction of the project. All of the build alternatives address aspects of the purpose of the project to greater or lesser degrees. The extent to which each alternative addresses the purpose of the project will be considered in identification of the Preferred Alternative. For information on the process that will be used to select the Preferred Alternatives, please see Common Response – Preferred Alternative Identification.

Comment GL14-99

The sentence in the Draft EIR/EIS referenced in the comment has been changed in the Final EIR/EIS to read: "None of the conceptual alternatives including fixed guideway or BRT in the median of the freeway were included in the final evaluation for the reasons cited in Section 2.2.7." Section 2.2.7 in Draft EIR/EIS identifies alternatives eliminated from further discussion and provides the reasons behind each elimination. The reasons presented in Section 2.2.7, Alternatives Considered but Eliminated from Further Discussion, of the Draft EIR/EIS, indicate that alternatives do not include funding as a reason for elimination from further consideration; high cost is cited in some cases, but in no case is it the only reason.

Comment GL14-100

Improving traffic flow is part of the purpose of the project. Improving traffic flow may be accomplished through many components of the purpose of the project, including reducing congestion, increasing mobility, maximizing throughput, and optimizing operations.

The proposed project is not a safety project.

The HOV lanes and the Express Lanes in all of the build alternatives are available for use by transit vehicles, and arterial improvements in the vicinity of I-405 will improve operations for buses traveling in mixed traffic flow.

All of the build alternatives provide pedestrian and bicycle facility improvements, as noted on page 3.1.6-103 of the Draft EIR/EIS. Additionally, TSM/TDM elements are included in each of the build alternatives, as stated on page 2-17 of the Draft EIR/EIS. The Draft EIR/EIS states in Section 2.2.3, TSM/TDM Alternative, that "TSM and TDM measures alone do not satisfy the purpose and need of the project…." However, because of their proven value, TSM/TDM components are included in all of the build alternatives.

Comment GL14-101

Alternatives with both LRT and BRT are included in the Draft EIR/EIS in Section 2.2.7, Alternatives Considered but Eliminated from Further Consideration. That section explains each of those alternatives and why they were eliminated. For a graphic summary of those alternatives, please see Figure 2-39 of the Draft EIR/EIS.

Additionally, demand management was included in the TSM/TDM Alternative included in the Draft EIR/EIS. The TSM/TDM Alternative does not meet the purpose and need of the project, as described in Section 2.2.4 of the Draft EIR/EIS. TSM/TDM elements are included in each of the build alternatives. As described in Section 2.2.7, Alternatives Considered but Eliminated from Further Discussion, of the Draft EIR/EIS, TSM and TDM components, including multimodal alternatives, were included and evaluated in various forms in the initial 13 MIS alternatives (see Section 2.2.4). All of the alternatives included park-and-ride facilities, as well as either enhanced local bus service, express bus service, or both. Although a TSM/TDM Alternative as an effective stand-alone alternative does not meet the project purpose, as explained in Draft EIR/EIS Section 2.2.7, Alternatives Considered but Eliminated from Further Discussion, the PDT identified the proposed TSM and TDM elements for the corridor. These elements would be implemented as part of the build alternatives, as described in Draft EIR/EIS Section 2.2.1, Common Design Features of the Build Alternatives.

While improvements to local roadways, street connections, and grade separations may generally improve traffic, current traffic congestion on I-405 is resulting in additional traffic on local streets as traffic avoids the congested freeway. The additional lanes and improved performance on I-405 under the build alternatives compared to the No Build Alternative will encourage traffic currently diverting from the congested freeway to local streets to remain on I-405.

Comment GL14-102

Multimodal transportation planning processes at both OCTA (see OCTA's 2006 Long Range Transportation Plan) and SCAG (see 2008 and 2012 RTPs) conclude with both plans and programs for the proposed project. Consideration of TSM/TDM and other modes for the I-405

corridor were considered and not found to meet the needs of the corridor. Please see also Response to Comment GL14-101.

Comment GL14-103

The project's purpose and need statement is broad enough to allow for the consideration of more than one type of solution, yet specific enough to allow for a range of alternatives to be studied and chosen from. Within the context of improving mobility and maximizing transportation system performance and accessibility, the project alternatives include improvements beyond freeway widening, including improvements to pedestrian and bike facilities, opportunities for improved transit service along the arterial streets improved in the vicinity of I-405 and along I-405 in the HOV and Express Lanes, as well as an opportunity in Alternative 3 to provide an element of traffic management along the mainline freeway corridor.

Comment GL14-104

As described in Section 2.2.7, Alternatives Considered but Eliminated from Further Discussion, the previously eliminated MIS alternatives were not considered viable options primarily because they did not fulfill the project purpose. The reasons presented in Section 2.2.7, Alternatives Considered but Eliminated from Further Discussion, of the Draft EIR/EIS indicate that alternatives do not include funding as a reason for elimination from further consideration; high cost is cited in some cases, but in no case is it the only reason.

Comment GL14-105

As described in Section 2.2.7, Alternatives Considered but Eliminated from Further Discussion, alternatives developed for the corridor have been removed from consideration because they do not meet the project purpose. These alternatives are not viable and are not fully analyzed in the EIR/EIS. This section explains each of those alternatives and why they were eliminated. In addition, please see Response to Comment GL14-104.

Comment GL14-106

As described in Section 2.2.7, Alternatives Considered but Eliminated from Further Discussion, alternatives developed for the corridor have been removed from consideration because they do not meet the project purpose. None of the build alternatives requires full acquisition of residential properties and, as a result of design modifications since release of the Draft EIR/EIS, no commercial properties are identified for full acquisition. Please see Common Response – Impacts to Businesses and Response to Comments GL14-104 and GL14-105.

Comment GL14-107

The referenced eliminated MIS alternatives would require full acquisitions of properties that would require displacement of homes and relocation of residences. The proposed project would only require partial acquisitions of residential properties, but it would not require full acquisition of any residential properties; therefore, no displacement of homes or relocation of residences is anticipated.

Comment GL14-108

All reported ROW information presented in the EIR/EIS is considered preliminary based on the best available information. Final ROW requirements cannot be determined until the next phase of the project and are subject to change. Section 3.1.4.2, Relocations and Real Property Acquisitions, of the Draft EIR/EIS, addresses impacts to the communities as a result of required ROW acquisitions and project construction activities. Appendix T will be added to the Final EIR/EIS. The information in Appendix T will identify all properties that would be affected by full and partial acquisitions and TCEs for the Preferred Alternative.

Comment GL14-109

The referenced discrepancies are for parcels that would directly be affected by full or partial acquisition. The difference in the parcel acquisitions between the Community Impact Assessment and Draft EIR/EIS are associated with continued efforts to minimize project ROW effects. Information that will be provided in Appendix T, as discussed in Response to Comment GL14-108, as well as the information in Section 3.1.4.2 of the Final EIR/EIS, will be updated during preparation of the Final EIR/EIS. Please see Response to Comment GL14-108.

Comment GL14-110

The EIR demonstrates that all significant environmental impacts of the proposed project were adequately investigated and discussed. Please see Common Response – Insufficient Environmental Document/Mitigation Measures.

Comment GL14-111

The commenter is comparing two completely different scenarios. The first scenario is subsequent to construction, and the second scenario is during construction.

Comment GL14-112

As described in the Draft EIR/EIS, access to businesses will be maintained at all times. Caltrans does agree that there are many “other” businesses located within the project corridor; however, the traffic volumes and number of trips to these other business are much smaller and do not require ramp closure restrictions to prevent substantial delay because of diverted traffic.

Comment GL14-113

The arterial street system is robust in that it is a grid that provides redundant paths to any location in the corridor, which provides multiple potential detours when needed. Detours will be more fully detailed to minimize congestion during final design when the Final TMP is prepared in coordination with the municipalities whose roadways will be used for detours, as specified in Draft EIR/EIS Mitigation Measure LU-2.

Alternate routes and detours will be finalized in the Final TMP to be prepared during the final design phase. Physical modifications of local streets and signal improvements, where required, will be implemented to support the detoured traffic on the local street network. Potential environmental effects of these actions will be examined as required by CEQA (addendum or supplemental or subsequent EIR) and NEPA (re-evaluation), if necessary.

Comment GL14-114

The environmental document, more specifically the alternatives analysis, complies with NEPA and CEQA requirements. Please see Common Response – Insufficient Environmental Document/Mitigation Measures.

Comment GL14-115

The Draft EIR/EIS provides a reasonable range of alternatives, as described in Section 2.2, Project Alternatives. Although the three build alternatives have numerous common design features, each build alternative is a stand-alone alternative and has unique features, as described in Section 2.2.2, Unique Features of the Build Alternatives.

Comment GL14-116

Please see Response to Comment GL14-115.

Comment GL14-117

As explained in the Draft EIR/EIS Traffic Study, a single demand forecast was used to identify traffic volumes to be used for operations analysis in the corridor under all of the alternatives. This represents a worst case within the project limits and enables an identification of the extent to which the proposed alternatives would not satisfy demand in the corridor. Page 3.1.6-39 of the Draft EIR/EIS explains that there is very little variation on the local streets in the vicinity of interchanges among the alternatives. This clearly indicates that there is very little in the way of unique travel patterns associated with the three build alternatives.

Comment GL14-118

Under CEQA and NEPA, only the formal environmental process may form the basis for the identification of the Preferred Alternative. Previous planning efforts may not be substituted for

the formal environmental process. Previous planning efforts may not dictate the Preferred Alternative, but they help to inform the next required environmental stage. For these reasons, the identification of a locally preferred strategy in the MIS is not the identification of the Preferred Alternative in the environmental process. For more information regarding identification of the Preferred Alternative, please see Common Response – Preferred Alternative Identification.

The language of Renewed Measure M does not preclude additional improvements beyond the single GP lane proposed in Alternative 1. Alternatives 2 and 3 are considered in the Draft EIR/EIS because they are reasonable alternatives anticipated to reduce congestion in the I-405 corridor. In identification of the Preferred Alternative, Caltrans and OCTA considered operation and safety benefits of each build alternative against the potential environmental effects. Identification of the Preferred Alternative represents a balance of the reasons in support of and in opposition of each alternative. It should be noted that OCTA has indicated that improvements to I-405, in addition to those identified in Alternative 1, would not be funded with Renewed Measure M.

Comment GL14-119

The Draft EIR/EIS fully explains in Section 2.1.1 the planning process prior to the environmental process, including the alternatives considered during the planning process. It is accurate that MIS Alternative 4 is not identical in every respect to Alternative 1 in the Draft EIR/EIS, but its basic characteristic of adding a single GP lane in each direction is the same. Subsequent to the MIS, a Project Study Report (Project Development Support) (PSR[PDS]) was developed that more fully defined MIS Alternative 4, which was subsequently more fully defined as Alternative 1 in the Draft EIR/EIS. The level of design detail increased at every step of the process, and the design was not static during these processes.

A change in cost from a previous planning study does not constitute an environmental impact and is consequently not covered in the Draft EIR/EIS.

Comment GL14-120

Construction of Alternative 1 (add one GP lane) as an interim project with subsequent expansion to Alternative 2 (add two GP lanes) would not provide appreciable benefits, but it would result in a substantial increase in environmental impacts and construction costs. Construction of Alternative 1, with subsequent expansion, would mean two separate occurrences of construction impacts and traffic disruption along the I-405 corridor. Even if shoulders are allowed to be converted to traveled lanes, there would still be a substantial amount of work and impacts to expand the freeway to Alternative 2, such as upgrading the shoulder pavement to support traffic load, reconstructing the interchange ramps to connect with the new outside lane, modifying

drainage facilities that are commonly placed along the edge of shoulder, relocating/providing new overhead signs, and updating/relocating ramp meter and ITS features. TCEs and additional ROW would also be necessary to gain construction access and construct the added lane in the future.

Conversion of continuous paved shoulder to a traveled way is not a Caltrans policy and is only used in the utmost restrictive conditions, such as Interstate 5 (I-5). Shoulders are essential to freeway facilities, especially a high-speed and high-volume facility such as I-405, to provide refuge for maintenance operations, breakdown vehicles, CHP enforcement stop, and emergency responses. Shoulders also provide lateral support for traveled way pavement and facility drainage runoff to inlets typically located along the edge of shoulders.

Comment GL14-121

The Preferred Alternative, once published in the Final EIR/EIS and approved in the Notice of Determination (NOD)/Record of Decision (ROD), is the only alternative with environmental approval for construction. Any substantial deviation from that alternative would require additional environmental approvals.

MAP-21 generally precludes the redesignation of a free GP lane as an HOT lane. Subject to certain limitations, HOV lanes may be converted to HOT lanes.

Comment GL14-122

The limits of each alternative are described with bulleted post miles in Section 2.2 of the Draft EIR/EIS. Appendix P of the Draft EIR/EIS provides the project layout plans for each build alternative, which clearly show the proposed limits of each build alternative.

Comment GL14-123

The contractual delivery method of constructing and operating the project would not result in an environmental impact and is consequently not covered in the Draft EIR/EIS.

Comment GL14-124

Regardless of the contractual delivery method of constructing and operating the project, all mitigations identified in the Final EIR/EIS must be implemented.

Comment GL14-125

The contractual delivery method of constructing the project would not result in an environmental impact and is consequently not covered in the Draft EIR/EIS.

Comment GL14-126

Legislative authority to implement Alternative 3 using a design-build procurement method and toll the Express Lanes already exists.

Comment GL14-127

The project does not include concessions or subsidy programs for low-income or other disadvantaged individuals for use of the tolled Express Lane facility. It is a choice to use the tolled Express Lane facility, and the GP lanes remain available for all users unable or unwilling to pay the toll for the Express Lane facility.

Comment GL14-128

As described in Section 2.2.7, Alternatives Considered but Eliminated from Further Discussion, Alternative 4 has been removed from consideration because it does not meet the project purpose as summarized in the Draft EIR/EIS on page 2-37. All elements of Alternative 4 are included in Alternatives 1, 2, and 3.

Comment GL14-129

The word “may” in the second bullet on page 2-17 of the Draft EIR/EIS has been replaced by the word “will” in the Final EIR/EIS.

Comment GL14-130

Caltrans, as assigned by FHWA, has prepared this joint Draft EIR/EIS, in compliance with both CEQA and NEPA. Please see Common Response – Insufficient Environmental Document/ Mitigation Measures.

Comment GL14-131

The environmental effects of the No Build Alternative are adequately disclosed in the Environmental Consequences sections within Chapter 3 of the Draft EIR/EIS. Please see Common Response – Insufficient Environmental Document/Mitigation Measures.

Comment GL14-132

At this time, there are no other projects planned or proposed within the corridor that have not already been incorporated into the proposed project; therefore, it is reasonable to expect that motorists will divert from the congested freeway under the No Build Alternative and use local streets.

Comment GL14-133

The costs of the alternatives are included in the Draft EIR/EIS and are not reported to be $5.8 billion. Please see Response to Comment GL14-132 and Common Response – Measure M Funding.

Comment GL14-134

The WCC Project is included in the No Build Alternative. The No Build Alternative, by definition, does not include elements that are in the proposed alternatives, including those elements that could be provided for the funds identified in the Measure M Extension. Elements funded by the Measure M Extension are included in the build alternatives. Please see Common Response – Measure M Funding.

Comment GL14-135

The No Build Alternative, as described in the Draft EIR/EIS, meets the applicable NEPA and CEQA requirements.

Please see Common Response – Insufficient Environmental Document/Mitigation Measures.

Comment GL14-136

Whether the performance standard by which Caltrans judges projects to have met their purpose and need at the time of opening to traffic does not preclude the adoption of an appropriate purpose and need, the performance of it may be difficult for Caltrans to measure.

Comment GL14-137

The purpose and need, which is provided in Final EIR/EIS Section 1.2, Project Purpose and Need, constitutes an "approved" purpose and need. The purpose and need statement is developed by the PDT; however, Caltrans, as the lead agency under both NEPA and CEQA, is ultimately responsible for approval of the purpose and need as part of the approval of the Final EIR/EIS. See also Response to Comment 13-136.

Comment GL14-138

All of the build alternatives are anticipated to reduce congestion in the I-405 corridor; none are expected to eliminate congestion in the corridor. The data table demonstrates the level of congestion reduction for each alternative. The terms are used to qualitatively describe the information. Comparative data presented throughout the Draft EIR/EIS are summarized in Table S-1 of the Draft EIR/EIS. Additional data are presented throughout the Draft EIR/EIS, including numerous tables showing data for each of the alternatives by topic in Chapter 3 of the Draft EIR/EIS.

Comment GL14-139

In addition to speed and throughput, there are other measures available to compare the traffic characteristics of the alternatives. The Draft EIR/EIS provides tables throughout Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, that show LOS, vehicle density, V/C ratios, ADT, VMT, corridor travel time, vehicle hours of delay, vehicle storage, and queuing, as well as speed and throughput.

With respect to alternatives incorporating other modes, please see Response to Comment GL14-101.

Comment GL14-140

Throughput is not the sole metric available to compare the traffic characteristics of the alternatives. The Draft EIR/EIS provides tables throughout Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, and includes LOS, vehicle density, V/C ratios, ADT, VMT, corridor travel time, vehicle hours of delay, speed, vehicle storage, and queuing, as well as throughput.

Comment GL14-141

The focus of the Draft EIR/EIS is on environmental impacts; the Draft EIR/EIS is intended to disclose impacts of alternatives. The Draft EIR/EIS is part of the environmental process, not the transportation planning process. Person throughput was considered in the transportation planning process; for example, HOV lane daily person trips were considered in the MIS process and are documented in Table 4.1-1 and Section 4.1.3.2 of the *Interstate 405 Major Investment Study Initial Screening Report* (November 2004).

Comment GL14-142

The HOV occupancy requirement would be changed under Alternative 3, regarding the change in occupancy requirement to three persons per vehicle. The alternatives will be measured against the project Purpose and Need, of which Statewide Objective 2.4 is not included. Please see Common Response – Opposition to Tolling.

Comment GL14-143

No policy changes related to use of the HOV lanes in Alternative 2 by low-emission or energy-efficient vehicles are identified in the Draft EIR/EIS for inclusion in the proposed project.

Comment GL14-144

The Draft EIR/EIS states on page 3.1.6-82 “An HOV3+ occupancy policy change was not considered, based solely for the 12 miles of I-405 from Euclid Street to I-605 along which Alternative 1 proposes improvements.” HOV occupancy requirements could reasonably be

adopted for a much larger geography covering the entire county or southern California region, but this I-405 project is more limited. The Draft EIR/EIS states on page 3.1.6-93 "The same options concerning HOV eligibility … discussed for Alternative 1 pertain to Alternative 2."

Comment GL14-145

Please see Response to Comment GL14-144.

Comment GL14-146

The requirements referenced in the comment do not apply to the existing condition, so no discussion of them is necessary in the Draft EIR/EIS. Pages 2-18 through 2-22 of the Draft EIR/EIS provide the operational policies that will ensure compliance with the conditions specified in the comment.

Comment GL14-147

If the Preferred Alternative is Alternative 3, the OCTA Board would adopt a policy regarding the use of net revenues. Those excess toll revenues (i.e., net revenues after all operating, capital, debt service, and other expenditures) from the Express Lanes in Alternative 3 would be available for OCTA to expend on transportation improvements in the I-405 corridor consistent with the provisions of the California Streets and Highways Code Section 143 (j)(1). This policy would be available on the OCTA Web site www.octa.net. A public-private partnership (P3) is one potential financing and delivery mechanism for the project; funding, finance, and delivery methods do not in and of themselves have environmental impacts. Delivery of the project through a P3 agreement in and of itself does not change the potential environmental impacts of the project; therefore, it is not a subject of the Draft EIR/EIS. OCTA has made no decisions regarding whether the project will be a P3 project.

Comment GL14-148

The contractual delivery method of constructing and operating the project would not result in an environmental impact and is consequently not covered in the Draft EIR/EIS. There is no plan that includes conveyance of all toll revenues to a private concessionaire, so the question regarding availability of funds for TSM/TDM programs is not applicable. All mitigations identified in the Final EIR/EIS must be implemented as part of the project, regardless of disposition of the toll revenues.

A Phase II Traffic and Revenue Study was prepared to forecast the gross toll revenues. The revenues vary by year and by assumptions regarding the occupancy requirement for free use of the Express Lanes and the extent of intermediate access. The data have been presented to the

OCTA Board in open session and are available to the public. Net revenue information has also been presented.

General project funding information is included in the Draft EIR/EIS in Table 1-10; however, project funding does not change the potential environmental impacts of the project and is not a subject of analysis in the Draft EIR/EIS. An FP showing a fully funded Preferred Alternative is required before the Final EIR/EIS can be approved.

Comment GL14-149

As disclosed in Section 3.2.6.3 of the Draft EIR/EIS, at the time the Draft EIR/EIS was circulated to the public, the project description in the RTP/FTIP included a design concept and scope for Alternative 1; however, the design concept and scope for Alternatives 2 and 3, as described in Chapter 2, were substantially different from what was analyzed in the 2008 RTP. OCTA, not Caltrans, initiated the change in the project description shown in Attachment A of the comment letter. All alternatives were represented equally in the Draft EIR/EIS, and there is no proclivity toward any of the build alternatives. Alternatives 2 and 3 are required to go through the SCAG RTP and FTIP amendment process prior to being able to determine consistency with the plans; however, the regional operational emissions analysis was completed for all alternatives and would be less than the no-build conditions in years 2020 and 2040. The amendment process is required to be completed prior to approval of the Final EIR/EIS. The Preferred Alternative identified in the Final EIR/EIS is consistent with the description in the 2012 RTP and FTIP.

Comment GL14-150

The project is listed in both the RTP and FTIP amendment process, and the project description in the Final EIR/EIS is consistent with both plans. Based on the alternative that is identified as the Preferred Alternative, these plans may have to be amended prior to the Final EIR/EIS. If so, this information will be added to the Final EIR/EIS.

Comment GL14-151

A committed project is one that is fully programmed in the FTIP and has an approved environmental document. Once the Preferred Alternative is identified, the RTP and FTIP may need to be amended prior to the Final EIR/EIS. If so, this information will be added to the Final EIR/EIS.

Comment GL14-152

The proposed improvements in ORA030605 include the additional referenced projects ORA45, ORA151, and ORA120310 (see Appendix L, Project Layouts). All project effects of ORA030605 were considered and analyzed in the Draft EIR/EIS. The referenced projects do not

constitute fragmentation because they are independent projects. Implementation of ORA045 and ORA120310 would not obviate the need under the I-405 Improvement Project to replace the bridges that are the subject of ORA045 and ORA120310. ORA151 is a local arterial project south of the proposed I-405 widening and is neither a required predecessor of nor a necessary subsequent project.

Comment GL14-153

All applicable general plan goals, zoning designations, and agency plans applicable to the project corridor were included in the consistency analysis, with adopted local and regional plans included in Section 3.1.1 of the Final EIR/EIS. Caltrans stands by the consistency analysis.

Comment GL14-154

The Draft EIR/EIS includes a range of feasible alternatives and objective analysis of the potential environmental effects of the proposed action. Caltrans, as assigned by FHWA, has prepared this joint Draft EIR/EIS, in compliance with CEQA and NEPA. Please see Common Response – Insufficient Environmental Document/Mitigation Measures.

Comment GL14-155

Tiering was not applicable for this project. Tiering is utilized when construction is not anticipated for many years or there is a lack of funding for the EIS preparation, undue complexity of NEPA process for lengthy corridors, or lack of construction funding that would prevent studies from becoming outdated.

Comment GL14-156

The project is considered in the context of SCAG's subarea plans because the proposed improvement is consistent with the SCAG RTP, which shows continued population and employment in the area affecting corridor traffic (see Response to Comment GL14-49). The *Interstate 405 Major Investment Study Corridor Mobility Problem and Purpose and Need Statement* (Parsons, March 2004) provides extensive material for the project purpose and need, definition of general corridor travel by mode, and other foundational material. The *Interstate 405 Major Investment Study Initial Screening Report* (Parsons, November 2004) provides initial screening of alternatives and eliminates unreasonable alternatives. In short, the MIS fulfills many of the corridor and subarea study functions mentioned in the comment.

Comment GL14-157

The addition of capacity on I-405 will divert traffic to I-405, rather than away from it to other facilities. Consequently, potential traffic impacts would occur in the I-405 corridor rather than on distant corridors such as I-5.

Consistent with FHWA and Caltrans policy and guidance, for the purposes of NEPA compliance, the No Build Alternative, as discussed and analyzed within Chapter 3 of the Draft EIR/EIS, meets the requirements of the No Federal Action Alternative.

Measure M2 provides funding for four projects on I-5; however, there are no offsite improvements that could yield similar congestion-relief benefits compared to the proposed project. It should be noted that all freeways in Orange County are at or near capacity, and Caltrans/OCTA prioritize the projects based on Orange County transportation needs. Please also see Response to Comments GF2-7 and GF2-8.

Comment GL14-158

There are no plans on the immediate horizon to provide any additional capacity improvements to I-405 beyond those included in the proposed build alternatives. The Draft EIR/EIS inherently acknowledges that, while all of the build alternatives are anticipated to reduce congestion in the I-405 corridor, none are expected to eliminate congestion in the corridor; however, the project provides benefits to congestion in the corridor that vary among the build alternatives. The benefits to congestion of the build alternatives are summarized in the Draft EIR/EIS in Tables 3.1.6-4 through 3.1.6-8 and Tables 3.1.6-12 through 3.1.6-14.

Comment GL14-159

Conversion of continuous paved shoulder to a traveled way is not a Caltrans policy and is only used in the utmost restrictive conditions, such as I-5. Shoulders are essential to freeway facilities, especially a high-speed and high-volume facility such as I-405, to provide refuge for maintenance operations, breakdown vehicles, CHP enforcement stops, and emergency responses. Shoulders also provide lateral support for traveled way pavement and facility drainage runoff to inlets typically located along the edge of shoulders. None of the proposed I-405 designs include a 14-ft left shoulder.

Comment GL14-160

Although the *California HOV/Express Lane Business Plan* does not specifically mention Express Lanes on I-405 in Orange County, that document does note the degradation of the HOV lanes on I-405, as noted in the Draft EIR/EIS on page 1-9. That document does not limit the range of alternatives that could be considered in the I-405 corridor. Furthermore, as stated in the Draft EIR/EIS on page 3.1.6-96:

> The 2012 RTP "includes a regional Express Lane network that would build upon the success of the 91 Express Lanes in Orange County and two demonstration projects in Los

Angeles County planned for operation in late 2012." I-405 within the project limits is part of that network, which includes more than 250 miles of freeway in southern California.

Comment GL14-161

No one is obligated to use the Express Lanes in Alternative 3. Express Lanes provide an option for a reliable uncongested trip in exchange for payment of a toll.

Comment GL14-162

The proposed project satisfies the requirements for independent utility and logical termini. A transportation project is required by FHWA (23 CFR 771.111) to meet standards that establish a project's "independent utility" and "logical termini." Please see Final EIR/EIS Section 1.2.2.7, Independent Utility and Logical Termini, for definitions and specifications for each requirement, as well as an explanation of how the proposed I-405 Improvement Project meets those requirements.

Comment GL14-163

Please see Response to Comment GL14-162.

Comment GL14-164

The WCC Project is on SR-22; a section of SR-22 overlaps onto I-405 within the project area for both the WCC Project and the I-405 Improvement Project. Both projects satisfy the requirements for independent utility and logical termini.

Comment GL14-165

The requirement that the congestion management plan (CMP) contain TDM measures does not flow to each individual project. As noted in Response to Comment GL14-129, the TSM and TDM measures noted on page 2-17 of the Draft EIR/EIS will be part of all of the build alternatives. The Draft EIR/EIS states on pages 2-8 and 2-9 that transit vehicles would continue to be eligible to use the HOV lanes in Alternatives 1 and 2, respectively, and on page 2-19 that transit vehicles would use the Express Lanes in Alternative 3 toll free. Provision of any additional transit services is properly considered by OCTA's ongoing multimodal transportation planning efforts. Additionally, OCTA maintains an ongoing ridesharing program.

The locations of bicycle facilities included in the project are identified in the Draft EIR/EIS on page 3.1.6-103. Section 3.1.6 has been updated in the Final EIR/EIS to include a discussion on park-and-ride lots along the I-405 project corridor.

Comment GL14-166

Alternative 1 has no impact on Almond Avenue. Alternative 2 would narrow Almond Avenue in some locations but provide a sidewalk and parking on one side of the street in addition to two travel lanes. No permanent impact to a Class III bikeway or to pedestrians on Almond Avenue is anticipated under Alternative 2. Alternative 3 would narrow Almond Avenue in some locations but provide a sidewalk and parking on one side of the street in addition to two travel lanes. No permanent impact to a Class III bikeway or to pedestrians on Almond Avenue is anticipated under Alternative 3.

Comment GL14-167

Neither the I-10 (San Bernardino Freeway/El Monte Busway) HOT Lanes Project nor the I-110 (Harbor Freeway/Transitway) HOT Lanes Project are located along or adjacent to the I-405 corridor; therefore, they are not required to be included in the cumulative impacts analysis prepared for this project. The WCC Project is within the I-405 corridor and was included in the cumulative impacts analysis prepared for this project (please see Draft EIR/EIS Section 3.6, Cumulative Impacts).

Comment GL14-168

The WCC Project will be completed prior to any construction activity related to the I-405 Improvement Project; therefore, it is not included in the Draft EIR/EIS as a reasonably foreseeable project but as a project that will be completed. The analysis associated with the I-405 Improvement Project assumes completion and operation of the WCC Project. The WCC Project has been appropriately included in the technical analyses and the Draft EIR/EIS.

Comment GL14-169

The Draft EIR/EIS discloses potential impacts of the proposed project, not other projects or groups of other projects, except those projects that might be considered reasonably foreseeable. Reasonably foreseeable projects are identified and cumulative impacts analyzed in Section 3.6 of the Draft EIR/EIS.

Comment GL14-170

With respect to cumulative impacts, please see Response to Comment GL14-169.

Comment GL14-171

The Draft EIR/EIS assesses potential traffic impacts to the corridor of the proposed alternatives in Section 3.1.6. Behavioral changes referenced in the comment that might result from a more extensive implementation of Express Lanes and/or HOT lanes in southern California are more appropriately addressed through the regional transportation planning process.

Comment GL14-172

The goals and objectives of the OCTA 2010 Long Range Transportation Plan (LRTP) are broad in nature and are intended to apply to all projects listed in the LRTP. The I-405 Improvement Project's purpose and need is broad enough to allow for consideration of more than one solution but specific enough that the range of alternatives can be focused for the project. Nevertheless, although more specific, the I-405 Improvement Project purpose and need is consistent with the broad goals and objectives of the OCTA 2010 LRTP.

Comment GL14-173

No long-term lane closures on the I-405 mainline are anticipated as part of the construction process. Long-term closures of ramps and arterial overcrossings are identified in Section 3.1.4.1.3 of the Draft EIR/EIS. Detours for these closures are identified in Appendix M of the Draft EIR/EIS. The detours will be more fully evaluated to minimize congestion during final design when the Final TMP is prepared in coordination with the municipalities whose roadways will be used for detours, as specified in Draft EIR/EIS Mitigation Measure LU-2.

Comment GL14-174

With respect to Alternative 3, the anticipated traffic characteristics of transition areas at termination points of the Express Lanes are described on page 3.1.6-96 of the Draft EIR/EIS and are summarized in Table 3.1.6-17. With respect to a potential traffic bottleneck near the Los Angeles county line, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Comment GL14-175

Caltrans, as assigned by FHWA, has prepared this joint Draft EIR/EIS in compliance with CEQA and NEPA.

Please also see Response to Comment GL14-4 and Common Response – Insufficient Environmental Document/Mitigation Measures.

Comment GL14-176

As stated in the Draft EIR/EIS, Caltrans is the lead agency for CEQA and NEPA and is responsible for the accuracy of the information within the EIR/EIS. OCTA is the sponsoring agency. Please also see Responses to Comments GL14-4 and GL14-175 and Common Response – Insufficient Environmental Document/Mitigation Measures.

Comment GL14-177

With respect to evidence in the Draft EIR/EIS regarding reductions in congestion anticipated as a result of the build alternatives, please see Response to Comment GL14-52.

Comment GL14-178

Table 3.1.1-1 is a table of other local and regional plans' goals, policies, or objectives. The document measures the project next to these goals, policies, or objectives. The proposed project is not a safety project. The text referenced in the comment with respect to potential accident reduction has been removed from the Final EIR/EIS.

Comment GL14-179

Contrary to the assertion of the comment, the proposed project does not induce travel, as explained in Response to Comment GL14-47. The emissions estimates included in the Draft EIR/EIS are accurate and based on the traffic forecasts.

Comment GL14-180

With respect to truck volumes, please see Response to Comment GL14-182.

Comment GL14-181

The percent of trucks forecast to use I-405 has not been misrepresented. The percent of trucks used in the analysis is based on the percent of trucks using I-405 within the project limits in 2009. The Caltrans Truck Count data between SR-73 and I-605 range from 3 to 3.49 percent in 2009 and 2010, indicating no upward or downward trend in truck percentages. The 4.45 percent referenced in the comment is for the segment of I-405 north of I-605 outside the project limits.

Comment GL14-182

It is assumed that the trucks to which the commenter is referring are tractor trailers. The Express Lanes proposed in Alternative 3 are considered HOV lanes, and trailers are not allowed in HOV lanes.

Comment GL14-183

The forecast volumes are in vehicles, not passenger car equivalent (PCE). The LOS analysis uses truck percentages to account for the differences in operating characteristics between passenger cars and trucks.

Comment GL14-184

The percentage of trucks within the project corridor is substantially lower than within the I-710 corridor. This is directly attributable to the fact that the I-710 corridor terminates at the Ports of Long Beach and Los Angeles, which are responsible for generating many truck trips to haul cargo out of the Ports. The annual average daily truck traffic is shown for identified locations on the State Highway System and can be found on the Caltrans Web site at http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/. Truck traffic is classified by the number of

axles. The 2-axle class includes 1-1/2-ton trucks with dual rear tires and excludes pickups and vans with only four tires. For the purposes of the EIR/EIS, total truck percentages were used, which includes 2 through 5+ axle trucks. Please also see Responses to Comments GL14-181 through GL14-183.

Comment GL14-185

In 1998, California identified diesel exhaust particulate matter as a TAC based on its potential to cause cancer, premature death, and other health problems. This assessment formed the basis for a decision by CARB to formally identify particles in diesel exhaust as a TAC that may pose a threat to human health. Diesel engines emit a complex mix of pollutants, the most visible of which are very small carbon particles or "soot," known as diesel particulate matter (DPM). Diesel exhaust also contains more than 40 cancer-causing substances, most of which are readily adsorbed on the soot particles. These include many known or suspected cancer-causing substances, such as benzene, arsenic, and formaldehyde. Overall, diesel engine emissions are responsible for most of California's estimated cancer risk attributable to air pollution. In addition, DPM is a significant fraction of California's particulate pollution problem. Assessments by CARB and EPA estimate that DPM annually contributes to approximately 3,500 premature respiratory and cardiovascular deaths and thousands of hospital admissions, asthma attacks, and other respiratory symptoms. CARB has found that DPM contributes more than 70 percent of the known risk from air toxics and poses the greatest cancer risks among all identified air toxics. Diesel trucks contribute more than half of the total diesel combustion sources; however, CARB has adopted a Diesel Risk Reduction Plan with control measures that would reduce the overall DPM emissions by approximately 85 percent from 2000 and 2020.

Based on FHWA guidance published September 30, 2009 (Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents), the basic procedure for analyzing emissions for on-road air toxics is to calculate emission factors using EMFAC2007 and apply the emission factors to speed and VMT data specific to the proposed project. EMFAC2007 is the emission inventory model developed by CARB, which calculates emission inventories for motor vehicles operating on roads in California. The emission factors used in this analysis are from EMFAC2007 and are specific to the Orange County portion of the basin. DPM emissions are shown in Tables 3.2.6-13 and 3.2.6-14 of the Draft EIR/EIS (pages 3.2.6-47 and 3.2.6-48). Emissions of air toxics will likely be lower than present levels in the design year as a result of EPA and California's control programs, which are projected to further reduce air toxic emissions.

With respect to the vehicle mix on I-405 compared to I-710, the truck percentage on I-710 near I-405 is approximately 12 percent, based on the Caltrans Truck Count data for 2009. The proximity of the Ports of Los Angeles and Long Beach are responsible for this high percentage.

Comment GL14-186

By providing free use of the Express Lanes in Alternative 3 to carpools, carpool formation is encouraged by pricing and reducing travel time. No quantification is available for the extent to which congestion pricing along the limited distance of the I-405 corridor would affect carpool formation.

Comment GL14-187

Please see Response to Comment GL14-47.

Comment GL14-188

Complete closure of the Fairview Road northbound off-ramp up to 30 days to accommodate project construction is no longer required. Alternative 3 has been revised to eliminate new lanes south of Euclid Street, except for extension of the southbound auxiliary lane to the Harbor Boulevard exit ramp, and signing/striping to transition between the existing HOV and proposed Tolled Express Lanes. Please see Common Response – Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes.

Long-term closures of ramps and arterial overcrossings are identified in Section 3.1.4.1.3 of the Draft EIR/EIS. Detours for these closures are identified in Appendix M of the Draft EIR/EIS. The detours will be more fully evaluated to minimize congestion during final design when the Final TMP is prepared in coordination with the municipalities whose roadways will be used for detours, as specified in Draft EIR/EIS Mitigation Measure LU-2.

Comment GL14-189

Temporary short- and long-term impacts on surrounding local streets and adjacent freeways due to traffic diversion and detours to avoid construction delay on I-405 will be addressed in the Final TMP to be prepared during the final design phase. The Final TMP will identify and require minimization of construction-related effects on surrounding streets and adjacent freeways by applying a variety of techniques, including public information, motorist information, incident management, construction strategies, demand management, and alternate route strategies.

No long-term lane closures on the I-405 mainline are anticipated as part of the construction process. Diversion due to construction on the I-405 mainline is anticipated to be minimal because no long-term lane closures are anticipated.

Comment GL14-190

All anticipated temporary impacts as a result of closures are discussed in detail beginning on page 3.1.4-22 in Section 3.1.4.1.3 of the Draft EIR/EIS. All anticipated alternate routes and detours are presented in the Ramp Closure Study (see Community Impact Assessment, Appendix

C). A Draft TMP, including traffic detour routes within the local arterial street network, is also included (see Appendix M, Proposed Ramp Closure Detour Routes).

Community disruption during project construction as a result of construction activities would be temporary and mitigated by implementing a traffic staging plan and a TMP as required by Measure T-1 (Draft EIR/EIS Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities), as well as the measures in Section 3.1.7, Visual/Aesthetics; Section 3.2.7, Noise; and Section 3.2.6, Air Quality. Additionally, Measures COM-1 through COM-12 are included to minimize project construction effects on neighborhood and community cohesion.

OCTA and Caltrans shall prepare a Final TMP to minimize direct and cumulative construction impacts on the community. Alternate routes and detours will be identified in the Final TMP to be prepared during the final design phase and prior to construction. At that time, physical modifications of local streets to support the detoured traffic, where applicable, will be examined for environmental effects as required by CEQA (addendum or supplemental or subsequent EIR) and NEPA (re-evaluation).

Comment GL14-191

The TMP will be finalized during the final design phase. The feasibility and final locations of street and ramp closures will be analyzed in more detail in the final TMP, including potential environmental effects. Caltrans/OCTA will make every effort to provide access to businesses during construction. A detailed stage construction plan will be developed during the construction phase of the project. The stage construction and detour plans will detail how access will be provided to each property and for how long, if at all, the access will be restricted. Measures COM-1 through COM-12 and T-1 are designed to minimize potential construction-related temporary effects to businesses. Additional measures may be implemented to minimize adverse effects on the community and businesses.

With respect to potential impacts of construction and detours, please see Response to Comment GL14-188.

Comment GL14-192

Local arterials anticipated for long-term closure lasting up to 12 months to facilitate construction of the overcrossing structures are identified in Section 3.1.4.1.3 of the Draft EIR/EIS.

Because of the cul-de-sacs served by Almond Avenue, Almond Avenue would remain open during construction. The potential for closures of Almond Avenue between cul-de-sacs (i.e., maintaining access to each cul-de-sac from at least one direction at all times) will be more fully considered during development of the construction plans and Final TMP. Such closures would

require detour plans prepared in coordination with the City of Seal Beach, whose roadways will be used for detours, as specified in Draft EIR/EIS Mitigation Measure LU-2. Every effort will be made to avoid any closure of Almond Avenue between cul-de-sacs.

Comment GL14-193

As described in the EIR/EIS, based on the short-term and temporary nature of the closures (i.e., 10 to 30 days), the increased travel times and distances would not result in a substantial economic effect on businesses. Although businesses may benefit from being next to the freeway, they are not dependent on access from I-405. All businesses accessible by temporarily closed ramps are also accessible by a local street network for patrons and residents to access all businesses within the project corridor. As described in Measure COM-2, "Business access will be maintained at all times during construction, consistent with Section 7-1.03 Public Convenience of Standard Specifications (2010)." As discussed in the Draft EIR/EIS, preliminary detours would take approximately 1.5 to 5.5 minutes to travel 0.75 to 1.75 miles. It is not anticipated that the increased travel time or distance would alter patron choice, and potential economic effects on businesses were not considered substantial.

Comment GL14-194

Please see Response to Comment GL14-193.

Comment GL14-195

Alternate routes and detours will be identified in the TMP to be prepared during the final design phase. Physical modifications of local streets to support the detoured traffic, where applicable, will be examined for environmental effects as required by CEQA (addendum or supplemental or subsequent EIR) and NEPA (re-evaluation).

Comment GL14-196

Each overcrossing structure replacement is anticipated to require 8 to 12 months of construction if constructed in one phase. If the structure replacement occurs in two phases, the construction duration is anticipated to be 16 to 24 months; therefore, the one-phase construction is anticipated to shorten construction of each bridge by 8 to 12 months.

With one-phase construction, impacts to local commuters, residents, and local businesses would be more severe because of the required complete closure of the arterials at and approaching the overcrossings, affecting access and circulation. Traffic would be detoured to alternate routes, which will be identified and analyzed in the Final TMP to be prepared during the final design phase. The two-phase construction would allow the arterials and overcrossings to be opened to traffic during construction. However, less than half of the bridge width (due to placement of k-

rails, provision for deflection and requirement for construction room) would be available for traffic during each phase of construction; as such, the number of traffic lanes would be reduced at least by half. In addition, lane and shoulder widths would likely be narrowed, and sidewalk on at least on one side would be removed to accommodate the bridge construction in each phase.

The principal long-term closures to which the commenter refers are the closure of arterial overcrossings for replacement. Overcrossings could be fully closed and reopened in approximately 9 months, or partially closed (fewer and/or narrower lanes) and fully reopened in approximately 18 months. The closures will be more fully evaluated to balance potential congestion with closure duration during final design when the Final TMP is prepared in coordination with the municipalities whose arterials will be most affected by the bridge replacements, as specified in Draft EIR/EIS Mitigation Measure LU-2.

Comment GL14-197

The significance of the potential impacts of the build alternatives under CEQA was assessed based on the CEQA Environmental Checklist provided in Draft EIR/EIS Appendix A and the analyses of project impacts discussed in detail in Draft EIR/EIS Chapter 3, Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures. The impacts of the build alternatives are summarized in Chapter 4, CEQA Evaluation, including the identification of the level of significance of the potential adverse effects under CEQA. This section discusses the impacts of the build alternatives. For a discussion of the impacts of the No Build Alternative, refer to Chapter 3.

Comment GL14-198

Caltrans is the Lead Agency for the proposed project and has full discretion to establish the criteria for determining significance under CEQA. Please see Common Response – Air Quality regarding the methodology used to complete the air quality analysis.

Comment GL14-199

The Draft EIR/EIS, including specialized technical studies (see Appendix F for a complete list), represents a comprehensive analysis of the potential temporary and permanent environmental effects of the proposed build alternatives on the environment. All feasible avoidance, minimization, and/or mitigation measures have been proposed in Chapters 3 and 4. Please see Responses to Comments GL14-190 and GL14-200 through GL14-203 and Common Response – Insufficient Environmental Document/Mitigation Measures.

Comment GL14-200

Detours will be more fully evaluated to minimize congestion during final design when the Final TMP is prepared in coordination with the municipalities whose roadways will be used for detours, as specified in Draft EIR/EIS Mitigation Measure LU-2. Further evaluation and studies will be performed during the final design phase to determine the final locations and feasibility of long-term arterial and ramp closures. This will encompass coordination with local agencies, emergency response units, and transit authorities.

Comment GL14-201

The closure options will be more fully evaluated to balance potential congestion with closure duration during final design when the Final TMP is prepared in coordination with the municipalities whose arterials will be most affected by the bridge replacements, as specified in Draft EIR/EIS Mitigation Measure LU-2. That coordination will include emergency service providers including, but not limited to, those emergency services provided by local jurisdiction, as well as access to hospitals.

Further evaluation and studies will be performed during the final design phase to determine the final locations and feasibility of long-term arterial closures. This will encompass coordination with various cities, emergency response units, and transit authorities. The environmental effects will be analyzed as part of the supplemental evaluation and will include potential effects on emergency responses surrounding the project corridor, including Orange Coast Memorial Hospital at the southeast quadrant of the Brookhurst Street/Talbert Avenue intersection.

Comment GL14-202

Absent final design plans, it is not possible to finalize the detours or any plans for their improvement; however, Draft EIR/EIS Mitigation Measure LU-2 does obligate Caltrans to develop the TMP: “Caltrans shall implement a TMP throughout the duration of the construction activities and make this document available to the public. The TMP shall seek to minimize project-related construction disruptions and would include traffic strategies designed in coordination with local jurisdictions.”

Comment GL14-203

Consistent with Caltrans policy, the EIR/EIS is based on preliminary engineering. All environmental project effects and avoidance, minimization, and/or mitigation measures for the project have been identified in the EIR/EIS. None of the proposed mitigation measures listed in Section 4.2.8 would result in additional significant impacts. Analysis of all known physical changes is provided in Chapters 3 and 4. As required by NEPA and CEQA, any changes to the

project that occur during final design would have to be reconsidered as required by CEQA (addendum or supplemental or subsequent EIR) and NEPA (re-evaluation), as applicable.

Comment GL14-204

At the time the Draft EIR/EIS was published, the 2012 FTP had not yet been approved by FHWA/FTA. It is Caltrans policy that at least one of the alternatives must be consistent with the conforming RTP/FTP, which at the time was the 2008/2010 documents. FHWA conformity finding for the 2012 RTP/Sustainable Communities Strategy (SCS) was issued on June 4, 2012, subsequent to circulation of the Draft EIR/EIS in May 2012.

Comment GL14-205

The determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the PDT, based to the extent possible on the results of field surveys and technical studies. Because the significance of an effect may vary depending on the environmental setting, set rules for determining significance in every case have not been established. Some public agencies have established thresholds of significance for CEQA. Because Caltrans has statewide jurisdiction and the setting for projects varies so extensively across the state, Caltrans has not and has no intention to develop thresholds of significance for CEQA. The determination of significance under CEQA is left to the internal PDT, with particular deference paid to the expertise of environmental staff and other specialists.

Comment GL14-206

The determination of significance under CEQA is left to the internal PDT. Please see also Response to Comment GL14-205.

Comment GL14-207

The checklist was used as a tool in helping to identify significant impacts in the document as opposed to its traditional use in an Initial Study. The environmental document was identified as an EIR in the NOP, and an Initial Study was not prepared for the I-405 Improvement Project. Please see also Response to Comment GL14-205.

Comment GL14-208

Table 3.2.6-1 on page 3.2.6-3 of the EIR/EIS includes all NAAQS and California Ambient Air Quality Standards (CAAQS). SCAQMD established significance thresholds that may be used to assess projects within their jurisdiction, but they do not establish air quality standards. In regards to making conclusions without presenting SCAQMD guidance, Caltrans is the Lead Agency for the proposed project and has full discretion to establish the criteria for determining significance

under CEQA. Please see Common Response – Air Quality regarding the methodology used to complete the air quality analysis.

Comment GL14-209

The environmental document is a joint CEQA/NEPA document. Although there is some overlap between NEPA avoidance and minimization measures and CEQA mitigation measures, CEQA mitigation measures are specifically identified in Section 4.2.8 of the Draft and Final EIR/EIS.

Comment GL14-210

Please see Response to Comment GL14-32.

Comment GL14-211

All feasible avoidance, minimization, and/or mitigation measures have been proposed in Chapters 3 and 4. Caltrans disagrees with the commenter that the proposed measures do not serve to reduce, avoid, eliminate, rectify, or compensate for the applicable environmental effects discussed in Chapters 3 and 4. Please see Responses to Comments GL14-190 and GL14-200 through GL14-203 and Common Response – Insufficient Environmental Document/Mitigation Measures.

Comment GL14-212

Mitigation Measure LU-2 was revised to "A purpose of the TMP is to minimize…" as is required by Caltrans.

Comment GL14-213

The Final TMP is prepared by the contractor who will build the project. The contractor will be required, at a minimum, to implement the referenced strategies, as applicable, with the purpose to minimize project-related construction disruption on businesses, service providers, residents, pedestrians, cyclists, and freeway and local traffic. A Final TMP nor the specific strategies can be developed until the construction staging is known based on the contractor's construction plan.

Comment GL14-214

As described in Section 4.2.8, Mitigation Measures T-1 and COM-1 through COM-14 are legally binding. Unless measures are removed as part of a future Addendum to the EIR or as considered within a subsequent or supplemental EIR, monetary incentives for acceleration of construction of project components would not jeopardize required implementation by the contractor.

Comment GL14-215

Some level of inconvenience is likely when closures necessitate detours. As stated in Draft EIR/EIS Mitigation Measure LU-2: "The TMP shall seek to minimize project-related

construction disruptions….” It is not possible to perfectly predict the responses of all motorists to the closures and detours; the commitment in LU-2 is to “seek to minimize project-related construction disruptions.” It is also not possible to finally determine what those detours will be prior to final design. The Draft EIR/EIS discloses the information available at this time and acknowledges that conditions may change by requiring development of the TMP in coordination with local jurisdictions. The Final TMP will be developed during the final design phase to study and determine required closures, alternative routes, and detours in more detail. This will encompass coordination with local agencies, emergency response units, and transit authorities. The environmental effects will be analyzed as part of the detailed evaluation, including potential increases in traffic on the local street network due to diverted traffic and detours. Improvements to local arterials and signalization, where required, would be undertaken to address this issue.

Comment GL14-216

Draft EIR/EIS Mitigation Measure COM-4 requires provision of motorist information during construction to alert motorists to travel delays and detours potentially resulting from construction. The actual action is the provision of the information.

Comment GL14-217

The language of Draft EIR/EIS Mitigation Measure UT-2 does not indicate a delegation of the responsibility to implement the mitigation. It does obligate Caltrans to notify emergency providers of temporary road closure to allow them to plan their emergency service delivery. Caltrans is ultimately responsible to ensure implementation of all of the mitigations included in the Final EIR/EIS. Caltrans cannot dictate how a service provider will respond to a roadway closure; however, Caltrans is required to develop the TMP in coordination with local jurisdictions (see Draft EIR/EIS Mitigation Measure LU-2), who are the operators of most emergency services in the corridor.

Comment GL14-218

Please see Response to Comment GL14-217.

Comment GL14-219

Please see Response to Comment GL14-217.

Comment GL14-220

The Aesthetics and Landscape Master Plan for the I-405 corridor can be obtained from Caltrans. As part of this project, the Aesthetics and Landscape Master Plan will be updated, coordinated, and reviewed through the corridor city stakeholder working group to incorporate desired

elements and themes for the corridor. The process was identified in Mitigation Measure VIS-5 provided below.

"VIS-5: Beginning with preliminary design and continuing through final design and construction, develop construction plans that apply architectural detailing to the proposed soundwalls, retaining walls, and bridges, including textures, colors, and patterns. Include elements such as caps, columns, pier caps, parapets, fencing, and abutment and wing walls as shown in the Aesthetics and Landscape Master Plan. In addition, bridge or architectural elements on ramps, bridges, and soundwalls will include forms and lines to match the existing built-environment features."

Comment GL14-221

As described in Appendix F, List of Technical Studies, "The technical studies prepared to support the analysis and conclusions contained in this Draft EIR/EIS are listed on the following page. These studies have been bound separately, and copies are available for public review from May 18, 2012, to July 2, 2012, at the following locations:

California Department of Transportation, District 12
3347 Michelson Drive, Suite 100
Irvine, CA 92612

Orange County Transportation Authority
550 South Main Street
Orange, CA 92863
www.octa.net/405improvement

All technical studies remain available for review at the addresses provided above.

Comment GL14-222

Regarding relocation of overhead utilities, please see Response to Comment GL14-35.

Comment GL14-223

All of these items are related to the financing of Alternative 3, which refers to further study that is being undertaken by OCTA on the value of time, travel time savings, dynamic tolling, and financial mechanisms to leverage additional financing. Finance methods do not in and of themselves have environmental impacts; therefore, they are not a subject of the Draft EIR/EIS.

Comment GL14-224

In the context of the comment, the value of time is related to leveraging additional financing for Alternative 3. See Response to Comment GL14-223.

Comment GL14-225

All important physical and operational characteristics for Alternative 3 were summarized in the Draft EIR/EIS. The referenced Expression of Interest in tolling is a public document and is available by request. The Expression of Interest is not part of the Draft EIR/EIS.

Comment GL14-226

It is customary to submit the Draft Modified Access Report prior to circulation of the Draft EIR/EIS and prior to identification of the Preferred Alternative. The Draft Modified Access Report is not part of the Draft EIR/EIS. It is also customary to submit an Expression of Interest in Tolling Authority during the environmental process as soon as an alternative is identified that would require federal tolling authority because this can be a lengthy process. An expression of interest is neither a commitment to toll nor an indication of a predisposition. The customary process has been followed in both cases, and neither is indicative of a predetermination of the Preferred Alternative.

Comment GL14-227

As shown in Tables 3.2.6-6 and 3.2.6-7 on page 3.2.6-25 of the EIR/EIS, the air quality analysis concludes that each build alternative would decrease regional emissions. As a result, regional emissions are not considered an “area of controversy” or an “issue to be resolved” under the State CEQA Guidelines. Please see Common Response – Insufficient Environmental Document/ Mitigation Measures.

Comment GL14-228

Alternative 4 was eliminated from further discussion for the reasons described in the Draft EIR/EIS on page 2-37. The decision to eliminate Alternative 4 is fully disclosed in the Draft EIR/EIS. CEQA and NEPA do not require carrying all alternatives through the entire environmental process.

Comment GL14-229

It is customary to submit an Expression of Interest in Tolling Authority during the environmental process as soon as an alternative is identified that would require federal tolling authority because this can be a lengthy process. An expression of interest is neither a commitment to toll nor an indication of a predisposition. The customary process has been followed with respect to the Expression of Interest and with respect to the Draft Modified Access Report, and neither is

indicative of a predetermination of the Preferred Alternative. Please see Response to Comment GL14-226.

Comment GL14-230

Please see Response to Comment GL14-229.

Comment GL14-231

Please see Response to Comment GL14-229. The contractual delivery method of constructing and operating the project would not result in an environmental impact; therefore, it is not covered in the Draft EIR/EIS.

Comment GL14-232

The environmental justice analysis was prepared in accordance with Executive Order (EO) 12898, which required each federal agency (or its designee) to take the appropriate and necessary steps to identify and address "disproportionately high and adverse" effects of federal proposed projects on the health or environment of minority and low-income populations. The environmental justice analysis for the proposed project is provided in Section 3.1.4.3 of the Draft EIR/EIS. Based on discussion and analysis in Section 3.1.4.3 and with incorporation of all avoidance, minimization, and/or mitigation measures discussed throughout Chapter 3, the proposed project alternatives would not cause disproportionately high and adverse effects on minority or low-income populations within the context and intent of EO 12898.

Comment GL14-233

Speed and throughput are not the only available metrics by which to determine best use of the available freeway property or to compare the traffic characteristics of the alternatives. The Draft EIR/EIS provides tables throughout Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, that show LOS, vehicle density, V/C ratios, ADT, VMT, corridor travel time, vehicle hours of delay, vehicle storage, and queuing, as well as speed and throughput. Furthermore, the CEQA and NEPA processes are not bound by local funding legislation.

Comment GL14-234

A wider range of alternatives was considered as part of the I-405 MIS and is summarized in Section 2.2.7. The Preferred Alternative optimizes transportation investment by providing the greatest throughput and shortest travel times in both the Toll Express Lane Facility and in the GP lanes.

Comment GL14-235

The costs of the alternatives are included in the Draft EIR/EIS and are not reported to be $5.8 billion. Please see Response to Comment GL14-132 and Common Response – Measure M Funding.

Comment GL14-236

It is appropriate and applicable to involve the stakeholders before and during construction along the project to create and encourage strategies for managing traffic. It is important to include employers in solutions that can include large numbers of commuters. This is one important component of the demand management strategy. Alternatives with LRT and BRT are included in the Draft EIR/EIS in Section 2.2.7, Alternatives Considered but Eliminated from Further Consideration. That section explains each of those alternatives and why they were eliminated. For a graphic summary of those alternatives, see Figure 2-39 of the Draft EIR/EIS.

Traffic demand management was included in the TSM/TDM Alternative included in the Draft EIR/EIS. The TSM/TDM Alternative does not meet the purpose and need of the project, as described in Section 2.2.4 of the Draft EIR/EIS. TSM/TDM elements are included in each of the build alternatives. As described in Section 2.2.7, Alternatives Considered but Eliminated from Further Discussion, of the Draft EIR/EIS, TSM and TDM components, including multimodal alternatives, were included and evaluated in various forms in the initial 13 MIS alternatives (see Section 2.2.4). All of the alternatives included park-and-ride facilities, as well as either enhanced local bus service, express bus service, or both. Although a TSM/TDM Alternative as an effective stand-alone alternative does not meet the project purpose, as explained in Draft EIR/EIS Section 2.2.7, Alternatives Considered but Eliminated from Further Discussion, the PDT identified the proposed TSM and TDM elements for the corridor. These elements would be implemented as part of Alternatives 1, 2, and 3, as described in Draft EIR/EIS Section 2.2.1, Common Design Features of the Build Alternatives,

Additionally, bike and pedestrian improvements are included in the project, as identified in the Draft EIR/EIS on page 3.1.6-103.

The considerations identified above for transit, TSM/TDM, bike, and pedestrian improvements are fully consistent with the Caltrans focus on Corridor System Management Plans.

Comment GL14-237

The regional transportation planning process is the appropriate venue for consideration of improvements to the entire I-405 corridor in Los Angeles and Orange counties. As part of that process, the portion of the I-405 corridor in which the proposed project would make

improvements is included in both the 2008 and 2012 RTP. The COG has completed the most recent planning studies for improvements to I-405 north of I-605 in Los Angeles County. Projects currently being planned in Los Angeles County to widen I-405 by one or two lanes in each direction and/or to include Express Lanes are still in the early planning stages. The *SR-91/I-605/I-405 Congestion Hot Spots Study* prepared by Metro and the COG in 2012 is the most recent planning document that includes and evaluates potential improvements along the I-405 and I-605 corridors north of the I-405/I-605 interchange. Preparation of Project Study Reports covering discrete portions of SR-91, I-605, and I-405 is the next step in advancing projects in this area.

The length of the project will be consistent in the Final EIR/EIS. Please see Response to Comment GL14-80.

Comment GL14-238

The regional transportation planning process is the appropriate venue for consideration of improvements to the entire managed lanes system in southern California. As part of that process, the portion of the I-405 corridor in which the proposed project would make improvements is included in both the 2008 and 2012 RTP. Additionally, the 2012 RTP includes a plan for implementation of a network of Express Lanes throughout southern California, as explained on page 3.1.6-96 of the Draft EIR/EIS.

Comment GL14-239

Please see Common Response – Coordination between Caltrans Districts 7 and 12, OCTA, Los Angeles Metro, COG, and the City of Long Beach.

Comment GL14-240

It is common for a transportation project to have a funding shortfall in the planning phase. The project is considered a Major Project by FHWA, and a Draft FP must be submitted to FHWA prior to approval of the Final EIR/EIS. The Draft FP must identify full funding for the project.

Comment GL14-241

The Draft EIR/EIS inherently acknowledges that, while all of the build alternatives are anticipated to reduce congestion in the I-405 corridor, none are expected to eliminate congestion in the corridor or provide performance with established traffic service objectives. The Caltrans Highway Design Manual (HDM), which identifies freeway and arterial design standards, states (Section 102.1): “Freeways should be designed to accommodate the design year peak-hour traffic volumes and to operate at a LOS determined by District Planning and/or Traffic Operations.” The HDM also provides a table indicating that LOS in urban areas should be in the

range of C to E. There are no LOS standards specified in the Measure M Extension. The Draft EIR/EIS inherently acknowledges that, while all of the build alternatives are anticipated to reduce congestion in the I-405 corridor, none are expected to eliminate congestion in the corridor, and none are anticipated to achieve LOS E during the peak hour, except in the Express Lanes of Alternative 3 where LOS C and D are anticipated. For the freeway to achieve LOS E during peak hours in the portion that is currently 10 lanes wide (5 lanes in each direction from Brookhurst Street to SR-22 East), it has been estimated that at least 10 additional lanes would be needed. Some reduction in the extent of this doubling of the freeway width may be possible through the use of managed lanes, TDM/TSM, transit, and other techniques. No feasible package of the full array of actions, including widening, is anticipated to provide LOS E conditions during peak hours because of the extent of latent demand for I-405. For LOS data on the freeway mainline, see Draft EIR/EIS Tables 3.1.6-4, 3.1.6-5, 3.1.6-12, and 3.1.6-13.

Comment GL14-242

No changes in bus routes are included as part of the proposed project. Alternatives with LRT and BRT are included in the Draft EIR/EIS in Section 2.2.7, Alternatives Considered but Eliminated from Further Consideration. That section explains each of those alternatives and why they were eliminated. Changes in bus service are not part of the No Build Alternative. Implementation of the build alternatives would improve arterials in the vicinity of I-405 and provide some improvement to bus travel times through interchange areas.

Comment GL14-243

Alternatives M3, M9, M10, M11, M12, and M13 (see Section 2.2.7 and Figure 2-8), evaluated as part of the I-405 MIS (2003-2006), included project components similar to what you are recommending within your comment. Although high-speed rail was not considered in the Draft EIR/EIS, LRT and BRT were considered for the corridor. High-speed rail would have many of the same drawbacks as LRT and BRT that are more fully covered in Common Response – Elimination of LRT and BRT Alternatives.

Comment GL14-244

HOV lane and Express Lane enforcement is not anticipated to have any environmental impacts; therefore, it was not identified in the Draft EIR/EIS. Enforcement areas are located in the median of the freeway and would shift the median barrier to provide a wider shoulder for enforcement. The environmental impacts with or without enforcement areas are not different. There is no evidence that enforcement of the occupancy requirement on SR-91 or on the existing HOV lanes on I-405 contributes to substantial nonrecurring congestion.

Comment GL14-245

Alternatives with dual HOV lanes are included in the Draft EIR/EIS in Section 2.2.7, Alternatives Considered but Eliminated from Further Discussion. MIS Alternatives 2, 8, and 11 include dual HOV lanes in each direction. They were eliminated from further discussion in part because, as the Draft EIR/EIS states on page 2-41, the dual HOV lanes "would include substantially underutilized HOV lane capacity in the southern part of the corridor with V/C ratios of 0.70 or less."

Comment GL14-246

All reported ROW information presented in the EIR/EIS is considered preliminary based on the best available information. Final ROW requirements cannot be determined until the next phase of the project and are subject to change. Section 3.1.4.2, Relocations and Real Property Acquisitions, of the Draft EIR/EIS addresses impacts to the communities as a result of required ROW acquisitions and project construction activities. Appendix T will be added to the Final EIR/EIS. The information in Appendix T will identify all properties that would be affected by full and partial acquisitions and TCEs for the Preferred Alternative.

Comment GL14-247

The climate change analysis presented in Chapter 4 (Section 4.2.7) of the EIR/EIS states that each build alternative would generate less GHG emissions than future no-build alternatives. In addition, Caltrans is supporting efforts to reduce VMT by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high-density housing along transit corridors. Caltrans is also supporting efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars and light- and heavy-duty trucks; Caltrans is doing this by supporting ongoing research efforts at universities, supporting legislative efforts to increase fuel economy, and participating on the Climate Action Team. It is important to note, however, that control of the fuel economy standards is held by EPA and CARB. Lastly, the use of alternative fuels is also being considered; Caltrans is participating in funding for alternative fuel research at the University of California at Davis.

To the extent that it is applicable or feasible for the project and through coordination with the PDT, the following measures will also be included in the project to reduce the GHG emissions and potential climate change impacts from the proposed project:

- Caltrans and CHP will work with regional agencies to implement ITS to help manage the efficiency of the existing highway system. ITS is commonly referred to as electronics,

communications, or information processing used singly or in combination to improve the efficiency or safety of a surface transportation system.

- SCAG will provide ridesharing services and park-and-ride facilities to help manage the growth in demand for highway capacity.
- The construction contractor will comply with SCAQMD rules, ordinances, and regulations in regards to air quality restrictions.

It is Caltrans' determination that, in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a determination regarding the significance of the project's direct impact and its contribution on the cumulative scale to climate change; however, Caltrans is firmly committed to implementing measures to help reduce potential effects of the project.

Comment GL14-248

Page 4-58 of the EIR/EIS includes a discussion related to Caltrans' involvement in implementing EOs S-3-05 and S-01-07 to help achieve GHG targets set forth in Assembly Bill (AB) 32. The climate change analysis presented in Chapter 4 (Section 4.2.7) of the EIR/EIS states that each build alternative would generate less GHG emissions than future no-build alternatives. This is consistent with Statewide efforts to reduce GHG emissions. Please see Response to Comment GL14-247 for a detailed discussion of climate change and GHG emissions.

Comment GL14-249

Please see Response to Comment GL14-248.

Comment GL14-250

Please see Response to Comment GL14-248.

Comment GL14-251

The referenced text is only describing the difference in the CEQA and NEPA terminology related to definition and use of the term significance between the NEPA analysis in Chapter 3 and the CEQA analysis in Chapter 4.

Comment GL14-252

Please see Response to Comment GL14-248.

Comment GL14-253

Please see Common Response – Health Risks.

Comment GL14-254

Caltrans is the Lead Agency for the proposed project and has full discretion to establish the criteria for determining significance under CEQA. Please see Common Response – Air Quality regarding the methodology used to complete the air quality analysis.

The CARB *Air Quality and Land Use Handbook* (Handbook) was developed as a guide for siting new sensitive receptors near facilities that release air toxics. The Handbook was not developed as guidance related to improving existing facilities. It is accurate that the Handbook lists recommended separation distances between freeways and sensitive receptors. It is also accurate that the SCAQMD MATES-II Study identified the highest regional cancer risks as being located adjacent to freeways, with 94 percent of the regional cancer risk associated with mobile sources; however, DPM emissions associated with the build alternatives would be less than No Build Alternative emissions. Please see Common Response – Health Risk regarding cancer risk.

Comment GL14-255

The MSAT Analysis was completed based on guidance provided by FHWA and supported by Caltrans. Refer to http://www.fhwa.dot.gov/environment/air_quality/air_toxics/ for supporting documentation related to this analysis. The comment also states that criteria pollutant and VOC emissions are detrimental to health. As shown in Tables 3.2.6-6 and 3.2.6-7 on page 3.2.6-25 of the EIR/EIS, the air quality analysis concludes that each build alternative would generate less regional emissions than existing conditions and future no build alternatives.

Comment GL14-256

Please see Common Response – Health Risks.

Comment GL14-257

Please see Common Response – Health Risks.

Comment GL14-258

Please see Common Response – Health Risk.

Comment GL14-259

EPA submitted separate comment letters for the proposed project and the I-710 Corridor Project. Please see Response to Comment GF4-1 regarding the EPA letter related to the proposed project, including the air quality comment. No further analysis is required related to the EPA comment submitted on other projects.

Comment GL14-260

With respect to a bottleneck northbound on I-405 near the county line, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Comment GL14-261

The MSAT Analysis, including DPM, was completed based on guidance provided by FHWA and supported by Caltrans. Refer to http://www.fhwa.dot.gov/environment/air_quality/air_toxics/ for supporting documentation related to this analysis. No impacts were identified, and further analysis is not required.

Comment GL14-262

Ground-borne vibrations and noise from highway operations is typically not a problem because the rubber tires and suspension systems of vehicles that travel on highways provide vibration isolation; however, vibrations may occur due to irregularities in the roadway surface, such as cracks, potholes, and expansion joints. If any of these irregularities are causing perceptible vibrations, they should be reported to the Caltrans maintenance department so that they may repair the problem. Furthermore, per Caltrans' Technical Advisory on Vibration titled "Transportation Related Earthborne Vibrations," the maximum highway truck vibration levels at a distance of 15 ft are well below the threshold of architectural building damage; therefore, there will not be any significant impacts because no buildings would be located at a distance of 15 ft from a truck traveling at highway speeds. However, results of vibration studies conducted by Caltrans indicate that vibrations from heavy trucks may be noticeable at distances up to 120 ft from the centerline of the nearest lane.

Concerning ground-borne noise, it does not apply to the I-405 Improvement Project because vibration levels caused by highway traffic is so low, it is unusual for highway operations to cause ground-borne noise. Ground-borne noise typically is associated with rail transit vehicles such as underground subway trains.

Temporary construction vibrations impacts may be anticipated due to activities such as pile driving, pavement breaking, and vibratory rolling. A detailed construction-related vibration analysis will be conducted before construction begins, and potential construction vibration impacts will be identified in a construction Noise and Vibration Monitoring and Mitigation Plan.

Comment GL14-263

Alternatives 1 and 2 include the addition of GP lanes. In the case of Alternative 3, no one is obligated to use the Express Lanes. Alternative 3 Express Lanes provide an option for a reliable

uncongested trip in exchange for payment of a toll, as discussed in Section 3.1.6 of the Draft EIR/EIS.

A comparison of the data in Table 3.1.6-7 of the Draft EIR/EIS shows that under Alternative 3 all users of I-405, whether they use the GP lanes or the Express Lanes, will be better off (have shorter travel time) than under the No Build Alternative.

Comment GL14-264

Please see Response to Comment GL14-263.

Comment GL14-265

Please see Response to Comment GL14-263.

Comment GL14-266

Please see Response to Comment GL14-263.

Comment GL14-267

If Alternative 3 is identified as the Preferred Alternative, OCTA/Caltrans could consider, as determined appropriate, similar types of programs and incentives for low-income commuters as part of the overall tolled Express Lane operating policy.

Comment GL14-268

Any and all implications of House Resolution 4338 are not required in the EIR/EIS. HR 4338 has not been passed, and what is currently proposed may not be what would be approved, if it is approved. No analysis of any pending legislation is included in the Final EIR/EIS.

Comment GL14-269

Any and all implications of Senate Bill 1813 are not required in the EIR/EIS. Senate Bill 1813 has not been passed, and what is currently proposed may not be what would be approved, if it is approved. No analysis of any pending legislation is included in the Final EIR/EIS.

Comment GL14-270

All comments sent to any of the referenced locations or addresses for either mail or e-mail have been considered and responded to within the Final EIR/EIS. Please see also Response to Comment GL14-7.

Comment GL14-271

The Draft EIR/EIS provides tables throughout Section 3.1.6, Traffic and Transportation/ Pedestrian and Bicycle Facilities, that show LOS, vehicle density, V/C ratios, ADT, VMT,

corridor travel time, vehicle hours of delay, speed, vehicle storage, and queuing, as well as throughput.

Comment GL14-272

No quantification is available for the extent to which congestion pricing along the limited distance of the I-405 corridor would affect carpool formation.

Comment GL14-273

The LOS method was augmented with additional metrics because there is little differentiation among the alternatives based on LOS for the freeway mainline. The additional metrics include V/C ratios, speed, corridor travel time, and daily and annual vehicle hours of delay.

Comment GL14-274

Ramp meters were analyzed for their potential to create queues backing onto and disrupting the operations of arterial roadways. The results of that analysis are summarized in Draft EIR/EIS Table 3.1.6-11. More detailed information is provided in the Traffic Study in the subsections of Chapter 3 devoted to individual interchanges. Under jammed freeway conditions, the effectiveness of ramp meters is negated because the freeway is not capable of receiving even the lower metered flow of traffic onto the freeway; therefore, an analysis of traffic conditions under metered ramp conditions was not provided.

Comment GL14-275

With respect to the potential unique travel patterns associated with the build alternatives, please see Response to Comment GL14-117.

Comment GL14-276

The traffic analysis presented in Section 3.1.6 of the Draft EIR/EIS accurately predicts the traffic conditions anticipated in the future.

Comment GL14-277

The speed index is used because the LOS F conditions anticipated will result in unstable traffic speeds that will be inconsistent along the corridor, with some motorists experiencing fully stopped conditions in some locations at some times and other motorists experiencing different conditions at those same locations. Over the length of the entire corridor, speeds should be generally and comparatively consistent with the summary speed data presented in the Draft EIR/EIS in Table 3.1.6-6. The traffic analysis presented in Section 3.1.6 of the Draft EIR/EIS accurately predicts the traffic conditions anticipated in the future.

Comment GL14-278

With respect to the potential unique travel patterns associated with the build alternatives, please see Response to Comment GL14-117.

Comment GL14-279

With respect to the potential unique travel patterns associated with the build alternatives, please see Response to Comment GL14-117.

Comment GL14-280

The HCM LOS method was augmented with additional metrics because there is little differentiation among the alternatives based on LOS for the freeway mainline. The additional metrics include V/C ratios, speed, corridor travel time, and daily and annual vehicle hours of delay.

Comment GL14-281

The MIS included analysis of a broad corridor area identified as the Tier 2 study area and shown in Figure 1-1 of the *Interstate 405 Major Investment Study Final Report* (February 2006). The Tier 2 study area extends west of I-405 to the ocean and east 2 to 3 miles, as well as north and south of the project limits 2 to 3 miles. Tier 2 encompasses the "influence" area of the segment of I-405 that is the subject of the MIS. Transit services extending beyond the study area into downtown Long Beach and to John Wayne Airport were included in the MIS. Extensive transit improvements were considered and are covered in Section 3.2.2 of the MIS Final Report. Express bus services were included in MIS Alternatives 6 and 8a, as described in the MIS Final Report on page 29 and in Table 3-3. BRT operating in the median of I-405 with station stops along I-405 at arterials was proposed in MIS Alternative 8; the BRT served the corridor from John Wayne Airport to downtown Long Beach, as shown in Figure 3-7 of the MIS Final Report.

Comment GL14-282

Please see Response to Comment GL14-281.

Comment GL14-283

SCAQMD monitors air quality conditions at 37 locations throughout the basin. I-405 borders the Inland Orange County and Coastal air monitoring subregions. The most relevant monitoring station to the project area is the Costa Mesa Monitoring Station. Alternative air monitoring stations are located in Anaheim, Long Beach, and Lake Forest. These stations are farther from the project area than the Costa Mesa Monitoring Station and were determined to not accurately represent existing air quality conditions in the vicinity of the project area. Historical data from the Costa Mesa Monitoring Station were used to characterize existing conditions in the vicinity of the project area.

Comment GL14-284

Air quality data from 2010 were not available when the analysis was completed. It is not anticipated that regional air quality significantly changed between 2009 and 2010.

Comment GL14-285

Caltrans does not consider commercial and industrial facilities to be sensitive to air quality emissions. In addition, the CO analysis was completed based on the methodology provided in the Caltrans Transportation Project-Level Carbon Monoxide Protocol. A worst-case representative sample of intersections was chosen based on low LOS and high traffic volumes. The State 1- and 8-hour standards of 20 and 9.0 parts per million (ppm), respectively, would not be exceeded at the analyzed intersections; therefore, Alternative 1 would not result in a CO hot spot.

The PM analysis followed the appropriate hot-spot guidance established by EPA, which included assessment of the 24-hour standard. No further analysis is required.

Comment GL14-286

The air quality analysis for the proposed project was initiated in 2009. It is Caltrans policy to use EMFAC 2007 for environmental studies initiated before October 1, 2011.

Comment GL14-287

The comment is related to completing a certain analysis recommended by SCAQMD (localized emissions). Please see Common Response – Air Quality regarding the methodology used to complete the air quality analysis.

Comment GL14-288

Please see Response to Comment GL14-287 regarding the assessment of localized emissions.

Comment GL14-289

Please see Response to Comment GL14-287 regarding the assessment of localized emissions.

Comment GL14-290

Please see Response to Comment GL14-287 regarding the assessment of localized emissions.

Comment GL14-291

Please see Response to Comment GL14-287 regarding the use of SCAQMD regional thresholds of significance.

Comment GL14-292

The comment states that the CO analysis contained on page 3.2.6-33 of the EIR/EIS does not include a "link" analysis for the freeway and fails to include the contribution of the CO emissions from the freeway at the local intersections. The analysis on page 3.2.6-33 is related to the project-level conformity assessment. The CO analysis completed for this segment was accurately based on the methodology provided in the Caltrans Transportation Project-Level Carbon Monoxide Protocol, which was designed for intersection analyses. A worst-case representative sample of intersections was chosen based on low LOS and high traffic volumes. The estimated CO concentrations include emissions associated with intersection movements and background CO concentrations obtained from the local monitoring station. Regarding the "link" analysis, please see Common Response – Air Quality regarding the methodology used to complete the air quality analysis.

Comment GL14-293

Please see Response to Comment GL14-284 regarding historical air quality data.

Comment GL14-294

Please see Response to Comment GL14-285 regarding 2010 air quality data.

Comment GL14-295

Please see Common Response – Air Quality regarding the methodology used to complete the air quality analysis.

Comment GL14-296

Please see Response to Comment GL14-288 regarding the use of SCAQMD thresholds of significance.

Comment GL14-297

Please see Response to Comment GL14-296 regarding the existing conditions.

Comment GL14-298

Please see Response to Comment GL14-288 regarding the use of SCAQMD thresholds of significance.

Comment GL14-299

The proposed project was presented to the SCAG Transportation Conformity Working Group (TCWG) to determine the requirements for a transportation conformity hot-spot analysis. Membership of TCWG includes federal (EPA, EPA Region 9, FHWA, FTA), State (CARB, Caltrans), regional (Air Quality Management Districts, SCAG), and sub-regional (County

Transportation Commissions) agencies and other stakeholders. On January 25, 2011, the TCWG determined that a qualitative PM hot-spot analysis was required for the proposed project. On February 27, 2012, EPA announced in the *Federal Register* that the grace period for completing qualitative hot-spot analyses has been extended until March 2, 2013. Further analysis is not required.

Comment GL14-300

Please see Response to Comment GL14-299 regarding the requirements for a quantitative hot-spot analysis.

Comment GL14-301

The comment correctly identifies that the corridor length used to estimate emissions in RoadMOD was 14 miles instead of 16 miles. The model was updated, and the results indicated that daily VOC and CO emissions would increase by 1.2 percent, NO_X emissions would increase by 0.2 percent, and carbon dioxide (CO_2) emissions would increase by 1.5 percent. PM emissions were not different than what was presented in the EIR/EIS. This change in emissions would not result in new impacts, and further analysis is not required.

Comment GL14-302

The CO analysis was based on the Caltrans Transportation Project-Level Carbon Monoxide Protocol; however, an adjustment was made to account for the use of CAL3QHS as opposed to CALINE4. The Caltrans Carbon Monoxide Hot Spot Analysis Web site (http://www.dot.ca.gov/hq/env/air/pages/CO.htm) states that "CO hot spot modeling based on EPA's standard Modeling Guidance is acceptable if EMFAC is used to generate emission factors instead of EPA's MOBILE or MOVES models." CAL3QHC is a model approved by CARB and EPA, and is a CALINE3-based CO model with queuing and hot-spot calculations and with a traffic model to calculate delays and queues that occur at signalized intersections.

While the approach and departure distances can be lengthened, it is not anticipated that the increased distance would substantially affect intersection concentrations. Most of the emissions estimated using the CAL3QHC model are relating to queued vehicle idling. Increasing the approach and departure distances would not affect these stopped vehicles. In addition, worst-case emissions were estimated to be well below the 1- and 8-hour State standards in 2020 (80 and 59 percent, respectively). Increasing the distances would not double CO concentrations and would not demonstrate the exceedance of any CO standard.

Comment GL14-303

In the CEQA checklist, the mentioned applicable standards are held to the level of government at which the lead agency operates, which is Caltrans in this case. This interstate facility operates

within the State of California ROW and is obligated to fulfill federal and State laws, policies, and procedures. The Community Noise Equivalent Level (CNEL) noise metric differs from the peak-hour Equivalent Sound Level over 1-hour ($L_{eq[h]}$) used by Caltrans in accordance with the NAC of Title 23, Part 772 of the CFR, titled "Procedures for Abatement of Highway Traffic Noise and Construction Noise;" therefore, CNEL values were not used for the analysis. For this project, significant impacts under CEQA guidelines were determined to occur if the predicted build alternative traffic noise levels were more than 5 dB above the predicted No Build Alternative traffic noise levels.

Please see Section 4.2.2.9, Noise Checklist Questions, of the EIR/EIS for the discussion of criteria used for CEQA-related noise issues.

Comment GL14-304

As a result of this project, there is no significant noise impact because nowhere in the project is noise increased by 12 dB, which is the threshold for a significant impact. Therefore, no mitigation is required under CEQA.

Please also see Response to Comment GL14-307 for a discussion of feasibility, cost analysis, reasonableness, and impacts under CEQA guidelines.

Comment GL14-305

Typically, unless the project proposes to construct a new freeway facility, an increase in noise levels of 12 dB or more above existing levels is not realized. In the Seal Beach area, the traffic noise levels were predicted to increase from zero to 3 dB above the existing noise level, which is much lower than 12 dB.

Comment GL14-306

Out of the 30 locations where long-term measurements were taken, only 2 measurements fell short of recording data for a full 24 hours. Because removal of the sound-level meter required access to private property, the long-term noise measurement at 3077 Yukon Avenue was cut short of 24 hours by 1-hour at the request of the homeowner who needed to leave the residence. The peak traffic noise hours of the morning and afternoon periods were discernable from the acquired data.

Comment GL14-307

Soundwalls were evaluated in accordance with State and federal guidelines, which include Caltrans' Traffic Noise Analysis Protocol and the NAC of Federal Title 23, Part 772 of the CFR, titled "Procedures for Abatement of Highway Traffic Noise and Construction Noise." The determination of whether a soundwall is recommended is a successive process where several

considerations must be satisfied for continuance; not based on the step of that process where a particular abatement measure fails to meet required criteria. The process is described in the following paragraphs:

> *The Noise Study Report shows the impact analysis and identifies feasible traffic noise abatement from an acoustic standpoint. The NADR determines the reasonableness of the feasible traffic noise abatement measures presented in the Noise Study Report. Furthermore, feasibility – providing 5 dB of traffic noise reduction – must be achieved for at least one impacted frequent outdoor use area before the reasonableness determination for a soundwall can be made.*
>
> *Caltrans' Protocol defines the procedure for assessing reasonableness of noise barriers from a cost perspective. A cost-per-residence allowance is calculated for each benefited residence (i.e., residences that receive at least 5 dB of noise reduction from a noise barrier). Caltrans' published 2009 base allowance of $31,000 was used for this project. Additional allowance dollars are added to the base allowance based on absolute noise levels, the increase in noise levels resulting from the project, achievable noise reduction, and the date of building construction in the area. Total allowances are calculated by multiplying the cost-per-residence by the number of benefited residences.*
>
> *Recommended soundwalls are usually both feasible and reasonable from an acoustic and cost consideration standpoint, respectively; however, there are examples where a soundwall could be recommended without meeting the feasible and/or reasonableness criteria such as with gap closures.*

Cost considerations and whether a particular mitigation measure is recommended within the Draft EIR/EIS are in reference to NEPA 23 CFR 772 analysis only. Determining significance for noise impacts pursuant to CEQA is independent of the federal NEPA 23 CFR 772 analysis discussed in Section 3.2.7, Noise, which is centered on the detailed noise analysis of impacts according to the NAC. Also see Response to Comment GL14-305.

The metric used for the CEQA analysis is outlined in Chapter 4 of the Draft EIR/EIS. When determining whether a noise impact is significant under CEQA, noise analysis focuses on a comparison of the No Build Alternative noise level and the future build alternative noise level. The CEQA noise analysis involves looking at the setting of the noise impact and then how large or perceptible any noise increase would be to the given area. Key considerations include the uniqueness of the setting, the sensitive nature of the noise receptors, the magnitude of the noise increase, the number of residences affected, and the absolute noise level.

For this project, the threshold for significance under CEQA is an increase of 5 dB above the no-build traffic noise levels compared to the build alternative traffic noise levels. When the required mitigation measures of the NEPA 23 CFR 772 analysis were incorporated during the CEQA analysis, it was determined that for all areas of the project there would be a less than significant increase in the operational noise of the facility. Had there been an occurrence of a significant noise impact under CEQA, mitigation measures of the NEPA 23 CFR 772 analysis would then need to be amended to alleviate such impacts.

Soundwall S733 did not meet the reasonableness criteria; therefore, it was not recommended.

Comment GL14-308

The Draft EIR/EIS does not provide detailed construction noise analysis because the specific information required for such an analysis was not available at the environmental phase of the project. Once the final design is established and details of the construction activities become available, calculations will be conducted to determine any noise and vibration impacts from various construction phases and the application of appropriate mitigation measures. Text has been added to Section 3.2.7.4, Avoidance, Mitigation, and/or Minimization Measures, of the Final EIR/EIS to include NOI-4, which specifies provisions for the Noise and Vibration Construction Monitoring and Mitigation Plan. Detailed noise and vibration mitigation measures and monitoring procedures will be specified in the Noise and Vibration Construction Mitigation and Monitoring Plan. Noise and vibration measurements will be conducted during construction to confirm the effectiveness of the mitigation measures.

Comment GL14-309

With a project of this magnitude, there would be temporary unavoidable construction noise impacts for which mitigation measures would not reduce significant impacts to levels that would be less than significant (e.g., pile-driving). Noise levels of various construction activities will be calculated, and appropriate mitigation measures will be identified before the start of construction. Predicted noise levels and mitigation measures will be disclosed in advance in the Noise and Vibration Construction Monitoring and Mitigation Plan. The goal of construction noise mitigation measures will be to meet Caltrans construction noise conditions specified in Standard Specification Section 7_1.001.

Comment GL14-310

It is true that a 5-dB increase in noise level is considered a noticeable change in noise level. The statement from page 4-12 in the Draft EIR/EIS "(generally considered the minimum noise increase perceptible to the human ear)" has been removed. The statement in the Noise Study

Report correctly states that an increase of 3 dB is the typical level at which an increase in noise level is noticeable.

The Noise Element of the Seal Beach General Plan states that changes in noise levels less than 1-dB are not discernible and that an increase in noise level of 5 dB is clearly discernible. Furthermore, the Noise Element identifies that a 3-dB increase in noise level would be identified as a substantial increase. Results of numerous studies have shown that an increase in noise level of 3 dB is considered the minimum noise increase perceptible to the ear of the average human; therefore, the Noise Element identification that a 3-dB increase in noise level would be identified as a substantial increase is not accurate.

Comment GL14-311

CEQA requires compliance with one of the two situations presented in the CEQA checklist text, "standards established in the local general plan or noise ordinance, **[or]** applicable standards of other agencies." The latter section, which states, "applicable standards of other agencies," is in reference to the State and federal procedures that would be followed by Caltrans. Because the lead agency is at the State level and the project operates within State ROW, local standards and thresholds are not considered.

When the recommended abatement measures of NEPA 23 CFR 772 are incorporated into the project, there would be no significant impacts in accordance with the CEQA guidelines.

Please see Common Response – Noise/Noise Analysis.

Comment GL14-312

The tennis courts are protected by a 7-ft-high wall on top of a berm located on private property, which shields the otherwise direct exposure to freeway traffic noise. In accordance with Caltrans' Traffic Noise Analysis Protocol, an acoustically feasible soundwall must also be reasonable for it to be recommended. Soundwall S1162 was determined to be acoustically feasible for all of the build alternatives; however, S1162 was determined to be reasonable and recommended for Alternative 3 only. Therefore, Soundwall S1162 was not recommended for Alternatives 1 and 2.

Please also see Response to Comment GL14-307 for the procedure of soundwall analysis.

Comment GL14-313

Please see Responses to Comments GL14-303 and GL14-307 in regards to obligations under CEQA.

Please see Response to Comment GL14-312 for a discussion of Soundwall S1162.

Under Alternatives 1 and 3 (with the design option that avoids relocation), the existing 18-ft-high soundwall along Almond Avenue would remain as-is and untouched; therefore, recommended replacement in-kind soundwalls are not needed. However, under Alternatives 2 and 3 (without the design option that avoids relocation), sections of the existing soundwall would need to be removed, relocated, and replaced in-kind along the project alignment where space is needed for the proposed project's additional lanes and required safety features. Replacement in-kind Soundwalls S1116 and S1142 are required for Alternatives 2, and Soundwalls S1116 and S1132 are required for Alternative 3.

Comment GL14-314

Please see Common Response – Noise/Noise Analysis for noise policies and procedures.

The Noise Study Report provides details about requirements for the traffic noise impact analysis, shows the impact analysis results, and identifies feasible abatement measures. The NADR determines the reasonableness of the feasible traffic noise abatement measures presented in the Noise Study Report. Before a reasonableness determination can be made, feasibility – providing at least a 5-dB traffic noise reduction – must be achieved for at least one frequent outdoor use area. If a soundwall is acoustically feasible and reasonable, then it may be recommended. In the Draft EIR/EIS, Section 3.2.7, Noise, outlines the details of the recommended traffic noise abatement measures from the NADR and includes detailed information regarding soundwalls and their heights. Appendix N of the EIR/EIS includes figures that show the locations and heights of all recommended soundwalls.

The following is a list of the type of soundwalls analyzed in the Seal Beach area:

- New Soundwalls – S1162 for Alternative 3 only
- Modified Existing Soundwalls – None
- Forfeited Existing Soundwalls – None
- Replacement Soundwalls – S1116 and S1142 for Alternative 2 only
- Replacement Soundwalls – S1116 and S1132 for Alternative 3 only
- "Rejected" Soundwalls – S1162 for Alternatives 1 and 2

There are currently no plans to conduct traffic noise measurements after completion of the project.

Comment GL14-315

Under Alternatives 1 and 3 (with the design option that avoids relocation), the existing 18-ft-high soundwall along Almond Avenue would remain as-is and untouched; therefore, recommended Soundwalls S1116, S1132, and S1142 would no longer be required as replace in-kind soundwalls

for the existing soundwall. However, under Alternatives 2 and 3 (without the design option that avoids relocation), sections of the existing soundwall would need to be removed, relocated, and replaced in-kind along the project alignment with Soundwalls S1116, S1132, and S1142 where space is needed for the proposed project's additional lanes and required safety features.

In-kind soundwalls would be reconstructed to match the existing structure as much as possible, which would include the style of the soundwall and the physical dimensions, such as height and length. Specifications of soundwalls throughout the project would become available when the design has been finalized.

Typically, soundwalls are planned to be constructed at early phases of the project when it is possible to provide construction noise mitigation measures; however, it may not be possible to construct the replacement soundwall without first removing the existing soundwall due to space limitations. Therefore, there may be a period of time where no abatement of traffic noise will occur until the replacement soundwall is constructed. During the final design when details of the construction activities become available, noise levels will be calculated and appropriate mitigation measures will be identified. This information will be included in the Noise and Vibration Construction Monitoring and Mitigation Plan. Please also see Responses to Comments GL14-308 and GL14-309 regarding construction scheduling and noise mitigation.

Extending the height of the existing soundwall along Almond Avenue would have limited effects for the adjacent residential areas. Soundwalls have a "diminishing margin of return" once the line-of-sight to major sources of traffic noise have been cut or blocked, which include, but are not limited to, tire, engine, and truck stack exhaust noise. The insertion loss for barriers does not follow a linear trend in reducing noise levels once the line-of-sight is removed from the tallest noise source, which for traffic noise is the exhaust from truck stacks, which are approximately 12 ft from ground level. Even if the existing soundwall could be replaced with a wall taller than the original, the insertion loss would still be less than the required 5-dB insertion needed to attain acoustic feasibility according to Caltrans' Traffic Noise Analysis Protocol. In fact, adding 12 ft in height to the existing 18-ft-tall soundwall would still not lower noise levels by an additional 5 dB.

Please also see Common Response – Almond Avenue Soundwall.

Comment GL14-316

Please see Common Response – Insufficient Environmental Document/Mitigation Measures.

Response to Comment Letter GL15

Comment GL15-1

Caltrans and OCTA thank the City of Seal Beach for participating in the environmental process for the I-405 Improvement Project. The City's comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. The City will be notified when the Final EIR/EIS is available for review.

Caltrans and OCTA appreciate the City's concerns outlined in your letter and have provided responses addressing these concerns (please see Responses to Comments GL14-1 through GL14-316 above and Common Responses – Preferred Alternative Identification, Almond Avenue Soundwall, Relocation of Gas Lines, Opposition to Tolling, Traffic Bottleneck at the Orange County/Los Angeles County Line, Air Quality, and Health Risks).

Comment GL15-2

As described in Section 2.2.7, Alternatives Considered but Eliminated from Further Discussion, alternatives that did not meet the project purpose, including Alternative 4 and the TSM/TDM Alternative, were removed from consideration. These alternatives are not viable and are not fully analyzed in the EIR/EIS. This section explains each of those alternatives and why it was eliminated. As stated on EIR/EIS page 2-37, all elements of Alternative 4 are included in Alternatives 1, 2, and 3. As stated on EIR/EIS page 2-50, although TSM/TDM measures alone could not satisfy the project's stated purpose and need, TSM/TDM components have been included in the proposed build alternatives and are described in Section 2.2.1, Common Design Features of the Build Alternatives.

Comment GL15-3

Caltrans, as assigned by FHWA, has prepared this joint Draft EIR/EIS, in compliance with CEQA and NEPA. Please see Common Response – Insufficient Environmental Document/ Mitigation Measures.

Comment GL15-4

Please see Responses to Comments GL14-1 through GL14-316 above and Common Response – Preferred Alternative Identification.

Response to Comment Letter GL16

Comment GL16-1

Caltrans and OCTA thank the City of Westminster for participating in the environmental process for the I-405 Improvement Project. The City's comments were considered during identification

of the Preferred Alternative as described in the Final EIR/EIS. The City will be notified at the address provided in your comments when the Final EIR/EIS is available for review.

Caltrans design standards prohibit placement of driveways opposite ramp terminals for safety purposes. The reconstruction of driveways shown on sheet L-19 in Appendix P (P1, P2, and P3) considers the limits required to accommodate safe grades to the onsite parking. Additional coordination with the City will be conducted during final design.

Comment GL16-2

Caltrans and OCTA have been able to reduce the ROW requirements and effects on parking at El Torito Restaurant along Goldenwest Street approaching Bolsa Avenue. The street cross-sectional widths have been reduced, similar to existing conditions, which allows a reduction of impacts to the parking lot from 35 to 3 spaces. The project will still affect the planning strip and sidewalk; however, the sidewalk will be reconstructed in-kind. Information in Table 3.1.4-7 in the Final EIR/EIS will be updated to reflect the reduction in effects on parking spaces.

Comment GL16-3

Please see Response to Comment GL4-12.

Comment GL16-4

The proposed improvements at this location are shown on Layout Sheet L-16 in Appendix P (P1, P2, and P3). The proposed improvements provide a direct and continuous ADA-accessible route, which is an improvement from existing conditions. Caltrans/OCTA are open to considering all suggestions that could result in enhanced pedestrian safety.

Comment GL16-5

Parking space impacts at the Westminster Mall have been reduced to zero. Information in Table 3.1.4-7 in the Final EIR/EIS will be updated to reflect the reduction in effects on parking spaces.

Comment GL16-6

Traffic noise studies follow the State and federal guidelines as detailed in Caltrans' Traffic Noise Analysis Protocol, and soundwalls are designed in accordance with the latest Caltrans specifications at the time of the final design. State and federal regulations for the traffic noise impact study and recommended abatement measures must be followed for the proposed project.

Caltrans maintains the soundwalls because they are within the State ROW. Any specific soundwall in need of repairs or maintenance would need to be addressed to Caltrans Maintenance Department directly.

Please see Common Response – Noise/Noise Analysis.

Comment GL16-7

The preference for Alternatives 1 and 2 over Alternative 3 has been noted and will be considered by Caltrans and OCTA during identification of the Preferred Alternative. Please see Common Response – Preferred Alternative Identification.

COMMUNITY GROUP COMMENTS (CG)

CG1

College Park East Neighborhood Association
P. O. Box 3501
Seal Beach, CA 90740
sealbeachcpena@hotmail.com Tax ID # 33-0490654

July 16, 2012

Ms. Smita Deshpande, Branch Chief
CalTrans District 12
2201 Dupont Drive, Suite 200
Irvine, CA 92612

Attn: 405 DEIR/DEIS Comment Period

Dear Ms. Deshpande:

Enclosed are 71 pages of petitions containing 1,065 signatures: 1,038 from College Park East (CPE), Seal Beach residents, and 27 from neighboring communities who are concerned and angry about two of the proposals -- specifically, Alternatives 2 & 3. 1

These residents are most distressed with the prospect of Almond Avenue sustaining unacceptable changes: the relocation of the sound wall that will basically, when completed, cut the street almost in half creating a substandard street. In addition, moving the wall closer to our homes will add to increased noise and air pollution, and decreased property values. 2

They do not wish to have the two gas/petroleum lines re-routed from the south side of the freeway through CPE. We already have a major high pressure gas line (36" or 48") that runs along the north side of Lampson Avenue -- the main line from San Diego to Santa Barbara. We do not wish to be ringed by utility pipelines that have incredible consequences if their integrity is violated. 3

They are concerned with the lack of a coordinated project with Los Angeles County for additional traffic lanes at the county line. This will result in additional congestion as vehicles merge down two lanes to go north on the 405. If the area between the 22 and the 605 is the country's busiest stretch of freeway it will now become the country's biggest parking lot and the area at the county line will become the country's biggest bottleneck. All that combined with the on-shore prevailing winds, will increase noise and air pollution into our community. 4

They do not see either of these proposals solving any traffic congestion problems. All Alternative 3 does is collect tolls and add more traffic to the general purpose lanes as many people just simply either cannot or will not use them, especially those on fixed and/or reduced 5

CG1 Continued

incomes. Studies show that the tipping point for use of the car pool lanes is 2 people per vehicle. A requirement for more people per car than that dramatically lowers the use of such lanes. 5

We would like the OCTA and CalTrans boards be guided by common sense and reality, and not wishful thinking of "buckets of money" (tolls) coming in, which, given the reports on the 73 freeway, will not materialize.

Thank you for your consideration.

Sincerely,

Schelly Sustarsic
President, CPENA

Patricia E. Campbell
Ssecretary/Treasurer, CPENA

Encls.

CG1 Continued

PETITION REGARDING DRAFT ENVIROMENTAL IMPACT REPORT
FOR
I-405 IMPROVEMENT PROJECT SCH NO. 2009091001

TO: Smita Deshpande, Caltrans District 12, 2201 Dupont Drive, Suite 200, Irvine CA, 92612

We, the undersigned, do not support Project Alternatives 2 and 3 for the following reasons:
1) They require the Almond Ave. soundwall to be moved further into College Park East, causing across-the-board increased noise and air pollution, and decreased property values.
2) These two alternatives would require relocation of utilities: overhead electrical lines could be relocated to the north side of Almond Ave. (all utilities are under-grounded in CPE); a 14" and separate 16" diameter gas/petroleum pipeline may be relocated from south of the I-405 Freeway to a new alignment through College Park East.
3) Lack of a coordinated project with Los Angeles County for additional through traffic lanes north on the I-405 Freeway at the county line without which would create additional congestion with a significant increase in noise and air pollution in College Park East, Seal Beach, and Rossmoor due to prevailing on-shore winds.
4) We do not support the toll express lanes of Alternative 3 because of the undue economic hardship on many people, especially fixed income people, such as the senior citizens of Seal Beach, Orange and Los Angeles Counties

	Printed Name	Signature	Seal Beach Street Address
1	ROBERT M. PEARSON JR	Robert M. Pearson Jr	3820 WISTERIA ST
2	Claudia Coffman	[illegible]	3830 Wisteria St
3	Tim Davidson	[illegible]	3870 Wisteria St.
4	Frances Maddox	F Maddox	3930 Wisteria St
5	Jessica Tarzia	[illegible]	3831 Wisteria St.
6	GARY LAWS	[illegible]	3890 WISTERIA ST
7	Diana Mainzot	Diana Mainzot	3070 Wisteria St.
8	Renee Brown	[illegible]	3580 Wisteria ST
9	Melissa VanZee	[illegible]	3580 Wisteria ST
10	Stephani Meyers	S Meyers	3580 Violet St
11	Nancy Weintraub	[illegible]	3570 Violet Street
12	Janet Dorsaski	Janet Dorsaski	3560 Violet St.
13	Brandy Castillo	Brandy Castillo	3571 Violet St.
14	Eduardo Castillo	[illegible]	3571 Violet St.
15	Erlinda de los Santos	Erlinda de los Santos	3591 Violet St.
16	KELLY A HUMPHREY	[illegible]	3541 ROSE CIRCLE

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	SHERI WOODEN	Sheri Wooden	3561 Rose Cir.
2	CRAIG KOEHLER	[illegible]	3601 Rose Cir
3	THERESA KOEHLER	[illegible]	3601 Rose Circle
4	Sheri Bathurst	Sheri Bathurst	3591 Rose Circle
5	JEFF Bathurst	Jeff Bathurst	3591 Rose Circle
6	Christa Moussaria	[illegible]	3581 Rose Circle
7	LAURA SAN NICOLAS	[illegible]	3581 Rose Cir.
8	MICHAEL GODOY	[illegible]	3571 ROSE CIR, SB
9	Tyler GODOY	[illegible]	3571 ROSE CIR, SB
10	Brian Cronin	[illegible]	3531 Primrose Cir.
11	Jill Cronin	[illegible]	3531 Primrose Cir
12	Marianne Cannizzaro	[illegible]	3541 Primrose Cir, SB
13	Sandra S Nieder	SANDRA S. NIEDER	3551 PRIMROSE CIR
14	Sherlle Sheaffer	[illegible]	3561 PRIMROSE CIR
15	Neil Sheaffer	[illegible]	3561 Primrose Cir
16	Joseph Sheaffer	[illegible]	3561 Primrose Cir

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	Juan C. Bernal	[illegible]	3591 Primrose Circ.
2	Adela Romero	[illegible]	3591 Primrose Cir
3	Beth Soderling	[illegible]	3590 Primrose Cir.
4	Larry Soderling	[illegible]	3590 Primrose Cir
5	Frances Soderling	[illegible]	3590 Primrose Cir SB
6	Arian Mahboob	[illegible]	3600 Primrose Cir, SB
7	David Valdez	[illegible]	3610 Primrose circle
8	Maria Hernandez	[illegible]	3610 Primrose circle
9	Anun Sunt	[illegible]	3611 Primrose Cir.
10	Marilyn Rothery	[illegible]	3570 Primrose Cir.
11	Richard L. Rosenberg	[illegible]	3560 Primrose Cir.
12	Jeff Wells	[illegible]	3550 Primrose Cir
13	Elyse Wells	[illegible]	3550 Primrose Cir
14	ROGER NIEDER	[illegible]	3551 PRIMROSE CIR
15	BRIAN CONTRERAS	[illegible]	3541 Primrose Cir
16	John Cabello	JOHN CABELLO	3546 Primrose Cir

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	JEFFREY Tilson	[illegible]	4157 Banyan Ave 90740
2	Courtney Nelson	[illegible]	4157 Banyan Ave., 90740
3	Jenea Lawley	[illegible]	3550 CARNATION Cir 90740
4	Arthur LAWLEY	[illegible]	3550 CARNATION Circle 90740
5	Rebecca Barrett	[illegible]	1391 Pelham Rd 90740
6	Dieter Trost	[illegible]	4196 Dogwood
7	Lawrence Gershon	[illegible]	4208 Dogwood
8	ROBERTA GERSHON	[illegible]	4209 DOGWOOD Ave
9	MAGALI PARDO	[illegible]	4206 DOGWOOD AVE
10	ZOELI PARDO	[illegible]	4206 DOGWOOD AVE
11	GERALD REGNIER	[illegible]	4228 Dogwood Ave, 90740
12	Kimberlee V. Regnier	[illegible]	4228 Dogwood Ave. 90740
13	Jasper Andy	[illegible]	4241 Dogwood Ave 90740
14	Rebecca VanderBink	[illegible]	4244 dogwood Ave SB 90740
15	diana "	[illegible]	4294 dogwood Ave SB
16	gerrit "	[illegible]	4294 dogwood Ave SB

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	Wendy Hanson	[illegible]	4217 Banyan
2	Rusty Hanson	[illegible]	4217 Banyan
3	Terri Jones	[illegible]	4197 Banyan
4	Brian Jones	Family - Spouse	4197 Banyan
5	Doug Jones	Family - Son	4197 Banyan
6	Stacy Jones	Family - daughter	4197 Banyan
7	Kainan Phan	[illegible]	4173 Banyan
8	Darrell Didriksen	Family - Spouse	4173 Banyan
9	Tom Ogurzelek	Family - Son	4149 Banyan
10	Cristina Ostrich	[illegible]	3621 Camelia
11	Erica Ostrich	Owner / Mother	3621 Camelia
12	Steve Ostrich	Owner / Father	3621 Camelia
13	Arlene Mercer	Arlene K. Mercer	3541 Daffodil Circle
14	Terry Mercer	Family - Spouse	3541 Daffodil Circle
15	Gwen Sale	[illegible]	3520 Dahlia Circle
16	Nil Sale	Husband	3520 Dahlia Circle

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	Julianne R. Foster	[illegible]	3560 Daffodil Circle
2	Edward H. Foster	[illegible]	3560 Daffodil Cir.
3	Steve Fitzpatrick	[illegible]	3570 Daffodil Cir
4	Jackie Fitzpatrick	[illegible]	3570 Daffodil Cir
5	Carl Clissold	[illegible]	3561 Daffodil Cir.
6	Kay Clissold	[illegible]	3561 Daffodil Circle
7	Derrick Chow	[illegible]	3550 Daffodil Circle
8	Jana Chow	[illegible]	3550 Daffodil Cir
9	William Moss	[illegible]	3521 Daffodil Cir
10	Gina Moss	[illegible]	3521 Daffodil Cir
11	Carole McLaughlin	[illegible]	3520 Daffodil Cir
12	Sean McLaughlin	[illegible]	3520 Daffodil Cir
13	Wayne McLaughlin	[illegible]	3520 Daffodil Cir
14	Herman Williamson	[illegible]	3561 Jasmin Cir
15	Nancy Williamson	[illegible]	3561 Jasmin Cir
16	Mark Williamson	[illegible]	" " "

CG1 Continued

PETITION REGARDING DRAFT ENVIROMENTAL IMPACT REPORT
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	Printed Name	Signature	Seal Beach Street Address
1	Scott Sutherland		4816 Dogwood Ave
2	Laramie Price		3881 Sunflower St.
3	Adelinda Gutierrez		4201 Birchwood Ave
4	Carlos Gutierrez		4201 Birchwood Ave.
5	Jacqueline Flores		4257 Fir Ave.
6	LOWELL BYRD		3691 OLEANDER ST
7	Ann Byrd		3691 Oleander
8	Carmen Vasquez		4572 Cranberry
9	Cristi Shinn		3820 Violet St.
10	FRANCISCO ROSARIO		3820 Violet ST.
11	CARROLL DIDRIKSEN		4173 Banyan
12	Blake Brown		3580 Wisteria st
13	MELISSA VAN ZEE		3580 WISTERIA ST
14	Phyllis Leibelt		4680 Dogwood Ave
15	ALEX EVANSON		3440 2038 ST.
16	Angela Kirsnis		4524 Ironwood.

CG1 Continued

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4) We do not support the toll express lanes of Alternative 3 because of the undue economic hardship on many people, especially fixed income people, such as the senior citizens of Seal Beach, Orange and Los Angeles Counties

	Printed Name	Signature	Seal Beach Street Address
1	GLEN WHEELER		3570 BLUEBELL ST.
2	EILEEN WHEELER		3570 Bluebell St.
3	JENNIFER LE		3580 Bluebell St
4	Sarkis Avedisian		3580 Bluebell st
5	Mary Davis		3631 Bluebell St.
6	Valerie Jenkins		3650 Bluebell St
7	Robert Marshall		3680 Bluebell St
8	Henryette Marshall		3680 Bluebell St
9	James L Duncan		3681 Bluebell St
10	Janis E Duncan		3681 Bluebell St.
11	Elizabeth Duncan		3681 Bluebell St.
12	John M Pugh		3670 Bluebell St
13	Brian McLaughlin		4496 Birchwood Ave
14	Jo Hanley		4200 Birchwood Ave
15	[illegible]		4204 Birchwood
16	Patricia E. Campbell		4433 Ironwood Ave

CG1 Continued

PETITION REGARDING DRAFT ENVIROMENTAL IMPACT REPORT
FOR
I-405 IMPROVEMENT PROJECT SCH NO. 2009091001

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	Printed Name	Signature	Seal Beach Street Address
1	Linette Sharrow	Linette Sharrow	4340 Dogwood
2	Britney Sharrow	Britney Sharrow	9340 Dogwood
3	Corey Sharrow	Corey Sharrow	9340 Dogwood
4	Linda Doody	Linda Doody	9340 dogwood
5	Glen Ramirez	Glen Ramirez	4333 Dogwood Ave.
6	Diana L. Parkhurst	Diana L. Parkhurst	4333 Dogwood Ave
7	Nancy Carter	Nancy Carter	4297 Dogwood Ave
8	Elisabeth Carter	Elisabeth Carter	4297 Dogwood Ave
9	Scott Carter	Scott Carter	4297 Dogwood Ave
10	Stacy Casanaro	Stacy Casanaro	4292 Dogwood Ave
11	Rich Casanaro	Rich Casanaro	4292 Dogwood Ave
12	John Pollock	John Pollock	4281 Dogwood Ave
13	Florentina Pollock	Florentina Pollock	4281 Dogwood Ave
14	Jimmy Young	Jimmy Young	4273 Dogwood Ave
15	Sarkis Sarkisian	Sarkis Sarkisian	4265 Dogwood Ave
16	Becky Sarkisian	Becky Sarkisian	4265 Dogwood Ave

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	MAE HANSELL	Mae Hansell	4789 DOGWOOD
2	SESE NOVAS-CRAIG	S. Novas-Craig	4773 DOGWOOD
3	Michelle Reinert	Michelle Reinert	4781 Dogwood
4	Patsy Reinert	family	4781 Dogwood
5	DENNIS ROBBINS	Dennis Robbins	4797 Dogwood
6	Jason Olmos	[illegible]	4817 Dogwood Ave
7	Marisa Swank	Marisa Swank	4825 Dogwood
8	Cara Swank	family	4825 Dogwood
9	Tim Swank	family	4825 Dogwood
10	Norm DeLaterra	Family	4849 Dogwood
11	Dianne DeLaterra	Family	4849 Dogwood
12	Tom Fackrell	[illegible]	4873 Dogwood
13	Kellie Fackrell	Family	4873 Dogwood
14	Carol Mariotti	Carol Mariotti	4873 Candleberry Ave
15	Gary Mariotti	Gary Mariotti	4873 Candleberry Ave
16	Charles A Palmer	Charles A Palmer	4648 Dogwood Ave

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	David Lumb	[illegible]	Dogwood Ave 90740
2	Kayla Stout	[illegible]	Dogwood Ave 90740
3	Chia-Lan Chen	[illegible]	4233 Dogwood Ave
4	Michael Chen	[illegible]	4233 Dogwood Ave
5	William Chen	[illegible]	Seal Beach CA 90740
6	Dinah Chen	[illegible]	3630 Oleander St.
7	Michael Chen	[illegible]	3630 Oleander ST
8	Margaret Chen	[illegible]	4217 Dogwood Ave.
9	Chao Hsia Chen	[illegible]	4217 Dogwood Ave 90740
10	Jesse McKinney	[illegible]	4201 Dogwood 90740
11	Connie McKinney	[illegible]	4201 Dogwood 90740
12	Lauren McKinney	[illegible]	4201 Dogwood 90740
13	David Reynier	DAVID REYNIER	4271 Dogwood Ave. 90740
14	Cherri Reynier	CHERRI REYNIER	4271 Dogwood Ave. 90740
15	Patricia Fusco	Patricia E. Fusco	4416 Dogwood 90740
16	Ronald MacDonald	Ronald MacDonald	4416 Dogwood 90740

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	LREEY Marutt	[illegible]	3671 Oleander SB
2	Patty Marutt	" Family	3671 Oleander SB
3	Karen Marutt	" Sister	3671 Oleander SB
4	Gerald Marutt	" Brother	3671 Oleander SB
5	Larry Marutt JR	" Brother	3671 Oleander SB
6	Dennis Marutt	" Brother	3671 Oleander SB
7	Kam Kalish	Kam Kalish	4541 Dogwood 90740
8	David Kalish	David Kalish	4541 Dogwood, 90740
9	Rodney K. Pratt	Rodny K. Pratt	4533 Dogwood Ave
10	Naudu Pratt	Naudi Pratt	4533 Dogwood Ave
11	Frances Sutton	Frances Sutton	4517 Dogwood Ave
12	Marian Duthie	Marian M Duthie	4664 Dogwood Ave
13	George Duthie	and family	4664 Dogwood Ave
14	George Duthie	and family	4664 Dogwood Ave
15	Charles Burns	[illegible]	4657 Dogwood
16	JOHN BURNS	[illegible]	4657 Dogwood

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	Alex Byus		3581 Sunflower Cir Seal Beach
2	Gary Byus		3581 Sunflower St. Seal Beach
3	Soni Schneider		3621 Sunflower Cir SB
4	Esther Michaels		3631 Sunflower Cir SB
5	Brad Miller		3620 Sunflower Cir. SB
6	Jaymie Miller		3670 Sunflower Circle
7	Philip Taylor		3610 Sunflower Cir SB.
8			3580 Sunflower Cir
9	Jenin Yang		3571 Sunflower Cir Seal Beach 90740
10	Nicole Lussier		3550 Sunflower Cir
11	Scott Davis		3571 Pansy Cir.
12	Jose Naimo		3531 Pansy Circle
13	Dennis Sorenson		3651 Wisteria St.
14	Maria Rini		3641 Wisteria St
15	Raul Galvez		3611 Wisteria St.
16	Emma Davis		3531 ~~3307~~ Wisteria St.

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	Beatrice Byus		3581 Sunflower Cr.
2	Shelley U. Miller		3620 Sunflower Cr.
3	Bill Haslett		3581 Sunflower Cir.
4	Chris Wiss		3580 Sunflower Circle
5	Kyle Hoessler		3550 Sunflower
6	Yolanda Davis		3571 Pansy Circle
7	Mackenzie Miller		3571 Pansy Circle
8	Jonathan Davis		3571 Pansy Circle
9	Nicholas Rini		3641 Wisteria St.
10	Nato Iwakoshi		3621 Wisteria St
11	Rachel Agnew-Ros		3581 Wisteria St
12	Patricia Wostkiewicz		3570 Wisteria ST
13	Greg Wostkiewicz		3570 Wisteria ST.
14	James G. Agee		3590 Wisteria ST.
15	Deborah M. Agee		3590 Wisteria St.
16	Erin Hutton		3610 Wisteria St

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	Printed Name	Signature	Seal Beach Street Address
1	Richard Jackson	Richard Jackson	4565 Almond SB
2	Carol Jackson	Carol Jackson	4565 Almond SB
3	Susan Poe	Susan Poe	10772 Chestnut Los Al
4	Marlin Gordon	Marlin Gordon	4582 Howard Ave
5	Donald Jank	Donald Jank	4489 Guava Ave S.B.
6	Susan Akiano	Susan Akiano	4501 Guava Ave SB
7	Michael Akiano	Son	4501 Guava Ave SB
8	Marla Smalewitz	M Smalewitz	4504 Guava Ave SB
9	Stan Smalewitz	Husband	4504 Guava Ave SB
10	Jacob Smalewitz	Son	4504 Guava Ave SB
11	Carolyn Jones	Carolyn Jones	4517 Guava Ave SB
12	Shawn Cir	Shawn Cir	440 Guava 11 SB
13	Michael Stone	Michael Stone	4575 Guava Ave SB
14	Daryl Burnett	Daryl Burnett	4565 Guava Ave
15	Elizabeth Burnett	Elizabeth Burnett	4565 Guava Ave
16	[illegible]	[illegible]	4569 Guava

CG1 Continued

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1	Beverly J. Horton	Beverly J. Horton	4229 Dogwood Ave
2	Cherri Regnier	Cherri A. Regnier	4172 Dogwood Ave.
3	Grace Hanus	Grace Hanus	4224 Dogwood Ave
4	Joseph Hanus	Joseph Hanus	4224 Dogwood Ave
5	Susan Monsoor	S Monsoor	4236 Dogwood Ave
6	DAVID MONSOOR	David Monsoor	4236 DOGWOOD AVE.
7	Henry Banuelos	[illegible]	4208 ELDER AVE.
8	Janis Banuelos	Janis Banuelos	4208 Elder Ave.
9	Rama Elgin	Rama Elgin	4236 Elder Ave
10	[illegible]	Dennis Elgin	4236 Elder Ave.
11	MARK RAY	[illegible]	4252 ELDER AVE
12	Yelena Burstein	Yelena Burstein	4264 Elder Ave
13	JIM BARENBAUM	J. Barenbaum	4273 ELDER AVE
14	SUSAN BARENBAUM	WIFE	4273 ELDER AVE.
15	JON TILLIN	[illegible]	4292 ELDER AVE
16	Kathy Costello Moore	Kathy Costello Moore	4296 Elder Ave

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	DENEX MOORE.		4296 ELDER AVE
2	Mark Hougard		4361 Elder Ave
3	Sally Williams	Sally Williams	4251 Elder Ave
4	Robert Ruppersberger	Robert Ruppersberger	4225 Elder Ave
5	Jeanette Fischer	Jeanette Fischer	4217 Elder Ave
6	Richard A. Fischer	Richard A. Fischer	4217 Elder Ave.
7	Marianne Welsh	Marianne Welsh	4208 Dogwood Ave
8	Russ Welsh	Husband	4208 Dogwood Ave
9	Kristina Welsh	K Welsh	4325 Dogwood Ave
10	Mike Welsh	Husband	4325 Dogwood Ave
11	JIM SYRENGELAS	Jim Syrengelas	4316 Elder Ave. S.B.
12	MATINA SYRENGELAS	Matina Syrengelas	4316 Elder Ave S.B
13	Jan Follis	Jan Follis	4372 Elder Ave S.B
14	BETH PEPPER	Beth Pepper	4380 ELDER SB
15	MIKE PEPPER	Mike Pepper	4380 ELDER SB
16	Trevor Pepper	Trevor Pepper	4380 ELDER SB

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	JOHN RUSSON	John Russon	4357 ELDER AVE
2	Annie Russon	Annie Russon	4357 Elder Ave
3	JOE PINTO	Joe Pinto	4333 ELDER AVE
4	GARY ROBERTS	Gary Roberts	4325 ELDER AVE.
5	Jane Blackmun	Jane Blackmun	11432 Foster Los Alamitos
6	Charlotte Fowler	Charlotte Fowler	4283 Guava Ave Seal Beach
7	Bill Fowler	Bill Fowler	4288 Guava Ave Seal Beach
8	Antonia Allen	Antonia Allen	4488 Guava Ave. SB
9	Marjorie Allen	Marjorie Allen	4488 Guava SB
10	CHERYL CREED	Cheryl Creed	4500 GUAVA SB
11	TOM CREED	Tom	4500 GUAVA SB
12	John Yamada	John Yamada	4524 Guava SB
13	PATRICIA Yamada	Patricia Yamada	4524 Guava SB
14	Heather Apodaca	Heather Apodaca	4526 Guava SB
15	Kendall Banchieri	Kendall Banchieri	4556 GUAVA AVE. SB
16	Kristin Campbell	Kristin Campbell	4022 LOMA St., Irvine

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	RAY VELLA		3521 IRIS CIR
2	HERMAN DEHMAN		3541 IRIS CIR
3	Rosa L Dehman		3541 Iris
4	Nancy White		3551 Iris Cr.
5	Yoshi Maekawa		3540 Iris Cir
6	Patricia Jean Jacques		3520 Iris Cir
7	Alex Lopez		3520 Iris Cir
8	Glenn Jacques		3520 Iris Circle
9	Rick White		3551 Iris Cir
10	JONATHAN WHITE		3551 IRIS CIR.
11	Darrell C. Evans		3560 Iris Cir.
12	Jeanette Vella		3521 Iris Cir.
13	Mike Ibrahim		3531 IRIS cir
14	Angela Ibrahim		3531 Iris Cir
15	Michelle Cline		3550 Iris Cir
16	Brian Cline		3550 Iris Cir

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	Todd D Jones		3760 WISTERIA ST.
2	Audrey Gordon	AUDREY GORDON	3770 WISTERIA ST
3	GEORGE GORDON		3770 WISTERIA ST
4	Judy Pearson	JUDY PEARSON	3820 WISTERIA ST.
5	FRED WRIGHT	Fred Wright	3860 Wisteria St
6	Kathleen Wright	Kathleen Wright	3860 Wisteria St.
7	Gerry Hanley		3920 Wisteria St
8	DONNA CHINN		3920 Wisteria St.
9			3591 Wisteria
10	RAY VALAVERA		3681 Wisteria St.
11	Eulali Talavera	Eulali Talavera	3681 Wisteria St
12	Emily Gay Goodman		3620 Violet St
13	Kenneth David Goodman		3620 Violet Street
14	David Kahn		3570 Viole St
15	Mike Dockstader		3560 Violet St.
16	Pat Ross		3570 Pansy Cir

CG1 Continued

PETITION REGARDING DRAFT ENVIROMENTAL IMPACT REPORT
FOR
I-405 IMPROVEMENT PROJECT SCH NO. 2009091001

TO: Smita Deshpande, Caltrans District 12, 2201 Dupont Drive, Suite 200, Irvine CA, 92612

We, the undersigned, do not support Project Alternatives 2 and 3 for the following reasons:
1) They require the Almond Ave. soundwall to be moved further into College Park East, causing across-the-board increased noise and air pollution, and decreased property values.
2) These two alternatives would require relocation of utilities: overhead electrical lines could be relocated to the north side of Almond Ave. (all utilities are under-grounded in CPE); a 14" and separate 16" diameter gas/petroleum pipeline may be relocated from south of the I-405 Freeway to a new alignment through College Park East.
3) Lack of a coordinated project with Los Angeles County for additional through traffic lanes north on the I-405 Freeway at the county line without which would create additional congestion with a significant increase in noise and air pollution in College Park East, Seal Beach, and Rossmoor due to prevailing on-shore winds.
4) We do not support the toll express lanes of Alternative 3 because of the undue economic hardship on many people, especially fixed income people, such as the senior citizens of Seal Beach, Orange and Los Angeles Counties

	Printed Name	Signature	Seal Beach Street Address
1	Elise Severson	[illegible]	3540 Daffodil Circle Seal Beach CA 90740
2	Marianne Severson	Marianne Severson	3540 Daffodil Circle SEAL BEACH CA 90740
3	Dana Winder	[illegible]	3540 Daffodil Cir, Seal Beach 90740
4	Cary Winder	[illegible]	3540 DAFFODIL CIR SEAL BEACH CA 90740
5	Rose Marie Hoffman	[illegible]	3562 Jasmin Circle Seal Beach, CA 90740
6	Jeff Peach	Jeff Peach	3551 Jasmine Circle Seal Beach, CA
7	Karin Peach	Karen Peach	" "
8	Brenden Peach	Brenden Peach	" "
9	Baylee Peach	Baylee Peach	" "
10	mike Stephens	Mike Stephens	" "
11	Dave Scott	Dave Scott	3530 Jasmin Cir
12	LINDA SCOTT	Linda Scott	3530 Jasmin Cir
13	Michael Scott	Michael Scott	4489 Pie Seal Beach, CA
14	Carolyn NICKS	Carolyn Nicks	3541 Jasmin Circle
15	Renee Edwards	Renee [illegible]	4564 Guava Ave SB, CA 90740
16	Susan Rich	[illegible]	4597 Guava Ave

CG1 Continued

PETITION REGARDING DRAFT ENVIROMENTAL IMPACT REPORT
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	Printed Name	Signature	Seal Beach Street Address
1	Kristine Mambs	[illegible]	Camelia Street
2	Michael Santos	[illegible]	Camelia Street
3	Chase Cichos	[illegible]	Dahlia 3521 Street
4	Joan Ebersold	Joan Ebersold	3541 Dahlia
5	ACKIVI CORONADO	[illegible]	3520 FERN
6	STUART HUNTOON	[illegible]	3520 GOLDENROD CIRC.
7	DOLORES HUNTOON	[illegible]	3520 GOLDENROD CIRC.
8	Trinna L Lytle	TRINNA Lytle	3550 Golden Rod Cir
9	Elisa Younger	Elisa Younger	3521 Heather CR.
10	Evan Younger	Evan Younger	3521 Heather Cir
11	Ron Muir	Ron Muir	3541 HEATHER CIR
12	Irma Muir	Irma Muir	3541 HEATHER CIRCLE
13	ROBERT S. PETERSON	[illegible]	3551 HEATHER CIR
14	SHARON PETERSON	[illegible]	3551 Heather Cir
15	Leslie Cowan	LESLIE COWAN	3561 Heather Cir
16	Richard Robertson	RICHARD ROBERTSON	3521 JASMIN

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	DORIS E. WAGNER	Doris E. Wagner	3570 Carnation Circle Seal Beach, CA 90740
2	MERLINE THIMLAR	Merline Thimlar	3561 CARNATION CIR SEAL BEACH, CA 90740
3	TODD Smith	Todd Smith	3531 Carnation Circle SEAL BEACH, CA 90740
4	Jennifer Smith	Jennifer Smith	3531 Carnation Circle SEAL Beach, CA 90740
5	Elsbeth Schmidt	Elsbeth Schmidt	3520 Carnation Circle Seal Beach, CA 90740
6	Delores Thimlar	Delores Thimlar	3561 Carnation Cir Seal Beach Ca. 90740
7	Ray Esposito	Ray Esposito	3551 Carnation Seal Beach Ca 90740
8	RAYMONA ESPOSITO	Raymona Esposito	3551 CARNATION CIR. SEAL BEACH 90740
9	D. L. MARSH	D. L. Marsh	3520 CLOVER CIR SEAL BEACH CA 90740
10	ORSA STYLIANOUS	Orsa Stylianou	3520 Clover Cir. Seal Beach Ca 90740
11	Amy Marsh	Amy Marsh	3521 Columbine Cir Seal Beach CA 90740
12	ROBERT MARSH	Robert Marsh	3521 Columbine Circle Seal Beach
13	HELEN PENDACHIO	Helen Pendachio	3541 Columbine St. Seal Beach Ca.
14	Kelly Inge	Kelly Inge	3540 Columbine St
15	Doris Humphrey	Doris Humphrey	3530 Columbine Street
16	Evander Humphrey	Evander Humphrey	3530 Columbine ST

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	Karey Riem	Karey Riem	3621 Violet St. Seal Beach
2	Virak Riem	Virak Riem	3621 Violet St. Seal Beach
3	Billie Reed	Billie Reed	3631 Violet St. Seal Beach
4	RYAN Reed	Ryan Reed	3631 Violet St Seal Beach
5	Mary B. Lee	MARY B. LEE	3631 Violet St Seal Beach, Ca
6	[illegible]	Michael Veyette	3550 Violet Street SB CA 90740
7	[illegible]	Michael Veyette	3550 Violet Street SB CA 90720
8	[illegible]	Carleen Littig	3630 Sunflower Cir. SB CA 90740
9	Adam Littig	Adam Littig	3630 Sunflower Circle SB, CA 90740
10	Annette Bomen	[illegible]	3581 Teaberry Circle Seal Beach Ca 90740
11	Robert D. Bomen	Robert D. Bomen	3581 Teaberry Circle Seal Beach Ca 90740
12	NICK RANDAZZO	[illegible]	3591 TEABERRY CIR SEAL BEACH CA. 90740
13	Kim Randazzo	Kim Randazzo	3591 Teaberry Circle Seal Beach 90740
14	Sandee Bellwood	SANDEE BELLWOOD	3601 TEABERRY CIRCLE Seal Beach CA 90740
15	Tamara Sverev	Tamara Sverev	3610 Teaberry Seal Beach, CA 90740
16	Kurt Barsotti	[illegible]	3610 Teaberry SB 90740

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	TOM IMAMURA		4481 Dogwood Ave SB
2	MARY IMAMURA	Mary Imamura	4431 Dogwood Ave SB
3	JOSEPH IMAMURA	Joseph Imamura	4431 Dogwood Ave SB
4	WALTER F. WELCH	Walter Welch	4465 DOGWOOD AVE, S.B.
5	DARLENE A. WELCH	Darlene A. Welch	4465 Dogwood Ave. S.B.
6	Lily Ellis		4449 Dogwood Ave SB
7	Rob Ellis		4449 Dogwood Ave
8	Owen Ellis		4449 Dogwood Ave
9	HAN Y. RHYU		4441 Dogwood Ave
10	Richard Rhyu		4441 Dogwood Ave
11	ROBERT RHYU		4441 Dogwood Ave
12	Brendon Lloyd		4433 Dogwood Ave.
13	Stacey Delpit		4401 Dogwood Ave.
14	Tom Delpit	TC Delpit	4401 Dogwood Ave.
15	Robert Sample	ROBERT SAMPLE	4456 Dogwood AVE
16	Mary Cioffoletti	MARY N. CIOFFOLETTI	4716 Dogwood Ave

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	E. SMITSON		4916 IRONWOOD AVE
2	E M KROGH		4920 Ironwood Ave
3	ROBERT CONCEA		4872 Ironwood Ave
4	Conce Concea		4872 Ironwood Ave
5	Kiyoko Sugihara		4824 Ironwood Ave
6	TOMMY SUGIHARA		4824 IRONWOOD AVE
7	Sandra Mendez		4816 Ironwood Ave
8	MARTIN MOLINA		4780 Ironwood Ave 90740
9	Erin Vaccaro		4674 Ironwood Ave 90740
10	Thomas Vaccaro		4674 Ironwood Ave 90740
11	Kenny Lam		4741 Ironwood Ave 90740
12	Kathleen Christensen	KATHLEEN CHRISTENSEN	4749 Ironwood Ave 90740
13	DONALD G. CHRISTENSEN		4749 IRONWOOD AVE 90740
14	Eric E. Brandt Jr		4789 Ironwood Ave.
15	William J. Brannick		3521 Almond Ave
16	Sue P. Brannick		3521 Almond Ave

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	ADAM M. LARSON		4833 IRONWOOD AVE
2	PATTI LARSON	WIFE	4833 Ironwood Ave
3	SANDRA TESSIER		4825 Ironwood Ave
4	JEFF BUSSE		4801 Ironwood
5	TONY DeLUCA		4781 Ironwood Ave
6	Helen DeLuca	wife	4781 Ironwood Ave
7	Josie Phelps		4773 Ironwood
8	James Phelps		4773 Ironwood
9	Laura Wabash		4773 Ironwood
10	Lee Wabash		4773 Ironwood
11	Amanda Vamo		4773 Ironwood
12	Linda Vamo		4773 Ironwood
13	Maria Y. Nelson		4757 Ironwood
14	Mark Nelson	son	4757 Ironwood
15	Susan Spencer	daughter	4757 Ironwood
16		ERIC BRAZILE	4789 Ironwood Ave

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	PHIL HAN		4917 IRONWOOD AVE Seal Beach, CA 90740
2	Quik Vo		4917 Ironwood Ave
3	Peter Vo	Peter Vo	4917 Ironwood Ave
4	Allison Han	Son	4917 Ironwood Ave
5	Henry Han	Son	4917 Ironwood Ave
6	Jeffrey Harris		4889 Ironwood Ave
7	Linda Coffen Harris		4889 Ironwood Ave
8	MIKE LANGDALE		4881 IRONWOOD AVE
9	LISA LANGDALE	WIFE	4881 Ironwood Ave
10	Susan Cooper		4865 Ironwood Ave
11	Diane May	Diane May	4849 Ironwood Ave
12	Erik Kuhlbach	Son	4849 Ironwood Ave
13			4841 Ironwood Ave, SB
14	Kristin Bush	Wife	4841 Ironwood Ave SB
15	Dan Bush	Son	4841 Ironwood Ave SB
16	Colin Bush	Son	4841 Ironwood Ave

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	RICHARD RAMSEYER	Richard Ramseyer	4233 IRONWOOD AVE
2	CAROL RAMSEYER	WIFE	4235 IRONWOOD AVE
3	Glenn Seki	[illegible]	4241 Ironwood Ave
4	Pamela Seki	wife	" " "
5	JERRY WHITE	[illegible]	4289 IRONWOOD AVE
6	DEBRA WHITE	WIFE	4289 Iron Wood Ave
7	[illegible]	Steve Stumpff	4332 Ironwood
8	Wife	Mary Ellen Stumpff	4332 IRONwood
9	Jeanne Barrett	Jeanne Barrett	4333 Ironwood
10	Richard W Booth	Richard W Booth	4333 Ironwood Ave
11	AARON KERN	[illegible]	4417 IRONWOOD AVE
12	LESLIE KERN	WIFE	4417 IRONWOOD AVE
13	Shira Kern	[illegible]	4417 IRONWOOD AVE
14	Rachel Kern	sister (family)	4417 IRONWOOD AVE
15	MARY TWILLEY	Mary Twilley	4425 IRONWOOD AVE
16	TED WALLACE	Ted A. Wallace	4425 IRONWOOD AVE.

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	Rhoda Rasmussen	Rhoda Rasmussen	4157 Ironwood
2	Vincent Nakamoto	V. Nak	4165 Ironwood Ave
3	STAFFORD EMPEL	[illegible]	4194 Ironwood AVE
4	Dhara Hart	Dhara Hart	4189 Ironwood
5	Zach Hart	Son	4189 Ironwood
6	Maria L. Borges	M. B.	4340 GUINA ST
7	Bryce Yamashiro	B.K. Yamashiro	4209 Ironwood Ave
8	Suzanne Yamashiro	Suzanne Yamashiro	4209 Ironwood Ave
9	Barbara Kuan	Barbara Kuan	4209 Ironwood Ave
10	Brenda Kuan	Brenda Kuan	4209 Ironwood Ave
11	Randy Kuan	Randy Kuan	4209 Ironwood Ave
12	Zhanna Reynoso	[illegible]	4217 IRONWOOD Park
13	ILYA Reynoso	husband	4217 Ironwood Ave
14	Gabe Reynoso	SON	4217 Ironwood
15	Mike	SON	4217 Ironwood Ave
16	Marc Fuson	Marc Fuson	4225 Ironwood Ave

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	James L. Wilson	James L. Wilson	3540 Carnation Cir
2	Lorrie LeCon	Lorrie LeCon	3540 Carnation Cir. SB
3	HARVEY GOODMAN	[illegible]	3560 Carnation Cir
4	FRANCINE Goodman	Francine Goodman	3560 Carnation Cir
5	Stan Shirosha	Stan Shirosha	4216 Banyan Ave
6	Beatrice Shirosha	Beatrice Shirosha	4216 Banyan Ave.
7	Carolyn Ates	Carolyn Ates	4208 Banyan Ave
8	Brooke McMullin	Brooke McMullin	4203 Banyan Ave
9	Deborah Chaack	Deborah Chaack	4202 Elder Ave
10	Shirley Lacey/Kahn Shirley Lacey/Kahn	Shirley Lacey/Kahn	3610 Camelia Ave
11	Noelle Ainslie	Noelle Ainslie	3521 Camelia St
12	Brian Ainslie	[illegible]	3521 Camelia St
13	Maria Alcodrisk	Maria Alcodrisk	3520 Camelia St
14	Leilani Ferguson	LEILANI FERGUSON	3531 Camelia St.
15	Nestor Ferguson	NESTOR FERGUSON	3531 Camelia St.
16	JARED FERGUSON	Jared Ferguson	3531 Camelia St.

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	Pam Foster	[illegible]	3540 DAHLIA CIR SEAL BEACH CA
2	NICOLE GUERRERO	[illegible]	3531 DAHLIA CIR SEAL BEACH CA
3	Kathy Feng	[illegible]	3531 Fern Cir. SB, CA
4	Frank Feng	husband	3531 Fern Cir, SB, CA
5	Angelina Herrera	[illegible]	3561 Fern Cir, Seal Beach CA
6	Natalie Herrera	[illegible]	3561 Fern Cir. Seal Beach, CA
7	Mary Herrera	Mary Herrera	3561 Fern Cir Seal Beach CA
8	Joe Herrera	Joe Herrera	3561 Fern Cir Seal Beach CA
9	Roderick Morales	[illegible]	3511 Goldenrod Circle
10	Susan Morales	[illegible]	3511 Goldenrod Circle
11	Rock Rude	Rock Rude	3550 HEATHER CIRCLE
12	Dara Baddeley	[illegible]	4149 Ironwood Ave.
13	Amie Baddeley	[illegible]	4149 Ironwood Ave.
14	Carolyn Baddeley	[illegible]	4149 Ironwood Ave
15	Ken Clamner	[illegible]	4449 Ironwood Ave.
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CG1 Continued

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4) We do not support the toll express lanes of Alternative 3 because of the undue economic hardship on many people, especially fixed income people, such as the senior citizens of Seal Beach, Orange and Los Angeles Counties

	Printed Name	Signature	Seal Beach Street Address
1	Daniel Leonhardt	Daniel Leonhardt	4424 Dogwood Ave
2	Marina Leonhardt	Marina Leonhardt	4424 Dogwood Ave
3	MARK WALLENROD	[illegible]	4440 DOGWOOD AVE
4	Sara Wallenrod	Sara Wallenrod	4440 Dogwood Ave
5	Janet Wallenrod	Janet Wallenrod	4440 Dogwood Ave
6	DENNIS J. DILL	[illegible]	4456 Dogwood Ave
7	MARIE FLACK	MF	4464 DOGWOOD AVE
8	THOMAS MILLER	[illegible]	4472 DOGWOOD AVE
9	HELENE MILLER	Helene Miller	4472 DOGWOOD AVE
10	ARIELLE MILLER	Arielle Miller	4472 DOGWOOD AVE
11	Audree Grantham	Audree Grantham	4501 Dogwood Ave
12	Charley Egge	[illegible]	4524 Dogwood
13	Karen Egge	Karen Egge	4524 Dogwood
14	Ashley Egge	[illegible]	4524 Dogwood
15	Alissa Egge	Alissa Egge	4524 Dogwood
16	Natalie Egge	Natalie Egge	4524 Dogwood

CG1 Continued

PETITION REGARDING DRAFT ENVIROMENTAL IMPACT REPORT
FOR
I-405 IMPROVEMENT PROJECT SCH NO. 2009091001

TO: Smita Deshpande, Caltrans District 12, 2201 Dupont Drive, Suite 200, Irvine CA, 92612

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	Printed Name	Signature	Seal Beach Street Address
1	Kai Ulmy	[illegible]	4548 DOGWOOD AVE
2	Staci Torbati	[illegible]	4564 Dogwood Ave
3	Shawn Torbati	[illegible]	4564 Dogwood Ave
4	Tony Mardini	[illegible]	4588 Dogwood Ave
5	William Davis	[illegible]	4500 Dogwood Ave
6	Jay Fraenkel Women	[illegible]	4600 Dogwood Ave
7	Chris Miller	[illegible]	4601 Dogwood Ave
8	Cary Rosenberg	[illegible]	4373 Dogwood Ave
9	Melinda Rosenberg	[illegible]	4373 Dogwood
10	Dana Rosenberg	[illegible]	4373 Dogwood
11	Aaron McGuthion	[illegible]	4565 Dogwood Ave
12	Sherry McGuthion	[illegible]	4565 Dogwood Ave
13	W. Pfister	[illegible]	4557 Dogwood Ave
14	J. Pfister	[illegible]	4557 Dogwood Ave
15	K. Gruneger	[illegible]	4557 Dogwood Ave
16	C. Gruneger		4557 Dogwood Ave

CG1 Continued

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FOR
I-405 IMPROVEMENT PROJECT SCH NO. 2009091001

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	Printed Name	Signature	Seal Beach Street Address
1	Juan Gutierrez		3541 Clover Circle
2	Lisa Gutierrez		3541 Clover Cir.
3	FRANCES CANZONE	Frances M Canzone	3531 Clover Circle
4	JOSEPH CANZONE	Joe Canzone	3531 CLOVER Circ
5	MARYANN HAPSIC	Maryann Hapsic	3531 CLOVER CIRCLE
6	Ruth Book	Ruth Book	3530 Clover Circle
7	Gerard Guerin	G Guerin	3531 Jasmin
8	Cynthia Stuggs	Cynthia Stuggs	3531 Jasmin Circle
9	Mary Guerin	Mary L. Guerin	3531 Jasmin Circle
10	E.A. Martinez	EAGLE MARTINEZ	4581 Almond Ave
11	Linda Carter	Linda Carter	4597 Almond Ave
12	Michael Sybatz	Michael Sybatz	4597 Almond Ave
13	Jeane Garcia	JEANE GARCIA	4601 Almond Ave
14	Shirley Schaff	Shirley Schaff	4609 Almond Ave
15	Phill Cross		4617 Almond Ave
16	Debbie Cross		4617 Almond Ave

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	Robert Campbell		4708 Dogwood
2	Cheryl Campbell	Cheryl Campbell	4708 Dogwood
3	Jess M Ciffolillo	Jess M. Ciffolillo	4716 Dogwood
4	ALAN LEES	Alan Lees	4732 DOGWOOD
5	Collin Yamauchi	C. Yamauchi	4748 Dogwood Ave.
6	Albert Choi		4756 Dogwood Ave.
7	Mike King		4788 Dogwood Ave
8	Pat Cain	Patricia Cain	4860 Dogwood Ave
9	JIM MAVICCHI		4808 Dogwood Ave
10	CHRIS DERRY		4840 DOGWOOD AVE.
11	Dawn Derry		4840 Dogwood Ave
12	ROD HANNAH		4848 Dogwood
13	Lisa Baumann		4848 Dogwood
14	WILLIAM ARITA		3540 COLUMBINE ST
15	Bonita Stone		4233 BONYON
16	Barbara Stone		4233 BONYON

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	Phil Rocha		3570 Hathern Circle Seal Beach CA 90740
2	Sara Rivas		3570 Hathern Cir Seal Beach CA 90740
3	PAT BRAY		3561 Feathery Cir Seal Beach CA 90740
4	Kathleen Carney		13060 Del Monte Apt 46N Seal Beach, CA 90740
5	Diana aldrich		3557 Surfwood Circle Seal Beach, Ca. 90740
6	Erin Rank		3550 Rose Circle Seal Beach CA 90740
7	Wallace Rank		3550 Rose Circle Seal Beach CA 90740
8	Gagana Tausaga		3550 Rose Circle Seal Beach CA 90740
9	IRENE ABE		3580 Rose Cir Seal Beach, CA 90740
10	John Seckel		3621 Rose Cir Seal Beach, CA 90740
11	Ruby Lee		3611 Rose cir Seal Beach, CA 90740
12	HOKIS LEE		3611 ROSE CIR 90740 S.B.
13	LAURIE KOFALER		3601 ROSE CIR 90740 SB
14	Tabitha Koehler		3601 Rose cir 90740
15	JAYSON JABLONSKY		3601 Rose Cir 90740
16	Tammara Jablonsky		3601 Rose Cir. 90740

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	MIKE RIORDAN		4260 DOGWOOD AVE
2	MARILYN RIORDAN		4260 Dogwood Ave
3	ALISON RIORDAN		4260 Dogwood Ave
4	Michelle Lee		4264 Dogwood Ave
5	Sean Lee		4264 Dogwood Ave
6	Louis B Sims		4280 Dogwood Ave
7	Bessie B Sims		4280 Dogwood Ave
8	Shirley L Corwin		4280 Dogwood Ave
9	Gracelanna Johnson		4296 Dogwood Ave
10	Mike Johnson		4296 Dogwood Ave
11	ROBERT M. WALKER		4308 DOGWOOD AVE
12	YVONNE E. WALKER		4308 DOGWOOD AVE
13	WILLIAM ORBANO		4324 DOGWOOD AVE
14	Bill Orbano		4324 Dogwood Ave
15	ANDREA JONES		4332 Dogwood Ave
16	Evangelina Estrada		4332 Dogwood Ave

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	KEDAR PARIKH		4173 BIRCHWOOD AVE SEAL BEACH CA 90740
2	ANJANA PARIKH	A.K. Parikh	4173 BIRCHWOOD AVE
3	Richard Nighswonger		4161 Birchwood Ave
4	Teresa Nighswonger		"
5	Joe Silva		4217 Birchwood Ave.
6	Joanne Spencer		4241 Birchwood Ave
7	Frank Zerkos		4257 Birchwood Ave.
8	Stacey Welch	Stacey Welch	4265 Birchwood
9	Delia Gonzalez		4281 Birchwood
10	John Davis		4297 Birchwood
11	Diana Kim		4297 Birchwood
12		Lawrence Gray	4317 Birchwood
13	Kathleen Angudia		4324 Birchwood
14	John D Buezis		3620 Bluebell St
15	Gloria Peszyt		4339 Birchwood St
16	Lynda Schutzenbach		4581 Birchwood

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	ROBERT KAGAWA		3621 Bluebell St
2	Mary Davis		3631 Bluebell St.
3	ALAN GIBSON		3641 Bluebell St
4	John Montgomery		3630 Bluebell.
5	James Stanford		3661 Bluebell
6	Shirlem L. Stanford		3661 Bluebell St
7	Ann Montgomery		3630 Bluebell St.
8	Keith JENKINS		3650 Bluebell St. S.B.
9	BRUCE SWITZKY		3671 Bluebell St. S.B
10	Diane SWITZKY		3671 Bluebell St. S.B
11	Gina Craig		4140 Birchwood SB
12	Thom Craig		4140 Birchwood SB
13			3690 Bluebell
14			3690 Bluebell
15	Claudia Harden		4137 Birchwood
16	JAMES HARDEN		4137 Birchwood

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	Romund Lee		4573 Birchwood Ave
2	Annabella Lee		4573 Birchwood Ave
3	MIDORI FUJIKAWA		4541 Birchwood Ave.
4	FRED FUJIKAWA		4541 Birchwood Ave
5	RICHARD FUNKE		4517 Birchwood Ave
6	BARTON SAMMONS		4507 BIRCHWOOD AVE
7	Té Sammons		4509 Birchwood Ave,
8	MARK NEUMANN		4501 BIRCHWOOD AVE
9	BETH TIRPAK		4481 Birchwood Ave
10	Helen Fitzer		4473 Birchwood Ave
11	R E TYLER		4449 BIRCHWOOD
12	M. Sue Stanley		4449 Birchwood Ave
13	JOHN N MIEH		4441 Birchwood.
14	Richard T. Miyake		3520 Bluebell
15			3591 Bluebell
16	Tom Benno		3591 Bluebell St

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	CASEY ABE		4540 BIRCHWOOD
2	Phyllis Ochiwa		4616 Birchwood
3	SADIE ODA		4501 CANDLEBERRY
4	Kathy Kumai		4501 Candleberry
5	VINCENT AGUILAR		4533 BIRCHWOOD
6	MARTIN ABE		3640 OLEANDER ST.
7	Tom Up		3620 Oleander St
8	Don Campbell		3621 OLEANDER ST
9	David Trinkle		3641 Oleander St.
10	Cheryl Saunders		3661 Oleander St
11	LARRY MANATT		3651 OLEANDER ST
12	BETTY MANATT		3671 OLEANDER ST
13	Kimberly A. Koford		3681 Oleander St.
14	Vena Sample		4656 Dogwood Ave
15	Mike Klistoff		4608 Birchwood Ave
16	Kris Nelson		4597 Birchwood Ave.

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	Printed Name	Signature	Seal Beach Street Address
1	Dina Victorino	Dina Victorino	4432 Birchwood Ave
2	Chad Victorino	Chad Victorino	4432 Birchwood Ave
3	Bert Pipal	Bert Pipal	4464 Birchwood Ave
4	Marsha Pipal	Marsha Pipal	4464 Birchwood Ave
5	Michael Weinberg	Michael Weinberg	4480 Birchwood Ave.
6	Andrew Smillie	A. Smillie	4488 Birchwood Ave.
7	Helen D Smillie	Helen D Smillie	4488 Birchwood Ave
8	Lauri Blanchard	Lauri L Blanchard	4508 Birchwood Ave
9	Ross Blanchard	[illegible]	4508 Birchwood Ave
10	Patrice Funce	Patrice Funce	4517 Birchwood Ave
11	Jennifer Graham	[illegible]	4532 Birchwood Ave
12	Edward Reid	Edward Reid	4532 Birchwood Ave
13	Julie Kozar	Julie Kozar	4540 Birchwood Ave
14	Andrea Cummings	[illegible]	4548 Birchwood Ave
15	Erika Cummings	[illegible]	4548 Birchwood Ave
16	Maria Felli	[illegible]	4580 Birchwood Ave

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	Ruth Putnam	Ruth Putnam	3510 Bluebell St.
2	T. Bruce Putnam	[illegible]	3510 Bluebell St.
3	Kathy McGrath	[illegible]	3560 Bluebell St.
4	Scott McGrath	[illegible]	3560 Bluebell St
5	Lisel Cherry	[illegible]	4224 Birchwood Ave
6	Jeff A Cherry	[illegible]	4224 Birchwood Ave.
7	Lyle Schmiller	[illegible]	4364 Birchwood Ave
8	Iris J Schmiller	[illegible]	4364 Birchwood Ave
9	Dolle Surratt	[illegible]	4396 Birchwood Ave
10	Dick Aso	[illegible]	4308 Birchwood Ave
11	John Vong	[illegible]	4288 Birchwood Ave
12	Mary Stebbins	[illegible]	4372 Birchwood Ave.
13	Dennis Jack	[illegible]	4388 Birchwood Ave
14	Terry L. Jack	[illegible]	4388 Birchwood Avenue
15	Robert Michaloff	[illegible]	4424 Birchwood Ave
16	Greg Bettison	[illegible]	4432 Birchwood Ave.

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	SARA DeWeese	Sara DeWeese	4281 Candleberry Ave.
2	ROBERT DeWEESE	[illegible]	4281 CANDLEBERRY AVE
3	Michele McLeod	[illegible]	4264 Candleberry Ave
4	ROBERT McLEOD	[illegible]	4264 Candleberry Ave.
5	CRAIG SCOTT	Craig Scott	4301 Candleberry Ave
6	JAY YEN	[illegible]	4325 CANDLEBERRY AVE
7	JENNY YEN	[illegible]	4325 CANDLEBERRY AVE
8	DANIEL RIHN	[illegible]	4357 CANDLEBERRY
9	Joanne Feldman	Joanne [illegible]	4317 Candleberry
10	Mary E. Jensen	Mary E. Jensen	4408 Candleberry
11	Jason Glatmon	[illegible]	3650 Daisy St
12	Melissa Glatmon	[illegible]	3680 DAISY ST.
13	Arthur Andersen	[illegible]	4388 Candleberry Ave
14	Verna Hillee	Verna Hillee	4372 Candleberry Ave
15	Mary E. Lanier	MARY E. LANIER	4364 Candleberry Ave.
16	Susan L. McDonnel	[illegible]	4356 Candleberry Ave

CG1 Continued

PETITION REGARDING DRAFT ENVIROMENTAL IMPACT REPORT
FOR
I-405 IMPROVEMENT PROJECT SCH NO. 2009091001

TO: Smita Deshpande, Caltrans District 12, 2201 Dupont Drive, Suite 200, Irvine CA, 92612

We, the undersigned, do not support Project Alternatives 2 and 3 for the following reasons:
1) They require the Almond Ave. soundwall to be moved further into College Park East, causing across-the-board increased noise and air pollution, and decreased property values.
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3) Lack of a coordinated project with Los Angeles County for additional through traffic lanes north on the I-405 Freeway at the county line without which would create additional congestion with a significant increase in noise and air pollution in College Park East, Seal Beach, and Rossmoor due to prevailing on-shore winds.
4) We do not support the toll express lanes of Alternative 3 because of the undue economic hardship on many people, especially fixed income people, such as the senior citizens of Seal Beach, Orange and Los Angeles Counties

	Printed Name	Signature	Seal Beach Street Address
1	Rene Price	Rene Price	3881 Sunflower St.
2	Mary Ellen Stumph	[illegible]	4352 Ironwood Ave
3	Elizabeth Krusic	[illegible]	4688 Hazelnut Ave
4	Ryan Krusic	[illegible]	4688 Hazelnut Ave
5	Michelle Reinert	[illegible]	4781 Dogwood Ave
6	Patty Reinert	[illegible]	4781 Dogwood Ave.
7	Beth Tirpak	Beth Tirpak	4481 Birchwood Ave
8	Todd Roades	[illegible]	3840 Daisy St
9	BRUCE PANTING	[illegible]	4188 BANYAN AVE
10	Debbie Theriault	[illegible]	4252 Elder Ave
11	Mark Ray	[illegible]	4252 Elder Ave.
12	LISA Humphrey	[illegible]	3541 Rose Circle
13	Terry Humphrey	[illegible]	3541 ROSE CIRCLE
14	JAMES Kimmel	[illegible]	3540 Rose Circle
15	KAZUKO NAUTA	[illegible]	4289 CANDLEBERRY AVE
16	ROGUE NAUTA	[illegible]	4289 CANDLEBERRY AVE

CG1 Continued

PETITION REGARDING DRAFT ENVIROMENTAL IMPACT REPORT
FOR
I-405 IMPROVEMENT PROJECT SCH NO. 2009091001

TO: Smita Deshpande, Caltrans District 12, 2201 Dupont Drive, Suite 200, Irvine CA, 92612

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	Printed Name	Signature	Seal Beach Street Address
1	Carrie Callaway	Carrie Callaway	4333 Fir Avenue
2	Jonathan West	Jonathan West	4333 FIR AVE
3	BRAD AANESTAD	B.P. Aanestad	4580 DOGWOOD AVE.
4	GLORIA HILL	Gloria Hill	4309 GUAVA AVE.
5	FRANKLIN HILL	Franklin Hill	4309 GUAVA AVE
6	Jim JORDAN	[illegible]	4300 CANDLEBERRY AVE
7	Jean Jordan	Jean Jordan	4300 Candleberry Ave.
8	DENNIS SUSTARSIC	Dennis Sustarsic	4288 CANDLEBERRY AVE
9	Schelly Sustarsic	Schelly Sustarsic	4288 Candleberry Av.
10	ZELDA RICE	Zelda Rice	4565 Birchwood Ave.
11	CHARLES RICE	Chas Rice	4565 BIRCHWOOD AVE.
12	GARY BYNUM	Gary Bynum	3571 BLUEBELL ST
13	Alexis Bynum	[illegible]	3571 Bluebell St.
14	Candace GORMAN	Candace Gorman	3581 BLUEBELL ST
15	ERIC SHUMBROOK	[illegible]	358 BLUEBELL ST.
16	Ruth Nguyen	[illegible]	4433 Candleberry

CG1 Continued

PETITION REGARDING DRAFT ENVIROMENTAL IMPACT REPORT
FOR
I-405 IMPROVEMENT PROJECT SCH NO. 2009091001

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	Printed Name	Signature	Seal Beach Street Address
1	Kari Teweles	[illegible]	4373 Fir Ave.
2	Joe Spinelli	[illegible]	3770 Goodrich St.
3	Andra Colman	[illegible]	4432 Fir Ave.
4	James Colman	[illegible]	4432 Fir Ave.
5	Bruce Fitzpatrick	Bruce Fitzpatrick	4401 Candleberry
6	Beverly Fitzpatrick	Beverly Fitzpatrick	4401 Candleberry
7	Teresa Werner	[illegible]	3800 Wisteria St.
8	Enea Ostrich	[illegible]	3621 Camelia St.
9	Rebecca Donaldson		4149 Banyan
10	Ruth Rudis	Ruth Rudis	4291 Candleberry Ave
11	Ron Reed	[illegible]	4400 Candleberry Ave
12	John Johnson	[illegible]	4400 Dogwood Ave
13	Millicent Anderson	[illegible]	4388 Candleberry Ave.
14	Wesley Loh	[illegible]	3651 Fuchsia St
15	Scott Volmerding	[illegible]	4408 Candleberry Av. S.B.
16	Doreen Stevens	Doreen Stevens	4880 CANDLEBERRY AVE, S.B.

CG1 Continued

PETITION REGARDING DRAFT ENVIROMENTAL IMPACT REPORT
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I-405 IMPROVEMENT PROJECT SCH NO. 2009091001

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	Printed Name	Signature	Seal Beach Street Address
1	Carol Spitt	Carol Spitt	405 Old Ranch Rd.
2	Randy Kulo	[illegible]	4125 Birchwood Ave.
3	Stella Jennings	Stella Jennings	3680 Aster St.
4	Mitchell Sims	Mitchell Sims	3680 Aster St.
5	Bill Jennings	Bill Jennings	3680 Aster St
6	Amber C. Sims	Amber C. Sims	3680 Aster St.
7	Mary Michaelian	Mary Michaelian	3710 Aster St.
8	JEFF FOX	[illegible]	3700 ASTER ST.
9	Jennifer Didlo	[illegible]	580 Old Ranch Rd.
10	EVELYN ARNOLD	Evelyn Arnold	415 Old Ranch Rd.
11	LeFrancis Arnold	[illegible]	415 OLD Ranch Rd
12	Leslie Sutherland	[illegible]	785 Old Ranch Rd
13	MICHAEL SPITT	[illegible]	405 OLD RANCH RD
14	Astrid Ackley	[illegible]	4772 Guava Ave
15	Dennis Kolodge	[illegible]	110 Old Ranch Rd
16	Gary Landis	[illegible]	460 OLD Ranch Rd.

CG1 Continued

PETITION REGARDING DRAFT ENVIROMENTAL IMPACT REPORT
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	Printed Name	Signature	Seal Beach Street Address
1	LILALEE ANDERSEN	[illegible]	4307 Ironwood Ave Seal Beach
2	PHILLIP K. FIFE	[illegible]	4301 Ironwood 90740
3	KATHLEEN M. FIFE	[illegible]	4301 IRONWOOD AVE. SB
4	Debra White	[illegible]	4289 Ironwood Ave
5	LOLA FAMA	[illegible]	4257 IRONWOOD AVE.
6	Vickie Yellam	[illegible]	4253 Ironwood
7	David Meyer	[illegible]	4299 Ironwood
8	Alan Ginsburg	[illegible]	4396 Ironwood Ave.
9	Vivian Ginsburg	[illegible]	4396 Ironwood Ave.
10	Jill Howard	[illegible]	4348 Ironwood Ave.
11	LAWRENCE BILLIK	[illegible]	4340 IRONWOOD AVE
12	ANTOINETTE JOHNSON	[illegible]	4340 IRONWOOD AVE
13	EDMOND MACINS	[illegible]	4312 Ironwood Ave
14	GRETA F. MACINS	[illegible]	4312 IRONWOOD AVE
15	Ronni Kepler	[illegible]	4280 Ironwood Ave.
16	Kim Martin	[illegible]	4232 Ironwood Ave

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	Ed Morgan	Ed Morgan	4432 Ironwood Ave
2	Sylvia Morgan	Sylvia Morgan	4432 Ironwood Ave
3	Leslie Kern	[illegible]	4417 Ironwood Ave.
4	[illegible]	Eugene MAA	4397 Ironwood Ave
5	ROSA MAA	Rosa	"
6	Nancy Lang	[illegible]	4381 Ironwood Ave
7	Sue Mac	[illegible]	4365 Ironwood Ave
8	PETER OLSZEWSKI	[illegible]	4281 IRONWOOD AVE
9	Courtney Hughes	[illegible]	4281 Ironwood Ave.
10	David Nease	[illegible]	4401 Ironwood Ave
11	Tina M Lee	Tina M Lee	4389 Ironwood Avenue
12	Albert F. Lee	Albert F. Lee	4389 Ironwood Avenue
13	Mark Chew	Mark Chew	4357 Ironwood Ave
14	Laurie Perry	Laurie Perry	4341 Ironwood Ave
15	DAVID Perry	David Perry	4341 Ironwood Ave
16	KATHY HERBERT	Kathy Kay Herbert	4313 Ironwood

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	Kim Martin	Kim Martin	4232 Ironwood Ave
2	RUTH Lopez	[illegible]	4188 IRonwood Ave
3	Tony Jenkin	Tony Jenkin	4180 Ironwood Ave
4	Anthony YANNO	[illegible]	4173 Ironwood Ave
5	[illegible]	[illegible]	4181 Ironwood Ave
6	Shana Hart	Shana Hart	4891 Ironwood
7	Alex Williams	[illegible]	4424 Ironwood St. Ave
8	Gordon Williams	[illegible]	4424 Ironwood Ave
9	Mei Li Hsiang	[illegible]	4440 Ironwood Ave
10	Gloria Hsiang	[illegible]	4440 Ironwood Ave
11	Georgette Leiby	Georgette Leiby	4448 Ironwood Ave
12	William Leiby	[illegible]	4448 Ironwood Ave
13	Dana Fitzgibbons	[illegible]	4464 Ironwood Ave.
14	Billy Fitzgibbons	[illegible]	4464 Ironwood Ave
15	Kathy Fitzgibbons	Kathy Fitzgibbons	4464 Ironwood Ave.
16	[illegible]	Jodi Morgan	4432 Ironwood Ave Seal Beach

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	Susan Manzo	Susan Manzo	3631 Marigold St
2	PIERRETTE MANFREDI	Pierrette Manfredi	4580 CANDLEBERRY AVE.
3	John Manfredi	John Manfredi	4580 Candleberry Ave
4	Cynthia Vigil	Cynthia L Vigil	4564 Candleberry Ave.
5	Tom Gorczak	Tom Gorczak	4149 BANYAN AVE.
6	Hayto B Hippi	[illegible]	4588 Candleberry Av
7	Maureen Smitson	[illegible]	4924 Ironwood Ave
8	Lance Smitson	[illegible]	4924 Ironwood Ave
9	Pauline Smitson	[illegible]	4916 Ironwood Ave
10	Louise Grisone	Louise Grisone	4408 Elder Ave
11	James W. Grisone M.D.	James W. Grisone M.D.	4408 Elder Ave, Seal Beach, CA
12	Michelle Gillespie	[illegible]	4417 Elder Ave SB, Ca
13	Daniel Gillespie	[illegible]	4417 Elder Ave SB
14	JERRY GALBREATH	[illegible]	4424 Elder Ave. S.B.
15	Jerrice Kanuti	[illegible]	4456 Elder Ave S.B.
16	Ellen Lopez	[illegible]	4482 Elder Ave SB

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	Sarah Lazar	Sarah Lazar	4265 Fir Ave.
2	MARILYN TYNER	Marilyn Tyner	4241 FIR AVE -
3	Barbara Monard	Barbara Monard	4264 Fir Ave
4	Rodney D. Siborski	[illegible]	4309 Fir Av
5	Todd Lowe	[illegible]	4364 Fir Ave.
6	ANDREA LOWE	Andrea Lowe	4364 Fir Ave. S.B.
7	MARIANNE I Buck	[illegible]	4400 Fir Ave S.B.
8	Robert Schmidt	[illegible]	4297 Fir AVE. SB.
9	Paula Schmidt	Paula Schmidt	4297 Fir Ave SB
10	Zhou Qen	[illegible]	4324 Fir Ave
11	Mingjie zhai	[illegible]	4324 Fir Ave
12	Charles Cassidy	[illegible]	4264 [illegible]
13	BARBARA Cassidy	[illegible]	4264 GUAVA AVE SB
14	JAMES L. Shoemaker	[illegible]	4296 GUAVA AVE S.B.
15	Carol Shoemaker	[illegible]	4296 Guava Ave, SB
16	Kelly Callaway	[illegible]	4297 Guava Ave. S.B.

CG1 Continued

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1	Paula Teweles	Paula Teweles	4272 Fir Ave
2	RAYMOND MENARD	Ray Menard	4264 FIR AVE
3	Anna Falsken	Anna Falsken	4273 Fir Ave.
4	Delbert Falsken	Delbert Falsken	4273 Fir Ave
5	Marilyn L. Hagan	Marilyn L. Hagan	4288 Fir Ave
6	Charlie Kiwoga	Charlie Kiwoga	4300 Fir Ave
7	LaVonne Logan	LaVonne Logan	4300 Fir Ave
8	Ryan Serlin	Ryan Serlin	4241 Candleberry
9	Mur Serlin	[illegible]	4241 Candleberry
10	Apri Serlin	Apri Serlin	4241 Candleberry
11	Tami Dienstag	TAMARA Dienstag	4209 Candleberry Ave
12	Robert J. Dienstag	Robert J. Dienstag	4209 Candleberry
13	Ted Teweles	Ted Teweles	4272 Fir Ave
14	Jared Dienstag	Jared Dienstag	4209 Candleberry Ave
15	Jennifer Lazar	Jennifer A Lazar	4265 Fir Ave.
16	Robert Lazar	[illegible]	4265 FIR AVE.

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	Aurora Mollica	[illegible]	3780 Goldenrod St
2	Luciann Maulhardt	Luciann Maulhardt	3820 Gotherard St.
3	Sandra Constable	Sandra Constable	3801 Fuchsia circle
4	RALPH GROSSO	[illegible]	3811 GOLDENROD ST.
5	Joanne Gibson	Joanne Gibson	3850 Gotherard St.
6	Bruce Gibson	Bruce Gibson	3850 GOLDENROD ST
7	Tamara Scott	Tamara M. Scott	3800 Fuchsia Cir.
8	Jeannine Baker	Jeannine Baker	3831 Fuchsia Cir.
9	Tom Constable	Tom Constable	3801 Fuchsia Cir
10	Bessie Nicolaou	Bessie Nicolaou	3801 Gotherard St.
11	Yvonne Trautman	Yvonne Trautman	3810 DAISY Circle
12	Jack Perkins	Donald Perkins	3840 Daisy Cir
13	JEANNE PERKINS	Jeanne M Perkins	3840 Daisy Cir
14	RONALD Cocchi	[illegible]	3861 DAISY CIR
15	Franklin Cocchi	Franklin Cocchi	3861 Daisy Circle
16	Ballad Sweeney	Ballad Sweeney	3851 Daisy Circle

CG1 Continued

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1	Michelle R Horegi	Michelle Horegi	3851 Goldenrod St SB
2	JOSEPH M. MORESI	[illegible]	3851 GOLDENROD ST SB
3	Benny L McLicker	[illegible]	3831 Goldenrod SB
4	Tamara McLicker	[illegible]	3831 Goldenrod St SB
5	Richard D'Sa	[illegible]	3860 Goldenrod St
6	Kristen D'Sa	[illegible]	3860 Goldenrod St SB
7	Tom Mauldin	[illegible]	3720 Goldenrod St SB
8	LARRY HALFHILL	[illegible]	3801 GOLDENROD SB
9	MICHAEL MOLLICA	[illegible]	3780 GOLDENROD ST.
10	KIRK BROMBERG	[illegible]	3840 Goldenrod Street
11	Catherine Furman	Catherine Furman	3830 Goldenrod St Seal Beach
12	Frederick Furman	Frederick Furman	3830 Goldenrod St SB
13	KATHERINE FLORENCE	[illegible]	3861 Goldenrod St SB
14	Brandon D'Sa	[illegible]	3866 Goldenrod St. SB
15	JAMES LAURENCE	[illegible]	3846 GOLDENROD ST. SB
16	Peter Hirschbunner	[illegible]	3221 Goldenrod

CG1 Continued

PETITION REGARDING DRAFT ENVIROMENTAL IMPACT REPORT
FOR
I-405 IMPROVEMENT PROJECT SCH NO. 2009091001

TO: Smita Deshpande, Caltrans District 12, 2201 Dupont Drive, Suite 200, Irvine CA, 92612

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3) Lack of a coordinated project with Los Angeles County for additional through traffic lanes north on the I-405 Freeway at the county line without which would create additional congestion with a significant increase in noise and air pollution in College Park East, Seal Beach, and Rossmoor due to prevailing on-shore winds.
4) We do not support the toll express lanes of Alternative 3 because of the undue economic hardship on many people, especially fixed income people, such as the senior citizens of Seal Beach, Orange and Los Angeles Counties

	Printed Name	Signature	Seal Beach Street Address
1	PHILIP KOURE	[illegible]	4864 ELDER SBCA 90740
2	Ira Lee	[illegible]	4739 Ironwood Ave Seal Beach 90740
3	Kathryn C. Orr	[illegible]	4709 Candleberry Ave. Seal Beach CA 90740
4	Salwa Mishreki	[illegible]	4516 Dogwood Ave. Seal Beach, CA 90740
5	Bryan Gutsche	[illegible]	4516 Dogwood Ave. Seal Beach CA 90740
6	Nadia Khalil	[illegible]	4516 Dogwood Ave. Seal Beach CA 90740
7	Gabriel Khalil	[illegible]	4516 Dogwood Ave. Seal Beach CA 90740
8	Karen Kassawara	[illegible]	4515 Fir Ave Seal Bch 90740
9	Robert Aguilar Jr.	[illegible]	4581 Ironwood Ave SB, CA 90740
10	Barbara M. Parks	Barbara M. Parks	4240 Birchwood Ave, S B.
11	Richard Crowe	[illegible]	4509 Ironwood Ave, S.B 90740
12	NATHAN TAKESHITA	[illegible]	4648 IRONWOOD AVE SB 90740
13	Richard Schick	[illegible]	4516 Fir Ave Seal Beach 90740
14	GRANT LYND	[illegible]	1711 S Roma Dr.
15	Carmen Takeshita	[illegible]	4648 Ironwood Av
16	Stacey Russell	[illegible]	4809 Dogwood

CG1 Continued

PETITION REGARDING DRAFT ENVIROMENTAL IMPACT REPORT
FOR
I-405 IMPROVEMENT PROJECT SCH NO. 2009091001

TO: Smita Deshpande, Caltrans District 12, 2201 Dupont Drive, Suite 200, Irvine CA, 92612

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	Printed Name	Signature	Seal Beach Street Address
1	Nermi Fang		4432 Candleberry Ave Seal Beach
2	Pat Schick	Patricia Schick	4516 Fir Ave Seal Beach, CA 90740
3	Scot Kennedy		3821 Heath St Seal Beach CA 90740
4	Jeff Hoffman		4764 Dogwood Ave
5	Ida Hoffman		4764 Dogwood Ave
6	Kari Fritz DeH	Kari DeH	4672 Hazelnut Ave.
7	Holly Harris	Holly Harris	4632 Hazelnut Ave
8	Romelle Delinowski		3911 Sunflower Seal Beach CA
9	Toby Johnson		4408 Hazelnut Seal Beach
10	Marilyn Fraims		4409 Hazelnut SB
11	Jacqueline Johnson		4408 Hazelnut
12	Fred Freeman		4409 Hazelnut
13			
14	Milan Jeliasevich		3921 Sunflower Seal Beach
15	Helen Arens	Helen Arens	4532 Fir Ave., SB, CA 90740
16	DON SCHWARTZ	Don Schwartz	3911 Rose Ave SB 90740

CG1 Continued

PETITION REGARDING DRAFT ENVIROMENTAL IMPACT REPORT
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	Printed Name	Signature	Seal Beach Street Address
1	Terry Gaa Kow		4816 Elder Ave S.B. 90740
2	Donna Eagar		4701 Candleberry SB 90740
3	Rachel Farrell		3671 Fuchsia St.
4	Peter Fang		4432 Candleberry SB 90740
5	Rebecca Sutherland		4816 Dogwood Ave
6	Kathy Dreeske		4256 Birchwood
7	Steve Rogers		3870 Mistral Dr
8	John Zenowich		3921 Rose St.
9	Douglas Kraus		4284 Elder Ave.
10	Jen Kraus	Jen Kraus	" " "
11		Scott Melendres	4716 Candleberry Ave
12	Steven J. Orr		4709 Candleberry Ave.
13	Lidia Huffington		4664 Ironwood Ave.
14	Hector Huffington		4664 Ironwood Ave.
15	Terry L. Erickson		3781 Heather St
16	Michelle Anwin		4532 Guava

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	Lauren Cross	Lauren Cross	4617 Almond Ave
2	Preston Cross	Cross	4617 Almond Ave
3	Garrett Cross	Garrett Cross	4617 Almond Ave
4	Ricky Price	[illegible]	4617 Almond Ave
5	Jane Dean	Jane H Dean	4617 Almond Ave
6	Jodie Wales	[illegible]	4505 Birchwood Ave
7	Denes Nagy (Husband)	[illegible]	4505 Birchwood Ave.
8	LYNNE SIMMONS	Lynne Simmons	3521 CARNATION CIR
9	JASON SIMMONS	[illegible]	3521 CARNATION CIR
10	Erica Koford	Erica Koford	3914 Howard Ave
11	Karen A Kimball	Karen A Kimball	169 Yale Lane
12	Craig Kimball	CRAIG KIMBALL	169 Yale Lane.
13	Vivian Blackman	Vivian Blackman	4151 Candleberry Ave
14 Son	Gary Blackman	Gary Blackman	4280 Candleberry
15	Gene Blackman	[illegible]	4604 Guava Ave
16	Tom Poe	[illegible]	10772 CHESTNUT, LA

CG1 Continued

PETITION REGARDING DRAFT ENVIROMENTAL IMPACT REPORT
FOR
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	Printed Name	Signature	Seal Beach Street Address
1	Michael Yee	Michael Yee	4296 Fir Ave
2	Aaron Teeles	Aaron Teeles	4272 Fir Ave
3	DONNA HAKALA	Donna Hakala	4340 HAZELNUT Ave. S.B.
4	Eve Polyachenko	Eve Polyachenko	4348 Guava Ave S.B.
5	Carole Christiansen	Carole Christiansen	4349 Guava, Seal Beach 90740
6	Randi Sutherlin	Randi Sutherlin	4332 Guava Ave
7	Tylor Kreil	[illegible]	4233 Fir Ave
8	CHRIS BISORCA	[illegible]	4236 FIR AVE
9	Karen Albers	Karen S Albers	4308 Fir Ave SB 90740
10	Steven Grace	[illegible]	4356 Fir Ave 90740
11	Lori Grace	[illegible]	4356 Fir Ave 90740
12	TED Kienitz	Ted Kienitz	3811 DAISY CIR 90740
13	Christopher BASIAGO	[illegible]	4340 Birchwood Ave.
14	Julie BASIAGO	Julie Basiago	4340 Birchwood Ave.
15	Sandra Kaminsky	Sandra Kaminsky	12105 Montecito Rd FT 59 Los Alamitos
16	SYBIL TAMBROFF	[illegible]	18171 IVORYCREST LN HB
17	Victoria Somlo	Victoria Somlo	1601 Island View, SB

CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	WANDA MOORE LITTIG	Wanda Moore Littig	13060 DEL MONTE DRIVE #46 N, SEAL BEACH, CA 90740
2	SHIRLEY TRUMAN	Shirley Truman	13060 Del Monte Dr. 46R Seal Beach, CA 90740
3	Shirley Middleton	Shirley Middleton	13060 Del Monte Dr. #46R Seal Beach, CA 90740
4	Marlene M. Bissor	Marlene Bissor	13060 Del Monte 46G Seal Beach, CA 90740
5	Thomas Bissor	Thomas Bissor	13040 DEL MONTE DR 46G Seal Beach CA 90740
6	Randi Allen	Randi Allen	13060 Del Monte Dr 46K - Seal Beach CA
7	HUMBERTO Rodriguez	[illegible]	13811 Thunderbird Seal Beach CA 90740 DR 55L
8	MARIA-BOGART	Maria Bogart	13060 Del Monte Dr 46C Seal Beach Ca 90740
9	Dorothy E. Picard	Dorothy E. Picard	13040 Del Monte Dr #45 Seal Beach, CA 90740
10	Kenneth J. Martin	[illegible]	330 Regatta Way Seal Beach, CA 90740
11	Lucille C. Martin	Lucille C. Martin	13040 Del Monte Dr 45A Seal Beach CA 90740
12	JEAN COSE	Jean Cose	13044 Del Monte Dr Seal Beach CA 90740
13	A. Paul Cose	[illegible]	13044 Del Monte #44 Seal Beach Ca
14	Michael Pahlow	Michael Pahlow	13057 Del Monte Dr. 43A Seal Beach, CA 90740
15	BERNARD R. HUOT	Bernard R. Huot	13052 DEL MONTE DR #43 SEAL BEACH CA 90740
16	BETTE SARGENT	Bette Sargent	13045 DEL MONTE DR. #42-C SEAL BCH. CA. 90740

CG1 Continued

PETITION REGARDING DRAFT ENVIROMENTAL IMPACT REPORT
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	Printed Name	Signature	Seal Beach Street Address
1	Susan Vu	[illegible]	4532 Elder Ave.
2	Thomas Vu	[illegible]	4532 Elder Ave
3	[illegible]	[illegible]	4540 Elder Ave.
4	[illegible]	[illegible]	4540 Elder Ave
5	SANDRA Pryle	[illegible]	4609 Elder Ave
6	KEITH KOVACH	[illegible]	4589 Elder Ave.
7	John Kastner	[illegible]	4541 Elder Ave.
8	Donna Kastner	[illegible]	4541 Elder Ave.
9	ROBERT BEDELL	[illegible]	4501 ELDER AVE
10	Ryan Campbell	[illegible]	4489 ELDER AVE
11	Claire Campbell	[illegible]	4489 Elder Ave
12	Jackie Espinoza	[illegible]	4481 Elder Ave
13	DAVE FRANK	[illegible]	4445 Elder
14	DEBORAH SNYDER	[illegible]	4435 ELDER AVE
15	Gary Miller	[illegible]	4632 Guava Ave
16	SHARON Miller	[illegible]	4632 GUAVA AVE

CG1 Continued

PETITION REGARDING DRAFT ENVIROMENTAL IMPACT REPORT
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	Printed Name	Signature	Seal Beach Street Address
1	THOMAS POWER	Thomas J Power	3600 SUNFLOWER CIR
2	JACLYN POWER	Joelyn Power	3600 SUNFLOWER CIRCLE
3	Cynthia L Power	Cynthia Power	3600 Sunflower Circle
4	Mary Power	Mary Power	13300 Fairfield Ln #175I
5	William R Power Jr	William R Power	13300 Fairfield Ln #175I
6	Chris Power		3600 Sunflower Cir
7	Steve Fresenius		3601 SUNFLOWER CIR
8	Courtney Fresenius		3601 Sunflower Circle Seal Beach
9	Theresa Fresenius		3601 Sunflower Cir Seal Beach
10	LARRY MICHAELS	L Michaels	3631 SEAL BEACH
11	ESTHER M. CHAEL	Esther Michael	3631 SEAL BEACH
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CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	Carol L. Cogurito	Carol L Cogurito	4472 Birchwood Ave
2	Dominic C. Zampino	Dominic C. Zampino	4357 BIRCHWOOD AVE. S.B.
3	Janet J. Zampino	Janet J. Zampino	4357 BIRCHWOOD AVE. S.B.
4	Timothy J. Dunn	T. Dunn	4364 Birchwood Ave, SB
5	Debbie Tenpenny	Debbie Tenpenny	3520 Daisy Ave, SB
6	Judy Dulio	Judy Dulio	3530 Fern Cir. S.B.
7	Osam Gayed	Osam Gayed	3541 Fern Cir. S.B.
8	Eileen R. Gayed	Eileen R. Gayed	3541 Fern Cir. S.B.
9	Joe Partise	Joe Partise	3540 Fern Cir
10	Helen Partise	Helen Partise	3540 Fern Cir.
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CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	Julie King	Julie King	4533 Elder Ave
2	William King	William	4533 Elder Ave
3	Frank Teng		3531 Fern Circle
4	Nate Cosmelas		3520 Fern Circle
5	Joe Siefried	Joe Siefried	3551 Fern Circle
6	Joe Herrera	Joe Herrera	3561 Fern Circle
7	Nancy A. Siefried	Nancy A. Siefried	3551 Fern Cir.
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CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	Stuart Hively	Stuart E. Hively	4456 Ironwood Ave.
2	Karen Hively	Karen Hively	4456 Ironwood Ave
3	Kelly Martin	Kelly Martin	4449 Ironwood Ave
4	Melanie Martinez	Melanie Martinez	4449 Ironwood Ave.
5	Elder Martinez	Elder Martinez	4449 Ironwood Ave.
6	Aaron Morgan	Aaron Morgan	4432 Ironwood Ave
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CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	SUSAN KIESKITZ	Susan J Kiesk	3811 DAISY BEACH, SB
2	Brandon Scott	[illegible]	3833 Fairway Circle, SB
3	PAUL McDANNEL	[illegible]	4356 CANDLEBERRY AVE.
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CG1 Continued

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	Printed Name	Signature	Seal Beach Street Address
1	Susan Rich	[illegible]	4597 Guava Ave
2	Robert Rich	[illegible]	4597 Guava Ave
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CG1 Continued

PETITION REGARDING DRAFT ENVIROMENTAL IMPACT REPORT
FOR
I-405 IMPROVEMENT PROJECT SCH NO. 2009091001

TO: Smita Deshpande, Caltrans District 12, 2201 Dupont Drive, Suite 200, Irvine CA, 92612

We, the undersigned, do not support Project Alternatives 2 and 3 for the following reasons:
1) They require the Almond Ave. soundwall to be moved further into College Park East, causing across-the-board increased noise and air pollution, and decreased property values.
2) These two alternatives would require relocation of utilities: overhead electrical lines could be relocated to the north side of Almond Ave. (all utilities are under-grounded in CPE); a 14" and separate 16" diameter gas/petroleum pipeline may be relocated from south of the I-405 Freeway to a new alignment through College Park East.
3) Lack of a coordinated project with Los Angeles County for additional through traffic lanes north on the I-405 Freeway at the county line without which would create additional congestion with a significant increase in noise and air pollution in College Park East, Seal Beach, and Rossmoor due to prevailing on-shore winds.
4) We do not support the toll express lanes of Alternative 3 because of the undue economic hardship on many people, especially fixed income people, such as the senior citizens of Seal Beach, Orange and Los Angeles Counties

	Printed Name	Signature	Seal Beach Street Address
1	CAROL A. HART	Carol A. Hart	4316 Birchwood Av.
2	NORTON N HART JR	Norton N Hart Jr	4316 BIRCHWOOD AV
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CG1 Continued

PETITION REGARDING DRAFT ENVIROMENTAL IMPACT REPORT
FOR
I-405 IMPROVEMENT PROJECT SCH NO. 2009091001

TO: Smita Deshpande, Caltrans District 12, 2201 Dupont Drive, Suite 200, Irvine CA, 92612

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4) We do not support the toll express lanes of Alternative 3 because of the undue economic hardship on many people, especially fixed income people, such as the senior citizens of Seal Beach, Orange and Los Angeles Counties

	Printed Name	Signature	Seal Beach Street Address
1	RONALD G ANDERSON	Ronald G. Anderson	3531 CARNATION CIRCLE
2	LINDA J ANDERSON	Linda J Anderson	3531 CARNATION CIRCLE
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CG2

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Post Office Box 9256
Newport Beach, CA 92653
949-399-3669

www.FHBP.org

July 16, 2012

Ms. Smita Deshpande
Branch Chief, Caltrans District 12
2201 Dupont Drive, #200
Irvine, CA 92612

RE: 405 DEIR-EIS Comments

Dear Ms. Deshpande:

Friends of Harbors, Beaches, and Parks (FHBP) is a regional non-profit working to protect the natural lands, waterways, and beaches of Orange County. More recently we've been involved with the implementation of SB 375 and the Orange County Transportation Authority's (OCTA) implementation of its Environmental Mitigation Program. 1

We certainly appreciated meeting with project planners at OCTA to discuss the 405 freeway and its many possibilities. We would like to take this opportunity to provide the following comments to the Draft Environmental Impact Report (EIR) – Environmental Impact Statement (EIS) for the proposed 405 project.

Renewed Measure M – Freeway Projects

The 2006 Renewed Measure M (M2) sales tax for transportation improvements approved by the voters included 13 defined freeway improvement projects. This list only addresses Alternative 1 and the "No Build" Alternative proposed in the 405 Draft EIR-EIS. We believe, Alternatives 2 and 3 go beyond the scope of the Project K approved by voters in November 2006. Consequently, Alternatives 2 and 3 should be removed from further consideration until the voters specifically approve such uses with the transportation sales tax funds. 2

In particular, OCTA has asserted publicly that Alternative 3 would not utilize Measure M dollars beyond the already programmed additional General Purpose lanes added. However, Alternative 3 purports to convert existing free carpool lanes into High-Occupancy Toll (HOT) lanes. Thus lanes that encourage two-person carpooling and used by thousands of commuters daily would be lost. This would significantly impact continuing utilization of past funds, essentially replacing two-person carpools with motorists who can pay the toll, thus eliminating an existing incentive to reduce commuter Vehicle Miles Traveled (VMT) by doubling-up. 3

In addition, we urge Caltrans and OCTA to revise the Draft EIR-EIS to add a new alternative, Alternative 4. This alternative would implement a pilot program of an express busway system, or Bus Rapid-Transit (BRT) along the 405 Corridor to be presented as an M2 amendment to the voters at an upcoming election for their approval. This alternative would, we believe, demonstrate multiple benefits including reducing VMT, responding to public needs for efficient public transportation connecting desired trip nodes, meeting the mandates of SB 375 and AB 32, and avoiding another "tollway bureaucracy" in Orange County. 4

CG2 Continued

Reducing Vehicle Miles Traveled and Greenhouse Gas Emissions

As you know, the state has adopted two important laws related to greenhouse gas emissions – AB 32 (The Global Warming Solutions Act of 2006) and SB 375 (The Sustainable Communities Planning Act of 2008). AB 32 requires that we reduce our greenhouse gas emissions to 1990 levels by year 2020. SB 375 requires each region to create a Sustainable Communities Strategy (SCS) that reduces VMT and meets the target of an 8% reduction in those VMT for 2020 and a 15% reduction by 2035.

While the Draft EIR-EIS asserts that implementation of Alternatives 2 and 3 may be in compliance with AB 32 and SB 375, we believe, however, that at this point in the urbanization of the 405 Corridor, the proposed additional lanes, whether free or toll, will not and cannot achieve the necessary reductions in greenhouse gas emissions and VMT.

Instead, we suggest that a much more beneficial approach would be the implementation of an express busway system. This system should connect primary business and transportation nodes through the Orange County 405 Corridor and interconnect with Los Angeles County nodes to get people where they need to go, without their vehicles. A starting node at John Wayne Airport could link to nodes in Westminster, Long Beach airport, Torrance, Los Angeles airport, and Downtown LA. Imagine the opportunities that these express buses running every 20 minutes would create during peak hours on the 405. Imagine how many cars you'd get off the road by this one shift in thinking. 5

We don't have to imagine it though. The proven success of the Orange Line Express Busway system in Los Angeles is described on the front page of the Los Angeles Times on June 28, 2012, as an "unlikely hero" that tripled projected ridership in less than a year and "was significantly cheaper to build" that its light-rail counterparts (and also in our view, cheaper than the proposed Alternative 3 tollway).

High-Occupancy Toll Lanes: Inflated Benefits, Minimized Risks

For Alternative 3, it appears that the Draft EIR-EIS optimistically evaluates project benefits (ridership and toll revenue) while minimizing impacts on the climate (single-occupied fossil-fueled cars driving instead of providing viable mass transit alternatives for the 405 corridor) and equity (low-income drivers pay tax but cannot afford tolls). Understand that providing excess freeway capacity (the goal of all three proposed alternatives) will only inspire more cars to fill the roads, with a long-term impact of escalating congestion. Under the HOT lanes scenario, mixed-flow travelers would experience lost travel time in the long-run at the expense of the few willing to pay. Widening freeways, no matter the pricing scheme, will never solve long-term gridlock. 6

As stated earlier, conversion of free 2+ person carpool lanes to HOT lanes will reduce the incentive to use transit or carpool, effectively transferring travel time benefits from 2+ carpoolers to those willing to pay. Moreover, political considerations have forced the addition of two intermediate entrance points to the proposed Express Lanes, which will lower capacity and slow free-flow speeds. The argument that by charging tolls, drivers will be forced to use alternatives only makes sense when there are alternatives. The 405 has none. 7

OCTA's funding logic implies conversion to HOT lanes would generate revenue to convert more carpool lanes to toll, continuing to marginalize travel times for the majority of freeway users in favor of the few who pay. Hence, as proposed, this HOT lane conversion would have only short-term benefits with significant long-term challenges that will make it difficult to achieve the AB 32 and SB 375 required reductions in greenhouse gases by 2050. And traffic will continue to be a nightmare for most of us. 8

CG2 Continued

Encourage Increased Carpool/Vanpool Options – Transit-Oriented Development

Orange County was able to adopt one of the first Sustainable Communities Strategies (SCS) in California. We are pleased to have been part of this effort and to have worked so closely with the Orange County Council of Governments and OCTA to adopt important and sustainable policies as it relates to our land use, housing, and transportation infrastructure.

We are struck, however, by the fact that the plans for the 405 continue with the business as usual model—just build more lanes and only promote additional vehicles with solo drivers on the 405 freeway. We had hoped, and still do, that policy makers and decision makers would take an opportunity like this to launch a pilot program or case study of how implementing wiser land use policies can and will achieve the reduction targets set by AB 32 and SB 375. 9

For example, one of the strategies of the OC SCS was to promote land use patterns that encourage the use of alternatives to single-occupant automobile use. This could be achieved by creating carpool and vanpool sites along the 405 freeway. From our cursory look along the 405 we found a half dozen sites with potential to become park-n-ride locations to implement this type of program. If the shift towards more sustainable developments and transportation projects doesn't occur now, will it ever?

HOT Lanes and Environmental Justice

It is clear that low-income commuters will not be paying for HOT lanes access on a regular basis, though on occasion might use the facility. Unfortunately, this constitutes a significant impact of the project from an environmental justice perspective. While road pricing impacts on low-income drivers may decrease as drivers gain actual experience with pricing, using toll revenues to enhance transit services along the Corridor creates more transportation choices for this demographic, as well as everyone else.

The Los Angeles Metropolitan Transportation Authority's (Metro) HOT lane demonstration projects, under construction right now on the I-10 and I-110, plan to reinvest toll revenue in transit, vanpool and carpool lanes along those corridors. Metro has also offers a toll credit in the form of a partial toll account setup fee waiver or transit credit to low-income drivers. A study undertaken by Network Public Affairs for Metro in 2010 recommended accommodating the needs of low-income commuters by waiving account set up fees and considering a more comprehensive distribution network for transponders. Minimum account balances and overdraft charges, requiring credit cards and bank accounts, as well as charging for minimum monthly users on low-activity accounts should be reconsidered. 10

Operational performance measures should be monitored over time to improve service to this demographic, including:

- Number of low-income commuters (including percentage of pass holders) who sign up for a transponder.
- Number of peak-period low-income users of HOT lanes (and percentage of overall HOT lane users).
- Usage of HOT lane credits for low-income drivers (credit redemptions).
- Mode choice of low-income drivers (carpool vs. single-occupant vehicle), compared with mode choice before the project is implemented.
- Performance of transit service in the ExpressLanes corridors during the demonstration period.

CG2 Continued

- General-purpose lane speeds during the demonstration period.
- Account balance problems of low-income commuters, compared with non-low income.
- Share of time savings by low-income ExpressLanes drivers in comparison with the share of tolls and transponder costs they pay.
- Trends in trip distance and trip time by low-income commuters, compared with non-low-income.
- Toll revenue reinvestment. 10

Public Transit Alternatives

OCTA in conjunction with the Southern California Association of Governments and Metro has been looking at the Pacific Electric Right-of-Way (PE ROW) / West Santa Ana Branch Corridor. This railroad right-of-way extends for approximately 20 miles between the City of Paramount in Los Angeles County and the City of Santa Ana. As a transportation alternative to the 405, it looks quite promising. Light rail and Bus Rapid Transit (BRT) could work well there, connecting to the Santa Ana Metrolink and Amtrak lines as well as the Metro Blue and Green lines. This alternative must be funded as part of any scheme to generate revenue for transportation projects and should be a significantly higher percentage of any extension of Measure M. 11

Unfortunately, this option would not connect Santa Ana with John Wayne Airport, South Coast Plaza and the coastal cities of Orange County. Thus, OCTA must work to revive a new alternative to CenterLine Light Rail Transit, the former proposed connection between Santa Ana and UC Irvine via the airport. Less expensive technologies are available to reduce the right-of-way necessary to build such a system. When Measure M was originally approved by voters in 1990 to include CenterLine, recent moves toward funding regional transit have been perfunctory and misplaced (30-minute Metrolink, BRT and Go Local). OCTA needs to step up and lead on providing sustainable transportation mobility options that would serve to increase residential and commercial densities in certain areas, providing walkable urban village centers that would be less dependent upon fossil-fuel-powered automobiles. 12

In addition, Union Pacific Railroad right-of-way that connects Anaheim with Huntington Beach has promise as another connecting facility. Though light rail might be an expensive proposition, BRT and Personal Rapid Transit would be significantly less expensive to build, and would reduce automobile trips significantly in the region.

Net Revenues and the Environmental Mitigation Program

As you are likely aware, OCTA has a programmatic Environmental Mitigation Program which has allocated funding towards acquisition and restoration projects that mitigate freeway projects. The Measure M2 ordinance states at least 5% of the net revenues allocated for the Freeway Projects shall fund Programmatic Mitigation for Freeway Projects.

It is unclear to us how the potential of additional lanes (toll or otherwise) would impact the Environmental Mitigation Program. Will the increased revenues from projected toll lanes go back into the M2 freeway program? If so, how does this influx of new revenues impact the Environmental Mitigation Program funds, which was guaranteed 5% of the net revenues? 13

CG2 Continued

FHBP 405 Comment Letter to CalTrans
July 16, 2012

We appreciate the opportunity to comment on the DEIR-EIS, as well as the time extension to July 17, 2012. If you have any questions, please contact me at 949-399-3669.

Sincerely,

Jean H. Watt

Jean Watt, President
Friends of Harbors, Beaches and Parks

cc: Will Kempton, OCTA

CG3

MESA NORTH
Community Association

3055 Johnson Avenue
Costa Mesa, CA 92626

January 20, 2011

VIA EMAIL

Peter Naghavi
Public Services Director
City of Costa Mesa
77 Fair Drive
Costa Mesa, CA 92626

Re: San Diego Freeway (I-405) Improvement Project

Dear Mr. Naghavi,

Thank you for meeting with the Board of Directors of the Mesa North Community Association ("MNCA") to discuss Caltrans' proposals for expansion of the Interstate 405 Freeway. As you know, MNCA is one of the largest neighborhood community organizations in Costa Mesa, representing nearly 800 homes, including homes directly adjacent to Interstate 405 and State Route 73.

We are writing to provide our formal opposition to Caltrans *revised* Alternative #3 and to express our strongest concerns regarding the impacts of the recently proposed amendments to this Alternative. In 2009, we provided Caltrans, OCTA and the City with our written position regarding the original Alternatives, including our vehement opposition to Alternative #3. We understand that Alternative #3 has changed, warranting these additional comments. 1

As represented during the October 2009 project scoping meetings, Caltrans Alternative #3 would seek to offset the tremendous cost of the 405 Freeway expansion through the introduction of High Occupancy Toll, or "HOT" lanes on the 405 Freeway. Recently, we have learned that Caltrans has revised Alternative #3 and is now considering including direct transition HOT lanes from the 405 Freeway to State Route 73. These transition lanes were not contemplated in the original Alternatives discussed during the scoping meetings and represent a significant deviation from what was formally presented by OCTA and Caltrans in October 2009. 2

As a threshold matter, we are disappointed that Caltrans and OCTA have chosen not to pursue further public meetings to discuss revisions to any of these Alternatives. Sadly, there has been little opportunity for robust public comment on these revisions as we proceed through the Environmental Phase.

CG3 Continued

Peter Naghavi
January 20, 2011
Page 2

The addition of HOT lanes and introduction of a direct HOT lane transition between the 405 Freeway and State Route 73 would have a disastrous impact on Mesa North and surrounding neighborhoods. As you know, where the 405 Freeway and State Route 73 meet, residents living closest to these freeways have enjoined a landscaped setback which mitigates the noise and pollution of these heavily traversed freeways. Caltrans' revised Alternative #3 would eliminate this open space and literally bring the freeway ***18 feet*** closer to residents' backyards. Only a minor concrete sound-wall would separate these homes from daily freeway traffic.

As we stated in our 2009 letter, bringing the freeway closer to our residents will have a deleterious impact, including increased litter, sound and air pollution, along with an overall decrease to property values. Scientific studies have consistently found that people living closest to freeways suffer higher rates of cancer, heart disease and most recently, increased rates of autism in children. Constructing this freeway transition directly adjacent to homes simply makes no sense and will have a detrimental impact on the quality of life our residents have come to enjoy. 3

As we previously pointed out, Costa Mesa is not where the problem lies. There are sufficient existing lanes within Costa Mesa's portion of the 405 Freeway to support anticipated increased traffic flow. The problems with the 405 Freeway begin north of our City, with bottlenecks at Euclid Avenue and Brookhurst Street where freeway lanes are taken away. Caltrans should be focusing its efforts (and money) at addressing freeway expansion in areas where the problem is the most acute. That area is not Costa Mesa. Likewise, it should not be overlooked that with the addition of the paid HOT lanes, Costa Mesa residents will be losing a carpool lane that they can currently travel free of charge and which encourages ride-sharing. Revised Alternative #3 does nothing to promote ride-sharing. 4

Caltrans just completed a very complex and costly $7 million renovation of the Fairview Avenue/405 Freeway overpass. Funding for this improvement was split between Measure "M" and Segerstrom Home Ranch funds. What will become of this new overpass if revised Alternative #3 is constructed? Our residents endured prolonged noise, construction, traffic and other negative byproducts from this extensive project. Caltrans' newest proposal would likely require the destruction and re-building of the Fairview overpass. This simply makes no sense. Fairview Avenue is one of the most heavily travelled arterials in our City and the prospect of destroying this recently constructed overpass to create a new overpass to support the additional HOT lanes transition is troubling. 5

Additionally, the written plans for the proposed HOT lanes transition have not been made public, and we have strong concerns that Caltrans may be forced to elevate this freeway transition. Any elevation of the existing freeway is not acceptable to our residents and should not be accepted by the City of Costa Mesa. 6

While we understand Caltrans need to pursue expansion plans which are economically feasible, we should not throw the baby out with the bath water. The residents of Costa Mesa, like all residents of Orange County, pay taxes to provide for our roads and freeways. Our residents' quality of life should not be impaired simply because Caltrans does not have the current financial means to meet this estimated $1.2 billion project. If paid lanes are the answer, Caltrans should find ways to implement the expansion within the existing 405/73 Freeway footprint. Expansion of the 405 Freeway and introduction of transition HOT lanes to State Route 73 is not the answer for Costa Mesa or Orange County residents. 7

CG3 Continued

Peter Naghavi
January 20, 2011
Page 3

Therefore, the Mesa North Community Association formally opposes revised Alternative #3 to the 405 Freeway Improvement Plan. 8

Kindly forward our concerns on to Caltrans and OCTA and please ensure they are part of the formal record as the City continues to discuss this important project.

Thank you for your time and attention to this matter.

Very Truly Yours,

Colin K. McCarthy

President, Board of Directors
Mesa North Community Association

cc: Hon. John Moorlach
Costa Mesa City Council
Peter Buffa
C.J. Segerstrom & Sons
Mesa Verde Community, Inc.
Halecrest/Hall of Fame Community Association

CG4

Rossmoor Homeowners Association
P.O. Box 5058, Rossmoor, California, 90721
(562) 799-1401 www.Rossmoor-RHA.org

July 16, 2012

Smita Deshponde, Branch Chief
Caltrans-District 12
Attn: I-405 DEIR-DEIS Comment Period
2201 Dupont Drive, Suite 200
Irvine, CA 92612

Re: Rossmoor Homeowners Association Response to DEIR-I-405 Improvement Project

Ms. Deshponde:

Rossmoor Homeowners Association Comments and Recommendations on the EIS for the Proposed 405 Freeway Expnansion.

If OCTA's expansion project for the I-405 goes forward, the RHA is deeply troubled by the potential for traffic congrestion to occur on the northbound I-405 at the Los Angeles County interface, which would cause a direct and heavy impact on the air quality inside Rossmoor. There appears to be the potential for hundreds of idling cars and trucks congested on the freeway adjacent to Rossmoor in the late afternoon and early morning, two key periods of the day that could affect residents. 1

The expanded I-405 proposed by OCTA would have two more lanes inside Orange County than would exist in Los Angeles County with the decrease in capacity occurring within 100 feet or less of our residential neighborhoods'. Moreover, the proposed route lies within 500 feet of Hopkinson Elementary School, a sensitive receptor that was not addressed in the EIR. Section 3.2.6, the air quality analysis for the project, makes no mention of Hopkinson. The EIR identifies other sensitive receptors along the route, but neglects one of west Orange County's largest and most highly regarded schools. 2

The configuration of Rossmoor has the 405 literally wrapping around the southern tip of the community, exposing residents to one of the greatest environmental impacts anywhere in the project. The OCTA air quality analysis examines carbon monoxide levels in Costa Mesa, but appears to make only 3

CG4 Continued

estimates near Rossmoor. Similarly, the air toxics analysis did not adequately assess the potential for impacts on Rossmoor, particularly if congestion occurs at the county line.
We believe the air quality impact analysis was inadequate in considering hotspots with elevated levels of particulates, ozone, and other air pollutants that could affect the health and quality of life in Rossmoor. 3

Rossmoor is a community of both young children and elderly adults, the two most sensitive age groups to air pollution. We are asking that OCTA reexamine the air quality, traffic and noise impacts of the project on Rossmoor, especially its schools, parks and homes, and undertake a thorough and complete consideration of the most effective ways to mitigate those impacts to a level of insignificance. 4

The RHA requests that OCTA analyze the option of reducing northbound lanes sequentially several miles before the county line. This change would help mitigate the potential for congestion, air quality impacts and the possibility of motorists using surface streets in the Rossmoor-Los Alamitos area to navigate around the chokepoint. If and when Los Angeles County increases the capacity of the I-405 in Long Beach, then the additional lanes of traffic could be opened to the county line. 5

We are also asking that OCTA conduct a better outreach effort in Rossmoor to elicit input and carry out real dialogue about the project.

The Rossmoor Homeowners Association has represented homeowners living in the unincorporated area of Rossmoor for many decades. Membership in our organization is voluntary, but we have almost 1,200 dues paying homeowners who represent about one-third of the community. The RHA considers satisfactory resolution of traffic and highway issues as one of its important missions in safeguarding the quality of life in Rossmoor. We have long had a traffic committee that works with law enforcement, county public works officials, nearby cities and other agencies to improve safety and transportation in our community. We were a key contributor to the redesign of the I-405/I-605 HOV over crossing designs to reduce noise in adjoining residential areas. 6

The Rossmoor Homeowners Association
Board of Directors
Gary Stewart, President

CG5

From: Gabrielle Weeks [GWeeks@angeles.sierraclub.org]
Sent: Tuesday, July 17, 2012 10:41 PM
To: Moorlach, John; Adams, Audra; Bates, Pat; Campbell, Bill; dhansen@surfcity-hb.org; CFikes@surfcity-hb.org; Nguyen, Janet; fvcrandall@yahoo.com; lorri@lorrigalloway.com; pglaab@cityoflagunaniguel.org; mpulido@santa-ana.org; pherzog@lakeforestca.gov; jamante@tustinca.org; Wendy Knowles; fvproud@fountainvalley.org; citycouncil@cityoforange.org; mayor@garden-grove.org
Cc: 405.dedcomments@parsons.com
Subject: Sierra Club members express an overwhelming opposition to plans by your Board

To members of the OCTA Board of Directors,
I am writing to you on behalf the over 5,000 members of the Sierra Club in the Long Beach Area Group, including hundreds of members in the Cities of Seal Beach, Cypress and Los Alamitos as well as the unincorporated community of Sunset Beach.

My members have expressed an overwhelming opposition to a proposal by OCTA/CalTrans to essentially privatize a portion of our public freeways by establishing toll roads on the 405 Freeway. In addition to being a giveaway of private assets, my members utilize the 405 freeway to access many outdoor hiking and recreation opportunities throughout Orange County. Placing these toll roads will increase pollution by eliminating the incentive for carpooling on the 405, create barriers to people that cannot afford the toll roads to access Orange County via the 405, and exacerbate the already unacceptable traffic jams currently on the 405 freeway, further increasing pollution. 1

We cannot imagine why the OCTA Board of Directors would consider a plan that increases pollution and worsens the quality of life for a majority of your residents and workers just to benefit well to do residents that can afford to pay for access to a toll road. Our members are unified in their opposition to this scheme. And the net result is that if the proposal moves forward, Sierra Club members from throughout the region will not visit Orange County (or spend our discretionary dollars in your cities) as often. 2

There are other options to reduce congestion on the 405 freeway, including expansion of mass transit and encouraging (rather than discouraging) carpooling. We ask each member of the OCTA Board to reject the toll plan in favor of these other more sensible and cost effective options. 3

Sincerely,

Gabrielle Weeks
Chair, Long Beach Area Group – Angeles Chapter of the Sierra Club

CG6

Transit Advocates of Orange County

Working To Improve Bus, Rail, Biking and Walking In Orange County ...

July 16, 2012

Smita Deshpande, Branch Chief
Caltrans-District 12
2201 Dupont Drive, Suite 200
Irvine, CA, 92612

Re: I-405 DEIS/EIR Comments

Dear Ms. Deshpande,

Thank you for the opportunity to comment on the I-405 DEIS/EIR.

Our group, Transit Advocates of Orange County, is an all-volunteer group that works to improve bus, rail, biking and walking in Orange County. We believe that a well-run transit system with both "discretionary" and "dependent" riders could change the nature of traffic patterns, and therefore livability, in our county. For over 10 years, we have given testimony at OCTA Board and Committee meetings, and served on various citizens committees such as the OCTA Citizens Advisory Committee (CAC), the CAC Bicycle/Pedestrian Subcommittee, etc.

Our experience is that, despite the fact that southern California is known for its "car culture", many people and many land use and transportation planning agencies enthusiastically agree that bus, rail, bike and pedestrian issues should be addressed as much as possible. That said, all too often the details that would allow bus, rail, bike and pedestrian modes to thrive, are overlooked.

We apologize for the length of these comments, but there are so many issues in this Project that have unaddressed significant impacts on bus, rail, biking and walking, that we would like to find solutions. Fortunately, most of these impacts can be addressed with some thoughtful planning, and we hope you will be as excited as we are to explore some new, but simple and reasonable concepts in doing so. 1

We also apologize for our lack of facility with EIR concepts and phrasing, but hope you will agree that the impacts on bus riders, rail users, bicyclists and pedestrians merit a closer look. We encourage you to pioneer some of these concepts with this Project, using them as a template for future projects, as well. Perhaps we can lay some new groundwork on issues that are all-too-often neglected.

Please advise us when the response to our comments is available, and please also add us to the list for all related public hearings, including for the Funding Plan. We appreciate the time spent in addressing our concerns, and would appreciate the opportunity to clarify any of the concepts we've mentioned.

Thank you for your time and attention to these issues,

Sincerely,

Jane Reifer

Chair, Transit Advocates of Orange County
(714) 607-0012

1

CG6 Continued

Overview

The common theme and main goal of these comments is to request that any of the Build Alternatives appropriately:

Identify,
Measure, and
Mitigate

impacts to **bus, rail, bike and pedestrian issues, as well as the needs of the disabled, and Environmental Justice / Title VI** populations (since so many of the bus and rail users, bicyclists and pedestrians have disabilities and / or are minorities or low-income).

The impacts need to be addressed for **both Construction / Temporary impacts as well as for Permanent impacts**.

An additional goal of these comments is to encourage improvements to bus, bike and pedestrian modes to be used as mitigation for some of the Significant / Unavoidable Impacts. 2

Permanent Impacts

We appreciate the effort to improve 13 of the 17 sidewalks that don't currently have facilities on both sides. However, since this is a major project, we respectfully request consideration of:

Providing sidewalks on the west side of Harbor Boulevard and the east [sic] side of Edinger Avenue as well as pedestrian facilities on Bolsa Chica and Seal Beach Blvd. Sidewalks could be done "trail style" to fit in with the open space, undeveloped aesthetic in the area.

It appears that no mitigations are listed for permanent changes to bus, bike, and ped modes, only temporary ones.

Keeping Caltrans Deputy Directive 64 (Rev 1) in mind, please provide some analysis and appropriate mitigations of:

- The special needs of the elderly and the disabled at the crosswalks at arterial interchanges.
- If any intersections become "3-leg" crossings instead of 4 (Pedestrians will have longer distances to cross, and wait time at intersection will significantly increase)
- If any roadways are widened (pedestrians will have longer distance to cross)
- A "safe routes to school" analysis should be done for schools in the project area.
- We also want to endorse the excellent comments provided to you by Roy Shahbazian on ramp design for bike and ped users, with the addition of Fairview Road's possible need for appropriate sidewalk and crosswalk design. 3

Where LOS on local streets is lowered, bus service is also impacted. Travel times are longer and costs go up to provide the extra time in route service. There is a travel time impact and a financial impact to public transit, which could be a significant impact. We did not see an analysis on the permanent impacts to existing bus service, other than the relocation of one bus stop. Can a map or description be provided, illustrating that change? 4

2

CG6 Continued

Several aspects of the project convert right-turn lane to other uses. Are there any impacts to bus stops? A bus stop inventory may have been done, as it was explained that a bus stop on Ellis may move, but it is not described. 5

On pages 4-19 and 4-20, the DEIR states "4.2.4.3 Adverse Effects on Human Beings Mandatory Findings.
Adverse effects on human beings are considered significant temporarily and permanently as it relates to the community character of the project area. As such, the project would result in:
- ….Impaired (through increased time and distance) automobile and/or pedestrian access to businesses, public services, schools, and other facilities.
- Affecting pedestrian service 0.25- to 0.5-mile in radius of the project during construction and temporarily change/reduce pedestrian access used by the disabled, resulting in a longer route that could indirectly reduce their access to community facilities.
- "Most of the overcrossings and undercrossings would be wider to accommodate the additional lanes of I-405 and bringing it to MPAH standards; as a result, this would increase the lengths of the roads and sidewalks that are on the overcrossings or in the undercrossings. Therefore, the amount of time pedestrians and bicyclists spend on these overcrossings or in the undercrossings would increase compared to existing conditions.

As described in Chapter 3 and Section 4.2.8, all measures to avoid, minimize, and mitigate these potential significant effects have been incorporated into the project; however, the related project effects on the community character within the corridor cannot be fully mitigated."

We submit that other mitigations should be developed to continue to address the impacts. 6

Construction / Temporary Impacts

The long-term duration and constantly changing nature of the closures of ramp interchanges, arterial overcrossings, and detours to possible secondary arterials will cause delays, confusion, and **significant impacts** to bus riders, bicyclists and pedestrians, and by extension, some of our county's most vulnerable populations: the disabled, Environmental Justice, and Title VI communities.

The DEIR and its Draft Traffic Management Plan (TMP) fails to identify these Significant Impacts or propose mitigations for them. We would like to see the Traffic Management Plan (TMP) address these issues in its Draft form. Preliminary detour plans with alternate routes are included in the Draft TMP for motorist impacts. To wait for the Final TMP for bus users, bicyclists and pedestrians, unfairly limits their public participation and disproportionately restricts the ability of low-income and minority populations to give feedback. It will put these populations in the place they have been for years – vulnerable to the argument that "it's too late to do anything about it". A recent agonizing example of this is the Orange County Gateway Project in Placentia. A less agonizing, but poorly implemented TMP as regards transit users is the current West County Connectors Project. To this day, quite late in the project, their press releases, website, and even their Closure & Detour Notices still fail to indicate bus, bicycle and pedestrian detours. 7

Unique Impacts to Pedestrians and Bus Users

The temporary construction impacts to pedestrians and bicyclists will cause significant delays and significant hardship. Pedestrian trip lengths could be tripled due to bridge or sidewalk closures.

A motorist experiences a delay but can somewhat easily drive to an alternate route. A bicyclist may be able to behave similarly. Unfortunately, bus riders, and particularly pedestrians, do not have the opportunity to easily accommodate detours. There may be weather factors, lighting factors, construction impediments, and the general lack of certainty of unmarked, unannounced, or constantly changing information, in addition to the physical hardship of having to walk significant distances, as well as the increased travel time. Significant health issues and 8

3

CG6 Continued

employment loss may occur when transit riders or pedestrians encounter unexpected delays and detours. The elasticity available to motorists is simply not available to pedestrians and transit users.

Much more so than for motorist transportation, information is an integral, if non-tangible, part of transit service, but often not readily available in detour situations. In addition to standard website and smartphone communications, communication should be available by signage at bus stops, on buses, and by phone "blast". Field supervisors and coach operators also need to be trained with information on the detours for routes they drive and routes that cross the routes they drive.

8

For both good multi-modal transportation planning and for Title VI equity, press releases, flyers, public meetings, and other communications that mention motorist detours should always also include bus, bike and ped detours.

Table 5-4 of the Community Impact Assessment is a good start in detailing OCTA bus routes, but it is missing a few routes and nearby services, including:

- The OCTA 47 / 47A on Fairview seems to have been left out
- Proposed OCTA SR-22 and SR-73 Express Buses, 543 Harbor Rapid Bus
- OC Fair Express
- OCTA ACCESS paratransit service
- Leisure World Minibus
- Nearby Long Beach Transit Routes 81 and 173
- Nearby Metro 577X
- Seal Beach Dial-A-Ride
- Country Villa Seal Beach Health Care Center Shuttle Bus
- Los Alamitos Medical Center Shuttle
- Possibly the Irvine LAWA Flyaway
- Possible patient transportation service at VA Hospital
- Adult Day Health Care Vehicles

Nearby Bus / Rideshare "Facilities":

- Golden West Transit Center
- California State University Long Beach
- South Coast Plaza Metro Area
- 6 ParkNRide lots

9

It is essential that a map be produced showing current bus facilities and service both along and crossing the project area. The area shown should encompass the next transfer opportunities in both directions, and show days of service. All current and future bus stops within this "cachement" area or "Area of Potential Effect" should be shown. It would be a good idea to always indicate bus stops on all engineering maps, since they are a legitimate feature of the roadways and sidewalk facilities. All bus, bike and ped detours as well as bus stop closures should be available in a preliminary fashion in the Draft TMP. They should include the notation of lack of pedestrian facilities, if applicable. The development of these mitigations ahead of time can indicate what impacts cannot be mitigated and also can properly inform the development of an appropriate budget to address the impacts, to be included in Transportation Management Plan Data Sheets (Preliminary TMP Elements and Costs). Communication costs and the number of vehicle service hours needed for detours should be estimated. The length of passenger delay for bus, bike and ped modes should be estimated.

4

CG6 Continued

The I-405 Improvement Project, rather than the transit providers (OCTA and others transit providers, as appropriate), should pay for the communication costs and additional, often substantial cost for buses to go off-route to accommodate the Project. If at all possible, there should never be bus service missing for over half a mile, especially near significant trip generators. On routes without detours, construction crews should be encouraged to leave bus stops open as much as possible.

A possible mitigation for pedestrians could be the implementation of a "fare-free" zone for bus service starting at the last stop or the last transfer opportunity before the detour, and ending at the first stop or the first last transfer opportunity after the detour.

The current draft TMP is notable for the emphasis and detail shown for motorist concerns and motorist communications, but must be updated to indicate bus, bike and ped impacts, or it fails to identify the full and significant impacts of the project to public transit users, bicyclists, pedestrians, and the disabled, Environmental Justice, and Title VI communities.

Mitigation T-1 (a Final TMP) and Mitigations LU-2, COM-4, COM-5, COM-6, and COM-11 all have a strong emphasis on motorist mitigations and would not allow the opportunity to properly mitigate the **significant impacts** to bus riders, bicyclists and pedestrians, and by extension, some of our county's most vulnerable populations: the disabled, Environmental Justice, and Title VI communities.

10

Please produce a Draft TMP, including alternate routes, as has been done for motorist traffic. The Traffic Handling Contingency Plan should also contain information to assist bus, bike and ped modes. These modes certainly deserve a timely analysis and appropriate mitigations, especially since these modes could also serve as mitigations for the needs of clean air, travel reduction, and GHG reductions.

Public participation by bus users, bicyclists and pedestrians in a task force should be facilitated to assist this effort.

Ironically, one of the TMP components is "7.5 Demand Management", but uses transit as a solution for motorists, without having mitigations for the transit system itself:

"This strategy involves promoting the use of public transit, ride sharing and variable work hours to reduce the amount of traffic using the freeway and roadways in and around construction zone. Through the public awareness campaign, large employers will be urged to consider staggered working hours and encourage their employees to use the OCTA transit system and rideshare resources which includes six park-and-ride lots along the I-405 corridor. Incentive programs such as free transit tickets and free/discounted merchant coupons for rideshare participants could be used to attract participants."

Conflict With Adopted Policies, Plans, Or Programs Regarding Public Transit, Bicycle, Or Pedestrian Facilities…

On page 4-19 of the California Environmental Quality Act (CEQA) Evaluation, it states "TRAFFIC AND CIRCULATION – The proposed project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

XVI. TRANSPORTATION/TRAFFIC: Would the project:
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

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5

CG6 Continued

f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

As shown above, this is not the case. There will be a significant impact that requires analysis and mitigation. **11**

GHG Reduction Strategies

On page 4-59 of the California Environmental Quality Act (CEQA) Evaluation, it states, "The Department is supporting efforts to reduce vehicle miles traveled." Further, given the decrease in the performance and /or safety of public transit, bicycle, or pedestrian facilities, there is a significant impact on key GHG reduction strategies and the newly adopted Sustainable Communities Strategy. This also requires analysis and mitigation. **12**

Community Character And Cohesion

The DEIR states that I-405 Plan would adversely affect community character and cohesion, but does not analyze the particular and significant impacts for public transit users, bicyclists, pedestrians, and the disabled, Environmental Justice, and Title VI communities. **13**

Physically Dividing an Established Community

Regarding "LAND USE AND PLANNING - Physically Dividing an Established Community", not in the traditional sense, but because of the unique needs of transit users and pedestrians, the Project will temporarily physically divide an Established Community. **14**

Consistency with State, Regional, and Local Plans and Programs

The Land Use section of the DEIR states that the Project is Consistent with State, Regional, and Local Plans and Programs, but since it decreases the performance and /or safety of public transit, bicycle, or pedestrian facilities, this is not the case. This is a Significant Impact and requires analysis and mitigation:

SCAG Regional Transportation Plan
- Ensuring safety, adequate maintenance, and efficiency of operations on the existing multimodal transportation system will be RTP priorities and will be balanced against the need for system expansion investments.

Highway Design Manual 403.6
- Optional right-turn lanes should not be used in combination with right-turn-only lanes on roads where bicycle travel is permitted.
- Multiple right-turn- only lanes should not be free right-turns when there is a pedestrian crossing.

Caltrans Deputy Directive 64
- Provide guidance on project design, operation, and maintenance of work zones to safely accommodate bicyclists, pedestrians, and transit users
- Support multidisciplinary district participation in the project development process to provide for the needs of all users.
- Promote awareness of bicycle, pedestrian, and transit needs to develop an integrated, multimodal transportation system.
- Maximize bicycle, pedestrian, and transit safety and mobility through each project's life cycle.

City of Costa Mesa General Plan
- GOAL CIR-1: Provide for a balanced, uncongested, safe, and energy-efficient transportation system, incorporating all feasible modes of transportation.

15

6

CG6 Continued

City of Garden Grove General Plan
- CIR-IMP-5B: Encourage the creation of programs such as TSM, public transit, carpools/vanpools, ride-match, bicycling, and other alternatives to the energy-inefficient use of vehicles.

City of Huntington Beach General Plan
- Objective – CE 3.1: Increase the mass transit opportunities available to Huntington Beach residents in order to reduce traffic impacts on streets and highways and improve air quality.

City of Los Alamitos General Plan
- 5-4.3: Support alternatives to single-occupancy vehicle use.

County of Orange General Plan
- ….facilitate the planning and implementation of an integrated circulation system.

OCTA Long Range Transportation Plan
- Develop an integrated transportation network
- Protect transportation resources: Promote cost-effective and multimodal solutions

15

Environmental Justice

The DEIR states, "The proposed project alternatives would not cause disproportionately high and adverse effects on minority or low income populations within the context and intent of EO 12898."

On p. 3.1.4.3.3 it further stated, "The proposed project would not have direct impacts to low-income populations in the project area. Minority populations would receive benefits from traffic congestion removal as a result of project implementation." This is not the case. Mitigation needs to be developed, including:

3.1.4.2.1 Identify differential consumption patterns of natural resources by minority and low-income populations.

We did not see an analysis of this. Those who use bus, bike and ped modes do have differential consumption patterns of natural resources for transportation.

On page 3.1.4.3.3, it states, "In addition, under Alternative 3, transit vehicles could utilize the toll lanes free of charge, improving bus transit times during congested peak periods. This would enhance the trip reliability and time savings for the public transportation user, including environmental justice populations and other disadvantaged groups."

This may have been a possibility at one point, but the Mass Transit alternatives were removed from consideration. **16**

Closure "Holidays"

For mitigation COM-3: "Ramps that provide access immediately adjacent to South Coast Plaza (South Coast Drive northbound off-ramp), Bella Terra (Beach Boulevard off-ramps), or Westminster Mall (Bolsa Avenue northbound and Goldenwest Street southbound off-ramps) will not be closed from November 1 to January 31.", we would also suggest adjusting closures for the first week of school and for finals week for schools in the area, (including Golden West College), particularly for bus, bike and ped users. **17**

Utilities/Emergency Services

If the San Onofre Nuclear Generating Station has an evacuation route that sues the I-405, that should be addressed, including for bus users, bicyclists, and pedestrians. **18**

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CG6 Continued

Emergency and Protective Services

OCTA Transit Police Services was left off of the list. Please list them in all appropriate places in the DEIR. 19

New Transit Service

We would like to see a Transit Alternative back in the project. It can be done in a reasonably inexpensive manner, using buses on the general purpose lanes or the toll facility, and perhaps, as was done with the 101 Freeway, with boardings at bus turn outs on the on-ramps. The occasional stop not near a ramp was accessed by stairs and small utility elevators.

We understand that a TSM/ TDM / Mass Transit Alternative is included in each current alternative, but this is not enough. Referring to mass transit as a "typical activities," It essentially allows for, among other solutions, a bus to be run on the facility, but it is only a capability. There is no project, no analysis, and no funding for this.

3.1.4.3.3, the Environmental Justice section, mentions, "In addition, under Alternative 3, transit vehicles could utilize the toll lanes free of charge, improving bus transit times during congested peak periods. This would enhance the trip reliability and time savings for the public transportation user, including environmental justice populations and other disadvantaged groups." It seems like some of the argument that there aren't EJ significant impacts, is based on having new transit service on the freeway. This may have been a possibility at one point, but the Mass Transit alternatives were removed from consideration. 20

Page 24 of the pdf of the "Public and Agency Coordination" Appendix has a letter from the SCAQMD that says, "In the event that the project generates significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized during project construction and operation. Section 3.5 of their associated CAPCOA document lists a series of mitigation measures entitled "Transit System Improvements," including BRT, expanding transit networks, etc.

The DEIR states that The Transportation System Management (TSM)/Transportation Demand Management (TDM) Alternatives were not considered viable project alternatives because they failed to meet the project's purpose and need. However, some of the purposes are to: □ Reduce congestion; □ Enhance operations; □ Increase mobility, improve trip reliability, maximize throughput, and optimize operations. Especially note: □ Minimize environmental impacts and right-of-way (ROW) acquisition. Transit does tie in with these. Another reason for the removal of a TSM / TDM alternative was the immense cost, particularly for the double tiered rail systems.

The transit alternative wasn't properly analyzed and should be re-considered, now that we know:

- Better mitigations are needed as several transit and environmental justice significant impacts were not analyzed
- Better mitigations are needed as current ones fail to substantially mitigate the significant impacts
- A TSM / TDM alternative actually does help meet the project's purpose and need.
- The revenue-generating Alternative may be implemented
- A TSM / TDM alternative could allow Title VI communities that are low income to mitigate possible toll costs
- A TSM / TDM alternative could allow Title VI communities / transit users to receive some benefit from the major investment on the 405
- A costly rail system is not necessary, but rather a route or routes of cost-effective express or limited stop buses 21

8

CG6 Continued

Our group is intrigued by the concept of a revenue-generating facility since it would be a badly-needed source to finance the project, its ongoing maintenance, and the necessary mitigation projects it generates. We are in favor of Alternative 3, but the Significant Impacts to bus, rail, bike and pedestrian issues it induces must be addressed.

A key issue is to encourage the use of excess toll revenues to be used for bus, rail, bike and pedestrian modes which may serve as mitigations. We agree with the July/August 2012 Automobile Club of Southern California position in Westways, "Excess revenue should be used to relieve congestion along the express-lane corridor by making other road improvements, **enhancing effective public transit services**, and providing carpool and vanpool incentives."

Certainly the 105 and 110 freeways are examples of useful transit services available to the public to provide a multi-modal choice and allow transit users to receive some benefit from the major investment.

We suggest the following possibilities for using excess toll revenues:

- Express buses (eventually it could be airport-to airport service – JWA to LAX – perhaps partially funded by Los Angeles World Airports / LAWA)
- Limited stop buses, similar to the popular OCTA 83 bus, including vehicles, expanded bus bases, and perhaps ParkNRides
- Increased frequency on arterial buses for routes in the I-405 area such as Beach and Edinger
- Fund future bike and pedestrian needs at ramps, including maintenance and upkeep
- Fund completion of the 5 Commuter Bikeway Strategic Plan (CBSP) facilities in the area. 22

We would also like your thoughts on whether the toll revenues could fund a significant amount of Orange County paratransit needs in the future? Local bus service is spotty and travel time intensive for people with special needs / disabilities and there are several centers of paratransit need in the corridor:

Long Beach VA Hospital
Huntington Beach Hospital
Leisure World
and other identified health facilities in the area 23

To summarize:

1. The proposed project conflicts with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, and decreases the performance and safety of such facilities. 24
2. There are Unique and Significant Impacts to Bus Users, Bicyclists and pedestrians that have not been analyzed or mitigated. There are both permanent and construction-related impacts. 25
3. Because of this, Environmental Justice / Title VI issues have not been properly analyzed or mitigated 26
4. Bus, bike and pedestrians impacts must be addressed in the Draft TMP, including alternate routes, as has been done for motorist traffic. 27
5. We would like to see a Transit Alternative back in the project 28
6. Excess tolls should fund some bus, bike or pedestrian programs / mitigations in addition to upkeep and repair of the main facility. 29

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RESPONSE TO COMMUNITY GROUP COMMENTS (CG)

Response to Comment Letter CG1

Comment CG1-1

Caltrans and OCTA thank the College Park East Neighborhood Association for participating in the environmental process for the I-405 Improvement Project. The Association's comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. The College Park East Neighborhood Association will be notified when the Final EIR/EIS is available for review.

Comment CG1-2

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Alternative 2 would result in up to a 10-ft encroachment into Almond Avenue, and Alternative 3 would result in up to a 3-ft encroachment into Almond Avenue. These alternatives would likely include parking restrictions along Almond Avenue to maintain City standards for street width. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3.

There would be no substantial increase in noise or air pollution along Almond Avenue. Additionally, Caltrans was unable to find any literature, studies, or evidence that property values decrease because of freeway widening projects. Please see Common Response – Almond Avenue Soundwall.

Comment CG1-3

Please see Common Response – Relocation of Gas Lines.

Comment CG1-4

Please see Common Response – Coordination between Caltrans Districts 7 and 12, OCTA, Los Angeles Metro, COG, and the City of Long Beach.

Comment CG1-5

The Draft EIR/EIS acknowledges that none of the build alternatives will fully solve congestion on I-405; however, all of the proposed build alternatives provide additional capacity on the freeway and are shown to reduce delay (see Draft EIR/EIS, Table 3.1.6-8) and travel times through the corridor (see Draft EIR/EIS, Table 3.1.6-7). Alternative 3 does have a tolling component, but it also provides an additional GP lane. The tolling component is designed to increase vehicle throughput in the corridor (see Draft EIR/EIS, Table 3.1.6-14) by limiting congestion in the Express Lanes. The experience on the SR-91 Express Lanes and on tolled HOT

and Express Lanes in other parts of southern California and around the nation indicates that the lanes will be used.

With respect to the occupancy requirement for the HOV lanes Item 4, please see Common Response – Opposition to Tolling.

Response to Comment Letter CG2

Comment CG2-1

Caltrans and OCTA thank the Friends of Harbors, Beaches, and Parks for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Comment CG2-2

Please see Common Response – Measure M Funding.

Comment CG2-3

With respect to the need to change the occupancy requirement from two to three persons per vehicle, please see Common Response – Opposition to Tolling.

Please see Common Response – Measure M Funding.

Comment CG2-4

Consideration of BRT and LRT in the I-405 corridor is included in the Draft EIR/EIS in Section 2.2.7, Alternatives Considered but Eliminated from Further Consideration. Please see Common Response – Elimination of LRT and BRT Alternatives.

Comment CG2-5

The proposed project is a transportation project. The project is not a trip generator; rather the project accommodates existing and forecasted increases in trips within the corridor. As shown in Tables 4-14 and 4-15 of the EIR/EIS, even with the increase in VMT associated with the additional vehicles utilizing the corridor, all of the proposed alternatives result in a reduction in GHG emissions compared to the No Build Alternative. It should be noted that the reported reductions shown in Tables 4-14 and 4-15 were developed using EMFAC2011 and, unlike criteria pollutants, EMFAC2011 does not make assumptions that technological enhancement in engine technology would result in reduced GHG emissions in the future; however, the model does result in fewer GHG emissions under higher speeds.

Alternatives M3, M9, M10, M11, M12, and M13 (see Section 2.2.7 and Figure 2-8), evaluated as part of the I-405 MIS completed in February 2006 included project components similar to what you are recommending within your comment. These alternatives were not considered viable alternatives for further consideration because they do not fulfill the project purpose and are substantially more expensive than the Preferred Alternative (see discussion of Alternatives M3, M9, M10, M11, M12, and M13 in Section 2.7). Please also see Common Response – Elimination of LRT and BRT Alternatives.

Comment CG2-6

The Draft EIR/EIS provides factual information on all of the alternatives, including the forecast usage and toll revenue of the Express Lane in Alternative 3. The Draft EIR/EIS considers climate impacts in Section 4.2.7. None of the proposed build alternatives provides excess freeway capacity based on Tables 3.1.6-4, 3.1.6-5, 3.1.6-12, and 3.1.6-13. Under all of the build alternatives, including Alternative 3, users in both the Express Lanes and the GP lanes enjoy reduced travel time compared to the No Build Alternative (see Draft EIR/EIS, Table 3.1.6-7). The Draft EIR/EIS states one of the purposes of the project to be "Reduce congestion…." None of the build alternatives is expected to eliminate congestion in the I-405 corridor.

Comment CG2-7

With respect to the change proposed to the occupancy requirement in Alternative 3, see Common Response – Opposition to Tolling. Analysis of operations of the intermediate access points is presented in the Draft EIR/EIS on page 3.1.6-98 and does show some deterioration of speed in the Number 2 Express Lane at the Magnolia Street/Warner Avenue intermediate access location but no speed deterioration at the other two intermediate access locations.

Comment CG2-8

Neither OCTA nor Caltrans has plans to convert existing HOV lanes to HOT lanes elsewhere on the freeways in Orange County. Compared to the No Build Alternative, all of the build alternatives would improve travel times in the corridor (see Draft EIR/EIS, Table 3.1.6-7) in all lanes to varying degrees. The GHG topic is covered in Section 4.2.7 of the Draft EIR/EIS starting on page 4-50. Tables 4-8 and 4-9 show that GHGs are lower under any of the build alternatives than under the No Build Alternative.

Comment CG2-9

Many TSM/TDM elements are included in each of the build alternatives, although park-and-ride facilities are not among them. OCTA provides a planning process to identify potential TSM/TDM improvements on a countywide basis and is anticipated to provide consideration for them as part of that process. Transit vehicles, vanpools, and carpools will be eligible to use the

HOV and/or Express Lanes included in the build alternatives. The GHG topic is covered in Section 4.2.7 of the Draft EIR/EIS starting on page 4-50. Tables 4-8 and 4-9 show that GHGs are lower under any of the build alternatives than under the No Build Alternative.

Comment CG2-10

Environmental justice is covered in the Draft EIR/EIS in Section 3.1.4.3. No protected populations were found to be disproportionately adversely affected by any of the proposed build alternatives. It should be noted that the referenced projects in Los Angeles have environmental justice populations.

The referenced similar toll lane projects in Los Angeles are operating as Demonstration Projects with federal grant money and are not obligated to generate revenues to repay bonds. It is anticipated that the I-405 Improvement Project will incur obligations for bond repayment, and pricing will be determined at the time of funding; therefore, the project does not include concessions or subsidy programs for low-income individuals for use of the tolled Express Lane Facility.

Comment CG2-11

Updates for the OCTA Pacific Electric ROW project can be found at http://www.octa.net/perow.aspx. Please also see Common Responses – Measure M Funding and Elimination of LRT and BRT Alternatives.

Comment CG2-12

Please see Response to Comment CG2-5.

Comment CG2-13

The proposed build alternatives would have no impact on the Environmental Mitigation Program. No Renewed Measure M funds will be spent on the Express Lane component of Alternative 3, and excess toll revenues would not accrue to the Renewed Measure M Program. Excess toll revenues (i.e., net revenues after all operating, maintenance, capital, debt service, and other expenditures) from the Express Lanes in Alternative 3 would be available for OCTA to expend on transportation improvements in the I-405 corridor, including freeway, local street, transit, TSM/TDM, bicycle, and pedestrian facilities and services consistent with the provisions of the California Streets and Highways Code Section 143 (j)(1). If Alternative 3 becomes the Preferred Alternative, the OCTA Board would adopt a policy regarding the use of net revenues. Please see Response to Comment CG2-5 and Common Response – Measure M Funding.

Response to Comment Letter CG3

Comment CG3-1

Caltrans and OCTA thank the Mesa North Community Association for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. Your letter was received during the circulation period (May 18 to July 17, 2012) despite its date of January 20, 2011. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Comment CG3-2

A potential direct connector between the proposed Express Lanes in Alternative 3 and SR-73 has been included in Alternative 3 since the scoping meetings. The materials presented at the October 2009 scoping meetings included a display board that included the following:

Alternative 3

- Consider improvements at Harbor Boulevard and Fairview Road interchanges
- I-405/SR-73 Express Lane Connection Options
  1. No direct connector
  2. Direct connector over Fairview Road
  3. Direct connector under Fairview Road

Comment CG3-3

The potential air quality and noise impacts of the project are summarized in Sections 3.2.6 and 3.2.7 of the Draft EIR/EIS. All of those impacts are mitigated, and none are considered significant. With respect to potential health impacts, please see Common Response – Health Risks. With respect to potential impacts to property values, please see Common Response – Compensation for Property Acquisition.

Comment CG3-4

All of the build alternatives are anticipated to reduce, but not eliminate, congestion in the I-405 corridor in Costa Mesa (see Draft EIR/EIS Tables 3.1.6-4, 3.1.6-5, 3.1.6-12, and 3.1.6-13). The benefits to congestion vary among the build alternatives, which are summarized in the Draft EIR/EIS in Tables 3.1.6-4 through 3.1.6-8 and 3.1.6-12 through 3.1.6-14. The existing HOV lane is being incorporated into the proposed Express Lanes in Alternative 3, as explained in Common Response – Opposition to Tolling.

Comment CG3-5

Caltrans/OCTA have considered design options to avoid replacement of the Fairview Road Overcrossing under Alternative 3. Please see Common Response – Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes. If Alternative 3 is identified as the Preferred Alternative, either the design in the Draft EIR/EIS that requires replacement of the Fairview Road Overcrossing or a design option that avoids that replacement would be identified as part of the Preferred Alternative.

Comment CG3-6

The proposed Express Lanes transition along I-405 would match the existing freeway grade. The treatment for the transition from Express to HOV and conversely from HOV to Express is proposed to occur within existing State ROW (see Draft EIR/EIS Appendix P, Project Plans) The preliminary plans for the I-405 and SR-73 Express Lane direct connector are also provided in Draft EIR/EIS Appendix P.

Comment CG3-7

Additional ROW would be acquired for all of the build alternatives. Some additional ROW would be required for Alternative 3, including some additional ROW in Costa Mesa; however, no additional ROW would be required in association with the Express Lane direct connector to SR-73 or the transition area between the proposed Express Lanes and existing HOV lanes in Costa Mesa.

Comment CG3-8

Please see Response to Comment CG3-1.

Response to Comment Letter CG4

Comment CG4-1

Caltrans and OCTA thank the Rossmoor Homeowners Association for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Common Responses – Traffic Flow at the Orange County/Los Angeles County Line, Air Quality, and Health Risks.

Comment CG4-2

Hopkinson Elementary School was considered in the Draft EIR/EIS, as applicable. Hopkinson Elementary School was evaluated as a potential Section 4(f) resource and is shown in Table 2

and Figure 2 of Appendix B as it relates to Section 4(f). Hopkinson Elementary School is also shown as Number 32 in Figure 3.1.1-4 in the Draft EIR/EIS. The Draft EIR/EIS evaluated sensitive air quality receptors within 500 ft of the centerline, and no significant air quality effects on any sensitive receptor were identified. Hopkinson Elementary school is located more than 500 ft from the centerline (see Figure 3.2.6-3); therefore, no substantial project-related effects on air quality at Hopkinson Elementary School are anticipated. Additionally, the nearest representative noise receptors (i.e., R6.48, R6.49, R6.50, R6.51, and R6.52) are shown in L-26 in Appendix N5, which are protected by 14- to 16-ft-high soundwalls. As shown in Appendix N1 (Table G-18, page G-80), there is no change in dBA between existing and future build noise levels for the Preferred Alternative at R6.48 – R6.51. At R6.52, there is a reduction of 4 dBA between the existing and design year noise level for all of the build alternatives. Hopkinson Elementary School is located approximately 275 ft and two rows of houses farther east than R6.48 and R6.53. No project-related increases in noise at Hopkinson Elementary School are anticipated.

Comment CG4-3

The Air Quality Technical Report was prepared in accordance with FHWA and Caltrans policy and guidance. As discussed in Section 3.2.6 of the Final EIR/EIS, the project is a Project of Air Quality Concern (POAQC) and requires PM_{10} and/or $PM_{2.5}$ hot-spot analysis based on 40 CFR 93.116 and 93.123, and EPA's Hot Spot Guidance. Interagency consultation concurred with this determination on January 25, 2011. Pursuant to Federal Conformity Regulations (specifically, 40 CFR 93.105 [c] [1][i]), a qualitative analysis of the localized PM emissions was conducted. Based on the detailed PM hot-spot analysis, which is consistent with 40 CFR 93.116 and 93.123 and EPA's hot-spot guidance, none of the proposed build alternatives would cause or contribute to, or worsen, any new localized violation of PM_{10} and/or $PM_{2.5}$ standards.

The air quality analysis addressed exposure to MSATs, including diesel exhaust. Other MSATs addressed in the analysis included acrolein, benzene, 1,3-butidiene, formaldehyde, naphthalene, and polycyclic organic matter. The detailed analysis estimated MSAT exposure based on vehicle speeds and EMFAC2011 emission factors. MSATs have the greatest potential to affect the health of residents located adjacent to the project. Although the various alternatives would place travel lanes closer to some residences, it is anticipated that MSAT exposure, including DPM, would be less than existing conditions. MSAT emissions are likely lower than existing levels in the design year as a result of EPA's and California's control programs that are projected to further reduce MSAT emissions. As such, the corridor communities would be exposed to less MSAT emissions under the Preferred Alternative. Please see Common Response – Health Risks.

Overall, diesel engine emissions are responsible for most of California's estimated cancer risk attributable to air pollution. In addition, DPM is a significant fraction of California's particulate

pollution problem. Assessments by CARB and EPA estimate that DPM annually contributes to approximately 3,500 premature respiratory and cardiovascular deaths and thousands of hospital admissions, asthma attacks, and other respiratory symptoms. CARB has found that DPM contributes more than 70 percent of the known risk from air toxics and poses the greatest cancer risks among all identified air toxics. None of the build alternatives would increase the percentage of trucks in the fleet mix, and all would improve vehicle speeds in the project area. DPM emissions would likely be less than future no-build emissions for all of the build alternatives. The build alternatives would not result in adverse effects associated with increased DPM.

The air quality analysis was based on traffic conditions forecast in the Traffic Study, which shows congested conditions in the Rossmoor area. Tables 3.1.6-4, 3.1.6-5, 3.1.6-12, and 3.1.6-13 of the Draft EIR/EIS show that the segment of I-405 from SR-22 East to I-605 is anticipated to be congested to varying degrees under all of the build alternatives. Noise in the Rossmoor area is fully considered in the Noise Study Report and presented in Section 3.2.7, Noise. See also Common Response – Noise/Noise Analysis.

As described in Section 3.2.6, corridor emissions, including MSATs associated with the Preferred Alternative, would be less than the future No Build Alternative. See Common Responses – Air Quality and Health Risks.

Comment CG4-4

Please see Response to Comment CG4-3.

Comment CG4-5

Either one or two lanes would be added to I-405 northbound under the build alternatives. The lane included in all of the build alternatives would provide a second full northbound lane onto I-605. The second lane (included only in Alternative 2) would provide a second full northbound lane onto SR-22 West. For analysis of the potential for a disruption in traffic flow in this area, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Dropping the additional GP lane in Alternatives 1 and 3 upstream of I-605 would create a chokepoint at the drop location because there would be no roadway to receive the lane's traffic. Carrying that lane to I-605 and providing a full two-lane exit at the beginning of I-605 provides a location for ending the lane that has the capacity to receive the lane's traffic. Consideration was given to dropping the second additional lane included in Alternative 2 just south of SR-22, but this was rejected due to the level of congestion such a bottleneck would create. Carrying the second lane to the SR-22 West exit ramp provides a location for ending the lane that has the capacity to receive the lane's traffic.

Comment CG4-6

Outreach to the Community of Rossmoor included a scoping meeting in fall 2009, a mailing to a 0.25-mile radius of I-405 in May 2012, and a public hearing in June 2012 during the circulation of the Draft EIR/EIS. Banners regarding the public hearing in June 2012 were posted at the entrances to the Rossmoor community on St. Cloud and Bradbury, and advertisements were placed in the following newspapers prior to the Rossmoor public hearing at Rush Park:

- *OC Register:* May 18 and June 1, 2, 8, 9, and 11, 2012
- *Daily Pilot:* May 30, June 1, and June 3, 2012
- *Huntington Beach Independent:* May 31 and June 7, 2012
- *Westminster Herald:* May 31 and June 7, 2012
- *Nguoi Viet News:* May 18, 2012
- *Long Beach Press Telegram:* May 18, 2012
- *Excelsior:* May 18, 2012

Five e-blasts were also sent to any Rossmoor residents on the project's database.

Response to Comment Letter CG5

Comment CG5-1

Caltrans and OCTA thank the Sierra Club for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

The proposed project would not remove the freeway or the proposed Express Lanes in Alternative 3 from public ownership. Carpooling would still be encouraged in the proposed Express Lanes because carpools meeting the occupancy requirement would use the Express Lanes free or for a discounted toll. Please see Common Response – Opposition to Tolling.

Air quality is improved under Alternative 3 compared to the no-build condition, as disclosed in Section 3.2.6 of the Draft EIR/EIS. Please see Common Responses – Air Quality and Health Risks.

Comment CG5-2

Air quality is improved under Alternative 3 compared to the no-build condition, as disclosed in Section 3.2.6 of the Draft EIR/EIS. For most Californian's, congestion and reduced travel times have a large effect on the quality of life. Travel times improve for all drivers under all of the

build alternatives compared to the no-build condition. Under Alternative 3, users who choose to pay a toll to use the Express Lanes could substantially reduce travel times, as shown in Table 3.1.6-7 in Section 3.1.6 of the Draft EIR/EIS.

Comment CG5-3

Please see Common Response – Elimination of LRT and BRT Alternatives.

Response to Comment Letter CG6

Comment CG6-1

Caltrans and OCTA thank the Transit Advocates of Orange County for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Comment CG6-2

The May 2012 Draft EIR/EIS, including specialized technical studies, presents a comprehensive analysis of the potential temporary and permanent environmental effects of the proposed build alternatives on the environment, including your interests in Section 3.1.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, and Section 3.1.4.3, Environmental Justice. No protected environmental justice populations are found to be disproportionately adversely affected by the project. Bike and pedestrian facilities included in the build alternatives represent an improvement over the No Build Alternative. Bike and pedestrian facilities provided by the build alternatives are summarized in the Draft EIR/EIS on page 3.1.6-103 as compared to the No Build Alternative summarized on page 3.1.6-34. The analysis of impacts discussed in the Draft EIR/EIS or as revised/updated in the Final EIR/EIS related to comments on the Draft EIR/EIS is accurate.

Comment CG6-3

Pedestrian facilities were considered at these locations. Providing sidewalks on the west side of Harbor Boulevard and east side of Edinger Avenue is not included in the project due to existing and proposed ramp geometry at these locations. No work is proposed on Euclid Street beneath the I-405 undercrossing bridge. Along the west side of Bolsa Chica Road, the road abuts the Bolsa Chica Channel for several miles, and there are no land uses with pedestrian access. Similarly, along the east side of Seal Beach Boulevard, the road abuts the NAVWPNSTA Seal Beach to which there is no pedestrian access. Where feasible, pedestrian facilities have been included in the project.

No permanent impacts on pedestrian or bicycle facilities were identified in the Draft EIR/EIS, and no additional pedestrian or bicycle facility mitigation was considered in the Final EIR/EIS. The build alternatives would improve (i.e., accommodate) planned facilities or maintain (i.e., include) existing facilities in the project design. Bullets 1 through 3 in the comment are addressed through Caltrans policy and guidance related to signal timing. This ensures that pedestrians are given enough green time to safely cross the street. With respect to "safe routes to school analysis," temporary impacts resulting from closures or constraints would be addressed within the Final TMP. As described in Section 2.1.6 of the Draft EIR/EIS, the Final TMP will be prepared during the plans, specifications, and estimate (PS&E) phase, which will require minimization of construction-related effects on traffic and circulation/pedestrian and bicyclists by applying a variety of techniques, including public information, motorist information, incident management, construction strategies, demand management, and alternate route strategies. During the course of project construction, the Traffic Management Team will observe traffic/pedestrian conditions and make recommendations to the Resident Engineer concerning any changes that need to be made to construction traffic management. The TMP Coordinator will work closely with the Traffic Management Team to develop timely recommendations to address traffic-related effects on traffic and circulation/pedestrians and bicyclists, including coordination with schools, in developing alternative routes, as necessary.

Comment CG6-4

No permanent impacts to bus service are anticipated other than relocation of the bus stop cited in the comment and one potential bus stop relocation along northbound Goldenwest Street at Bolsa Avenue from a near-side to a far-side stop. Arterial improvements included in the project along major arterials in the vicinity of I-405 should improve arterial flow, thereby providing a benefit to transit route service. A complete listing of arterial improvements included in the project is provided in the Draft EIR/EIS on pages 3.1.6-36 and 3.1.6-108.

Comment CG6-5

The bus stop on Ellis Street near the OCSD driveway would be relocated. The bus stop on northbound Goldenwest Street near Bolsa Avenue may be relocated from a near-side stop to a far-side stop. No other permanent impacts to bus stop locations are anticipated. There would be temporary impacts to bus stops during construction that would be identified for each stage of construction and addressed in the Final TMP on a case-by-case basis. A bus stop inventory was not completed.

Comment CG6-6

The significant impacts identified are primarily associated with construction detours and/or closures required to accommodate construction of the build alternatives and provide and ensure

the safety of pedestrians and cyclists. The Final TMP will avoid and minimize construction-related effects on traffic and circulation, pedestrians, and cyclists; however, as noted in the comment, routes could be longer and/or take more time and cannot be fully mitigated. No additional measures beyond those proposed in Chapter 3 and Section 4.2.8 are being considered.

Comment CG6-7

The proposed project is a Caltrans/OCTA transportation project similar to the WCC Project, and it is reasonable to believe that the Final TMP would be something similar. OCTA is committed to early and adequate notification to inform the public and address mobility needs of all motorized and nonmotorized traffic potentially affected by the project. With the exception of relocating one bus stop, no other direct permanent effects on bus routes are anticipated; however, it should be noted that project improvements should enhance circulation on adjacent local arterials, ultimately enhancing transit reliability.

Comment CG6-8

OCTA is committed to early and adequate notification to inform the public and address mobility needs of all motorized and nonmotorized traffic potentially affected by the project. Please also see Response to Comment CG6-3.

Comment CG6-9

The conceptual Draft TMP, developed as part of this phase of the project, focuses on a broader scope. During the next phase of the project (design phase), a Final TMP report that includes traffic studies at local street intersections and improvements for emergency vehicles and more specific detours would be closely coordinated with the various cities and commercial businesses that line the I-405 corridor. In addition to the aforementioned improvements, maps that show current bus facilities and bike and pedestrian routes, in addition to bus stop closures, would be developed during the design phase. The Final TMP report would require that existing levels of pedestrian and bicycle access be maintained and at a minimum on one side of the street through the construction limits at all times during construction. The budget to address the impacts is included in the TMP Data Sheets as Alternate Route Strategies.

Comment CG6-10

Please see Response to Comment CG6-9.

Comment CG6-11

The impacts identified as significant in Section 4.2.3.5 of the Draft EIR/EIS are cumulative impacts. In the case of each of the build alternatives, the section concludes that the contribution of the build alternatives to the cumulative impact is less than significant. For example, the last

sentence on page 4-25 says, "Therefore, the contribution of Alternative 1 to the cumulative impact on the freeway mainline is less than significant." Similar statements are provided for all components of all of the build alternatives, with the result that no mitigation is required.

Comment CG6-12

The impacts described are temporary and, subsequent to construction, would at a minimum be the same as before construction and in some cases enhanced. Where feasible, pedestrian facilities have been included in the project. Pedestrian facilities along both sides of the street are proposed for 12 of the 17 arterials crossing I-405 that do not currently have pedestrian facilities on both sides of the arterial at the crossing or on the approaches to the crossing (see Draft EIR/EIS, page 3.1.6-103). The existing pedestrian crossing of I-405 at Heil Avenue would be replaced by the proposed project with a longer pedestrian bridge meeting current ADA standards. The current pedestrian crossing would remain open for use until the new bridge is constructed.

The existing Class 1 bicycle facilities along the east bank of the Santa Ana River and along the San Gabriel River, as well as the six existing Class 2 bicycle facilities, would be retained under all of the build alternatives. Bicycle facilities in the project corridor planned by municipalities, but not currently existing, include Class 2 bikeways along the following arterials crossing I-405:

- McFadden Avenue
- Edinger Avenue
- Newland Street
- Westminster Avenue
- Bolsa Chica Road

All three build alternatives would provide pavement to accommodate standard Class 2 bikeways on all of the above-mentioned arterials. Pavement striping for the purposes of bike lanes along these arterials within the project limits would not occur as part of the proposed project; however, it would occur when the municipalities implement longer continuous segments of the planned Class 2 bikeways.

Except for the potential relocation of two bus stops, no permanent deterioration of transit service has been identified as a result of the proposed project. Improvements to transit bus travel time may occur along arterials improved as part of the interchange and overcrossing improvements included in the build alternatives.

Comment CG6-13

The Community Character and Cohesion section of the Draft EIR/EIS looks at the impacts of the project as it relates to the various communities, generally referred to as the corridor cities. The

impacts described would affect all who reside and transit the area equally. For example, if a person resides between toll Express Lane Facility access points in Alternative 3, they would have the same routes available to them whether they drive their own car or take the bus. Subsequent to construction, pedestrian and bicycle facilities will be enhanced within the project area. Please also see Response to Comment GC7-12. The project has incorporated all feasible avoidance, minimization, and/or mitigation measures and would not result in disproportionate adverse effects on low-income and/or minority populations. Please see also Response to Comment CG6-16.

Comment CG6-14

The proposed project does not physically divide an established community. I-405 is an existing barrier separating the communities on the east and west sides of I-405. Although access may be temporarily rerouted, which will result in additional travel times and distances, subsequent to construction, access to and from the communities from I-405 and within the improved areas (e.g., new overcrossings, ramps, ramp intersection) will be improved for all users.

Comment CG6-15

The build alternatives improve both mobility and throughput compared to the No Build Alternative (see Final EIR/EIS, Section 3.1.6) and do not decrease safety or performance of public transit, bicycle, or pedestrian facilities. During construction, public transit and bicycle and pedestrian facilities could be disrupted by construction. As required by the TMP, alternative bicycle and pedestrian paths would be provided in adjacent areas to the maximum extent practicable. Pedestrian and bicycle safety will be a top concern in the development of motorized and nonmotorized circulation and access within the project area and development of the final TMP.

As discussed in Section 3.1.6 of the Final EIR/EIS, subsequent to construction, the build alternatives are intended to improve traffic flow, ease congestion, and improve bicycle and pedestrian access and safety. The build alternatives include operational improvements on local arterials that will enhance transit services and, where feasible, pedestrian facilities have been included in the project. Pedestrian facilities will be added at 12 of the 17 arterials crossing I-405 that do not currently have pedestrian facilities on both sides of the arterial at the crossing or on the approaches to the crossing. Additionally, the existing pedestrian crossing of I-405 at Heil Avenue would be replaced by the proposed project with a longer pedestrian bridge meeting current ADA standards.

The consistency of the proposed build alternatives with State, regional, and local plans and programs is discussed in Table 3.1.1-1 in the Final EIR/EIS. No new analysis or mitigation is required.

Comment CG6-16

Caltrans is committed to fair and equitable treatment of all groups of population, including environmental justice and other disadvantaged groups. As stated in the Title VI policy Statement in Appendix C, "The California Department of Transportation under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, or age, be excluded from participation, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers." All groups of population, including environmental justice and other disadvantaged groups within the project area, either traveling by car or bus on the freeway or arterials or walking or biking, will likely be affected by construction impacts. The commenter does not recommend any mitigation measures for further consideration. All measures to avoid, minimize, and/or mitigate project effects are described in Chapters 3 and 4 of the Final EIR/EIS. The conclusion in this Final EIR/EIS is that the proposed project alternatives would not cause disproportionately high and adverse impacts to minority or low-income populations, as demonstrated by the analysis.

While BRT and LRT alternatives were removed from further consideration as noted in the comment, OCTA's planning process is still available to enhance bus service along the I-405 corridor. The availability of the Express Lanes in Alternative 3 would provide a more reliable travel time that may encourage OCTA and other providers to provide additional transit service along I-405.

Comment CG6-17

Measure COM-3 will not be modified to include the first week of school or finals week. It should be noted that this measure addresses the freeway ramps and would not affect bicycle or pedestrian users. The final TMP will identify detours for bus traffic, which will be provided to the schools.

Comment CG6-18

Per the SCE emergency planning Web site, mandatory evacuations during an emergency at SONGS is for the communities within 10 miles of the plant. Should evacuation be necessary, I-5 and Pacific Coast Highway provide the major evacuation routes. Traffic will be heavily controlled on surface streets leading to I-5 and at all highway on-ramps. Northbound traffic will be stopped at SR-78 in Oceanside, and southbound traffic will be stopped at the I-5/I-405

interchange. Primary evacuation routes can be reviewed at http://san-clemente.org/sc/Inf/EmergencyPlan/EvacRoutesReceptionCenters/evac.jpg.

Comment CG6-19

The Orange County Sherriff's Department provides transit police services for OCTA.

Comment CG6-20

Consideration of BRT and LRT in the I-405 corridor is included in the Draft EIR/EIS in Section 2.2.7, Alternatives Considered but Eliminated from Further Consideration. LRT was considered in four such alternatives, and BRT was considered in two such alternatives. Each of these alternatives was eliminated for the reasons cited in the section. See Common Response – Elimination of LRT and BRT Alternatives.

Comment CG6-21

Transit alternatives were properly analyzed, and the reasons for elimination of alternatives are provided in Section 2.2.7 of the Draft EIR/EIS. See also Common Response – Elimination of LRT and BRT Alternatives. The TSM/TDM Alternative does not meet the purpose and need of the project, as described in Section 2.2.4 of the Draft EIR/EIS. TSM/TDM elements are included in each of the build alternatives. It is unclear from the comment what transit and environmental justice impacts the commenter feels were not analyzed, but the project benefits transit by providing arterial and freeway improvements available to transit vehicles, and no impacts to protected environmental justice populations were found. Environmental justice is covered in Section 3.1.4.3 of the Draft EIR/EIS. No protected populations were found to be disproportionately adversely affected by any of the proposed build alternatives.

Comment CG6-22

There are no significant impacts to bus, bike, and pedestrian facilities or users as noted in Response to Comment CG6-12. There are no significant impacts to the two freight railroads in the corridor.

Excess toll revenues (i.e., net revenues after all operating, maintenance, capital, debt service, and other expenditures) from the Express Lanes in Alternative 3 would be available for OCTA to expend on transportation improvements in the I-405 corridor, including freeway, local street, transit, TSM/TDM, bicycle, and pedestrian facilities and services consistent with the provisions of the California Streets and Highways Code Section 143 (j)(1). If Alternative 3 becomes the Preferred Alternative, the OCTA Board would adopt a policy regarding the use of net revenues. See Response to Comment CG2-5 and Common Response – Measure M Funding.

Comment CG6-23

Determining the potential amount of excess revenues and their potential uses is highly speculative and not an integral part of the proposed project. See Response to Comment CG6-22.

Comment CG6-24

Please see Responses to Comments CG6-3 through CG6-10.

Comment CG6-25

Please see Responses to Comments CG6-3 through CG6-10.

Comment CG6-26

Please see Response to Comment CG6-16.

Comment CG6-27

Please see Responses to Comments CG6-9 and CG6-10.

Comment CG6-28

Please see Response to Comment CG6-20.

Comment CG6-29

Please see Response to Comment CG6-22.

INDUSTRY AND BUSINESS GROUP COMMENTS (IBG)

IBG1

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July 17, 2012

Ms. Smita Deshpande
Caltrans District 12
2201 Dupont Drive, Suite 200
Irvine CA, 92612

Re: San Diego Freeway (I-405) Improvement Project: Comments by Fountain Valley Skating Center Concerning Caltrans' May 2012 Draft EIS/EIR (APN 143-301-33)

Dear Ms. Deshpande:

This firm represents Fountain Valley Skating Center and R.T.L. Properties, Inc. Fountain Valley Skating Center and R.T.L. Properties operate and own, respectively, the roller skating rink located at 9105 Recreation Circle in Fountain Valley, California. In its draft EIS/EIR for the San Diego Freeway Improvement Project, Caltrans identifies the skating rink property for a full taking in order to widen the mainline freeway and interchanges on I-405 in Orange County. While Fountain Valley Skating Center recognizes the need to reduce congestion and enhance operations on the freeway, it believes the draft EIS/EIR and accompanying Relocation Impact Memorandum fail to properly identify and analyze the significant adverse impacts the project will have, particularly those arising from the demolition of the Center and other nearby businesses. In particular, the conclusion in the draft EIS/EIR and accompanying Relocation Impact Memorandum that there will be "no significant impact to . . . businesses" as a result of the project is simply wrong. Caltrans' CEQA review does not identify or analyze the significant effects that the demolition and/or relocation of these businesses will have on the environment. Fountain Valley Skating Center, Sports Authority, Boomers, and Days Inn Hotel will all be destroyed to make way for the widening. And relocation, particularly for Fountain Valley Skating Center, is very unlikely. 1

The draft EIR/EIS demonstrates that Caltrans has not fully evaluated the adverse impact of the project on Fountain Valley Skating Center and the other nearby businesses it plans to demolish. First, there are several inaccuracies in its description of the Center. Second, Caltrans identifies three potential relocation sites for the Center: (1) 2020 E. Orangethorpe Avenue in Anaheim; (2) 1141 W. Katella Avenue in Orange; and (3) 16272 Beach Boulevard in Huntington Beach. None of these sites are comparable to the Center's current location. Third, Caltrans has not even addressed how its project affects crucial environmental factors under CEQA.

IBG1 Continued

Caltrans' Evaluation of Fountain Valley Skating Center's Business and Role in the Community is Incomplete and Inadequate.

To begin, the draft EIS/EIR and accompanying Relocation Impact Memorandum are woefully uninformed about Fountain Valley Skating Center. Even the most basic information is listed incorrectly. Caltrans reports that the Center only employs one to four employees, but it actually currently employs 35 people. Similarly, Caltrans grossly underestimates the Center's annual revenue to be "less than $500,000," where it far exceeds that figure. Caltrans' description of the Center's business hours is also erroneous; the Center's doors are actually open 80 to 90 hours per week for public skating sessions, lessons, birthday parties, and fundraisers. And while Caltrans mistakenly reports that there are about 15 "skating rinks" in a five-mile radius, Fountain Valley Skating Center is the only roller skating center in that radius; indeed, there are only two full-service skating centers in all of Orange County. A third skating rink, located in Irvine, is an outdoor covered rink that caters specifically to roller hockey teams and leagues, and does not offer public skating sessions, lessons, or space for parties. 2

Caltrans' description grossly minimizes the size of Fountain Valley Skating Center as well as its significant role in the community. The Center is a family-owned business that has provided a gathering place for local families for over 34 years. Currently, admissions at the Center run between 125,000 to 140,000 people annually, with most visitors being children from the community. Many of these children visit the Center through the local school districts. Since it opened, the Center has forged strong ties with local schools, in part by hosting fundraising parties that have provided needed funds to the schools, It was one of the original businesses on Recreation Circle and, as such, has complemented other recreation facilities in the area, such as the Malibu Grand Prix and Fountain Valley Skateboard Park. This long-standing presence in the community is what has led to the Center's success, with people who visited as children bringing their own children 20 or 30 years later. The numerous misstatements in Caltrans' description of the Center, and its failure to recognize the community impact of the Center, demonstrate that Caltrans must conduct a more thorough investigation before it can make a determination on the impact of its project. 3

None of the Relocation Sites Suggested by Caltrans Would Be Even Remotely Suitable for Fountain Valley Skating Center.

The relocation sites suggested by Caltrans further indicate Caltrans' failure to identify the far-reaching effects of its project. Relocation to the suggested properties would have a significant adverse impact on Fountain Valley Skating Center and its ability to play a strong role in the community. None of the listed properties are for sale; they are only available for rent. And each would require massive improvements to function as a roller skating center. Because roller skating facilities require a unique open-span layout, the supporting poles present in each of the suggested properties would have to be removed, which would require reworking the entire roof support 4

IBG1 Continued

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system. It would be onerous and unreasonable to require Fountain Valley Skating, as a tenant of those properties, to undertake such a construction burden.

Further, each suggested site has several characteristics that would make relocation impractical. The first listed property, 2020 E. Orangethorpe Avenue in Anaheim, is in an industrial neighborhood, a location that is incompatible with the needs of a family-oriented recreation facility that relies on nearby residences and schools for business. That property is also 14.2 miles (driving) from the Center's current location, making it too far from the Center's existing customer base. Additionally, the property does not have adequate parking spaces or sufficient power capacity. The second listed property, 1141 W. Katella Avenue in Orange, is similarly unsuitable. The facility is too small to house a roller skating rink and accompanying operations. And at 12.57 miles (driving) from the Center's current location, not only is the suggested property too far from the existing customer base, it is also around the corner from the Center's only competitor in Orange County. And the property is also not visible from the freeway, denying the Center its current ability to market its business through signage and advertisements visible from the freeway. The third listed property, 16272 Beach Boulevard in Huntington Beach, also cannot be utilized as a relocation site. In addition to the massive construction undertaking that would be required for use, the property is also without freeway frontage. 4

Caltrans Has Failed to Conduct Any Analysis of Several Environmental Factors Under CEQA.

The incorrect and insufficient analysis of Fountain Valley Skating Center's business in the Relocation Impact Memorandum, along with Caltrans' suggestion of relocation properties that are completely inappropriate for a roller skating rink, indicate that Caltrans fails to understand the Center's current operations, future growth opportunities, and continued ties to the community. By downplaying the significance of the Center, and characterizing it as being only a fraction of its actual size, Caltrans has overlooked the impact Caltrans' project will have on the environment under several CEQA factors. 5

CEQA requires Caltrans to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. Each and every significant effect on the environment must be disclosed in the EIR and mitigated if feasible. The draft EIS/EIR has simply ignored that the demolition and/or relocation of the Center and other nearby businesses will have significant impacts on the environment. For example, if the Center is relocated, this will result in increased traffic by its customers to the new location, which may be much further from the customers' homes. And if the Center cannot open a new facility, its customers may create traffic in visiting the Center's only competitor. If there is only one full-service skating center in Orange County, this will result in congestion and pollution in that area. However, in its analysis of the CEQA factors relevant to this issue—air quality and transport and traffic—Caltrans does not even discuss Fountain Valley Skating Center. Caltrans also fails to discuss how the proposed demolition 6

IBG1 Continued

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and/or relocation of the Center, Sports Authority, Boomers, and Days Inn Hotel, in the aggregate, will affect these factors. 6

Similarly, Caltrans does not address whether the proposed demolition and/or relocation of the Center and nearby businesses will interfere with any land use restrictions or will create excessive noise levels, both of which are factors under CEQA. The demolition and/or relocation of Fountain Valley Skating Center, a recreation facility, will also implicate the CEQA factor concerning parks and recreation. This is especially true when the effect of the project on Fountain Valley Skating Center is considered along with the demolition and/or relocation of other businesses identified for acquisition, two of which—Boomers and Sports Authority, also promote recreation activities in the area. 7

Further, Caltrans only requires parts of the properties of the Center and nearby businesses for the freeway expansion, but it has not provided any explanation of its plans for the excess land on these properties. If there is redevelopment of this excess land, it will impact the environment under several CEQA factors, including air quality, land use and planning, noise, air quality, and transportation and traffic. Caltrans also does not address whether this excess land could be used to mitigate the impact of the project on the Center and nearby businesses, by, for example, relocating the Center to a new building on the excess land. 8

Additionally, the draft EIS/EIR's analysis of the necessity of the acquisition of the Center and nearby businesses is insufficient. The Center understands that the acquisition of its property is needed specifically due to the braided structure of the proposed ramps at Warner Avenue and Magnolia Street. But this is the only location in which such a braided structure is proposed—is the braided structure so necessary at this location so as to outweigh the significant impact of the demolition and/or relocation of the Center and nearby businesses? And the draft EIS/EIR does not say why the braided structure is necessary at these locations but not others, or how the structure will increase traffic flow if it is placed only in this location, rather than at each newly constructed ramp. 9

In sum, Caltrans' analysis has failed to consider the environmental impacts of the demolition and/or relocation of Fountain Valley Skating Center. The Center requests that Caltrans fully evaluate all of these impacts. We also respectfully request that this letter be made a part of the administrative record for San Diego Freeway (I-405) Improvement Project. 10

IBG1 Continued

Allen Matkins Leck Gamble Mallory & Natsis LLP
Attorneys at Law

Ms. Smita Deshpande
July 17, 2012
Page 5

Thank you for the opportunity to provide these comments on the draft EIS/EIR. Please contact me if you have any questions.

Very truly yours,

K. Erik Friess

KEF:nv

IBG1 Continued

Allen Matkins Leck Gamble Mallory & Natsis LLP
Attorneys at Law

Ms. Smita Deshpande
July 17, 2012
Page 6

cc: Niall Barrett, Orange County Transportation Authority
Christina Byrne, Orange County Transportation Authority

IBG2

ACEC
AMERICAN COUNCIL OF ENGINEERING COMPANIES
Orange County Chapter

July 13, 2012

Smita Deshpande
Branch Chief - Caltrans District 12
"Attn: 405 DEIR / DEIS Comment Period"
2201 Dupont Drive
Suite 200, Irvine, CA 92612

RE: I-405 Improvement Project

Dear Ms. Deshpande:

Orange County Transportation Authority (OCTA) and Caltrans are about to make one of the most critical decisions that can be made relative to transportation and maintaining mobility in northwest Orange County. The I-405 Improvement Project is a significant transportation milestone for the county, and will be the largest capital improvement project to date. This decision should be based on selecting the best transportation alternative, one that delivers on the promises made to the voters of the Renewed Measure M (M2), and balances out the long term needs of the corridor while minimizing impacts.

The American Council of Engineering Companies-Orange County Chapter (ACEC-OC) offers our support for the I-405 Improvement Project. Based on the discussion points presented below, Alternative 3: Express Lane Alternative provides the best transportation solution for the commuters in northwest Orange County and is the best decision for the transportation future in this county.

Delivering on Promises Made to the Voters: All three build alternatives deliver at least one general purpose lane in each direction, meeting the commitment made to the voters as part of M2.

The Best Transportation Solution: The best transportation solution is one that maximizes corridor throughput, improves trip reliability, and optimizes operations. All three build alternatives increase throughput. However, Alternative 3: Express Lane Alternative provides the best solution based on the information available at the public hearings. It provides the greatest throughput at 9,500 vehicles per hour at peak; 2,300 more vehicles per hour than Alternative 1. An express facility gives drivers a choice for trip reliability and provides the best long term transportation solution to meet our growing transportation needs.

OCTA and Caltrans have been Respectful to Adjacent Properties: The original Major Investment Study prepared in 2006 impacted hundreds of homes and businesses. OCTA and Caltrans have worked for several years to develop solutions that balance the needs to minimize congestion and increase throughput, while minimizing impacts to the adjacent communities. The footprint for all three build alternatives is sensitive to the communities, and requires no full residential takes. Both OCTA and Caltrans should be recognized for this great accomplishment.

Financial Feasibility: $1.3 billion is required to pay for the addition of a single general purpose lane in each direction, which will meet M2 promises using M2 and other sources of funding. This single general purpose lane and associated cost exists for all three alternatives. Alternative 2 provides an additional general purpose lane, but has a funding shortfall of $100 million. Alternative 3 provides an additional 2,300 vehicles per hour in throughput, via a two-lane express facility, and pays for the additional project costs while bringing a potential

1

ACEC-OC
360 E. 1st Street, #914
Tustin California 92780
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www.acec-oc.org

IBG2 Continued

ACEC-OC
Page 2 of 2

surplus of $1.8 billion in excess toll revenues. Financially, Alternative 3 provides the most return on investment, as it pays for the additional project construction and O&M costs, while potentially providing revenues for additional future transportation congestion relief projects generally within the I-405 corridor.

A Recent Study of Express Lanes: A recent study conducted on the SR-91 Express Lanes and I-15 Managed Lanes of 800 regular users suggests that, "it is a good idea to have a time saving alternative." Three-quarters of the sample survey rarely used the priced lanes. Drivers viewed the managed lane as a new option or a new choice, that provides a critical "escape valve" when they really needed it. Most used the paid lanes only occasionally, but like having the "time-saving alternative".

The critical process of selecting the Preferred Alternative will have a long lasting impact on Orange County commuters. The choice made today, through the environmental process, will result in the facility that we use for many decades, with little opportunity for additional improvements in the future. The Preferred Alternative should meet the criteria stated above, provide time sensitive travel choices, be financially and cost effective, and allow the M2 taxpayers to realize the highest return on their investment.

As professionals who are experts in transportation planning and engineering, we respect the environmental process and appreciate that we have a voice in this decision. This solution will also prepare Orange County for the continued population growth and increase in transportation over the next 20 years. By moving forward with this project at this time, it will provide a positive impact on the Orange County economy by providing numerous jobs lost in the construction industry since 2007. We urge you to consider our comments and make the right choice for the future of this very important northwest Orange County corridor.

1

The American Council of Engineering Companies-Orange County Chapter (ACEC-OC) offers our support for Alternative 3: Express Lane Alternative, for the I-405 Improvement Project and we are here to further support OCTA and Caltrans as this project advances into design and construction.

ACEC-OC is a 50-year old non-profit organization made up of private sector professional engineers and land surveying firms. Statewide we represent over 1,100 engineering and surveying firms and approximately 23,000 professionals. In Orange County we represent 75 firms and approximately 2,400 professionals. Our membership provides services for all phases of planning, design and construction projects. These services include civil, structural, geotechnical, electrical, mechanical engineering and land surveying for primary and secondary infrastructure projects in the public and private sector.

Sincerely,

Donald G. Archer, PE
ACEC-OC President

cc: Mr. Will Kempton, CEO, Orange County Transportation Authority

ACEC-OC
360 E. 1st Street, #914
Tustin California 92780
714.832.5741 office ~ 714.886.1614 fax
www.acec-oc.org

IBG3

Automobile Club of Southern California

AAA.com

July 12, 2012

Smita Deshpande
Branch Chief, Caltrans District 12
Attn: 405 DEIR/DEIS Comment Period
2201 Dupont Drive, Suite 200
Irvine, CA 92612

Subject: DEIR/DEIS for I-405 improvements between SR-73 and I-605 in Orange County

Dear Ms. Deshpande:

The Automobile Club of Southern California (AAA) strongly supports Alternative 3 for improving the I-405 freeway between SR-73 and I-605. This project is critical for sustaining and improving mobility and economic vitality in the area. And widening I-405 was included in, approved by, and promised to voters in Measure "M2" in 2006.

Alternative 3 best meets the long-term mobility needs of the region by providing four additional travel lanes for the full length of this extremely congested corridor. And the project, by including tolled express lanes, also provides the financing needed to complete funding for the improvements many years earlier than would otherwise be possible. Alternative 3 will cost 21% more and take three months longer to construct than Alternative 2, yet it will deliver far greater capacity, mobility, and connectivity benefits for decades to come.

We are aware that concerns have been expressed about Alternative 3. These short-term concerns should be appropriately addressed, but they should not be used as an excuse to deprive Orange County of the substantial long-term benefits of Alternative 3.

Alternative 1 would satisfy the minimum capacity enhancements included in M2 for the freeway by adding one general purpose lane in each direction from Euclid to I-605. By investing just 8% more and three more months of construction time the increased capacity can be doubled with Alternative 2, which would add two general purpose lanes in each direction. However, there is not enough funding for a decade or more to complete either of these alternatives. Waiting will result in substantial cost increases for any option. Alternative 3 extends the full four-lane widening of Alternative 2 south to SR-73 (thereby providing the greatest long-term mobility benefits and

1

Administrative Offices: P.O. Box 25001, Santa Ana, CA 92799-5001 Headquarters: 2601 S. Figueroa, Los Angeles, CA 90007-3294

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IBG3 Continued

Page 2

congestion reduction) and it provides express lane toll revenue to build the project much sooner and at lower cost than waiting for uncertain federal or state funds that may or may not materialize.

If Alternative 3 is selected, tolls on the express lanes must be fair, reasonable, and designed to appropriately maintain travel speeds on the new premium-service lanes and not to generate excessive revenues. Toll revenues should only be used to benefit those paying the tolls, primarily by paying for the construction and financing costs for the of I-405 improvements.

1

If excess revenue is available after construction and financing costs are covered (beyond those provided by M2), then any extra funds must only be used to pay for capital projects that will provide clear and proportional benefits to drivers in the I-405 corridor meeting the following criteria.

1. Capital cost of improvements to Orange County freeways that connect to I-405
2. Capital cost of city arterial improvements within 5 miles (2.5 miles on either side) of I-405 from I-605 to SR-73
3. Capital costs (not including operating costs) for public transit facilities and equipment providing service within 5 miles (2.5 miles on either side) of this segment of I-405

The use of any excess revenue must be fully protected in perpetuity with adequate safeguards against misuse or diversion. The criteria above must be adopted in a legally binding manner as part of the mitigation measures of the final EIR/EIS for the project, fully protecting any excess toll revenues from potential misuse or diversion in the future.

2

The question of charging tolls for carpools to use the new express lanes also needs to be carefully considered. The substantial improvement and increased capacity of Alternative 3 will reduce congestion and improve mobility for all drivers on I-405. However, there is a proposal to charge carpoolers a toll to use the express lanes during peak hours. The impact of such a policy on carpooling and traffic in the general purpose lanes is not known. These issues need to be studied and toll policies set and changed over time to maximize mobility in the corridor and ensure there are no negative impacts on general purpose lanes or parallel streets.

3

For more than a century the Auto Club has been an advocate for better mobility and improved traffic safety. The Auto Club has more than 6 million members in Southern California and over one million members in 62% of Orange County households. In addition, the Auto Club's administrative office – with 3,300 employees – is close to I-405 and our employees rely on it for daily commuting.

Thank you for the opportunity to review the draft DEIR/DEIS. We look forward to discussing our comments with you.

Sincerely,

Hamid R Bahadori

Hamid Bahadori
Manager, Transportation Policy and Programs

C: OCTA Board of Directors
Will Kempton, OCTA CEO

IBG4

BARNARD VENTURES

July 17, 2012

Ms. Smita Deshpande, Branch Chief
Caltrans – District 12
Attn: 405 DEIR-DEIS Comment Period
2201 Dupont Drive, Suite 200
Irvine, CA 92612

Re: I-405 Improvement Project
18349, 18361 & 18375 Euclid Street, Fountain Valley, CA

Dear Ms. Deshpande:

This letter is written by ***Barnard Ventures, LLC*** as the authorized agent of ***18349 Euclid Street, LLC*** who is the owner of the above referenced property. This letter constitutes our protest of the proposed I-405 Improvement Project and its adverse impacts to the above noted property.

The negative impacts to the property are as follows:

During construction negative impacts:

- Impaired access to the site which reduces customer traffic, decreasing sales and causing loss of rent.
- Vehicle turning movement restrictions on Euclid Street reduces customer traffic, decreasing sales and causing loss of rent.
- Rate of travel on Euclid Street will be reduced, resulting in congestion that deters customers from shopping at the property and causing loss of rent.
- Traffic congestion due to changing and varied traffic control measures that deters shoppers from visiting the businesses, causing loss of rent.
- The Temporary Construction Easement would reduce the amount of customer parking stalls available, thereby reducing shoppers and causing loss of rent.
- The loss of landscape areas due to the Temporary Construction Easement would adversely impact the shopping experience of our tenant's customers, which reduces sales and causes loss of rent.
- Loss of business to our tenants and the loss of rents thereof.

1

5100 Birch Street, Suite 100 Newport Beach, CA 92660 t (949) 223-8820 f (949) 223-8822
www.bvenllc.com

IBG4 Continued

Ms. Smita Deshpande, Branch Chief
July 17, 2012
Page 2

Permanent negative impacts:

- The proposed project reduces the visibility of the property's 60 foot tall freeway pylon sign. This sign, which was previously approved by the city with a provision for a wireless cell phone antenna, is a critical visual connection to the business in not only the subject property, but also the two buildings to the north who also have rights to the sign faces.
- Permanent sound and visual impacts to the property from additional freeway traffic and freeway proximity to the site.
- Visibility to the businesses at these addresses would be adversely impacted from both northbound and southbound lanes.

2

The negative impacts noted above will have great adverse impact on both current and future business owners located at 18349, 18361 and 18375 Euclid Street. The two other properties to the north of the subject property share rights to the 60 foot pylon sign, and they too will be impacted.

If the Proposed I-405 Improvement Project is approved, we encourage Caltrans to consider the alternative with the least possible impact to the adjacent right of way of the property located at 18349, 18361 and 18375 Euclid Street, Fountain Valley, CA. We also suggest that Caltrans consider the most expeditious methods of construction to complete the work as quickly as possible, including the use of design-build delivery.

3

Thank you for your attention regarding this important matter.

Sincerely,

Kristi B. Pippas

Kristi Pippas
Real Estate Manager

cc: Paul Neff
18349 Euclid Street, LLC
14 Corporate Plaza Drive, Suite 200
Newport Beach, CA 92660

Shelly Ward
18349 Euclid Street, LLC
1001 Dove Street, Suite 195
Newport Beach, CA 92660

IBG5

C.J. SEGERSTROM & SONS
3315 Fairview Road · Costa Mesa, California 92626
Telephone (714) 546-0110

July 17, 2012

Mr. Paul Glaab, Chairman, Board of Directors
Members of Board of Directors
Orange County Transportation Authority
P.O. Box 14184
Orange, CA 92863-1584

SUBJECT: I-405 IMPROVEMENT PROJECT – ALTERNATIVE #3

Dear Chairman Glaab and Honorable Board Members:

On behalf of C.J. Segerstrom & Sons (CJS) and South Coast Plaza (SCP) I would like to thank Orange County Transportation Authority (OCTA) staff for their outreach to community stakeholders related to the proposed San Diego Freeway (Interstate 405) Improvement Project. The Segerstrom Family and their affiliated companies have a long history supporting transportation solutions in Orange County. We understand how critically important a reliable transportation infrastructure system is to both the residents and businesses in our region. To that end, we provided leadership and support for both Measure M and Measure M2 in an effort to avoid a neglected transportation network, such as those in other major metropolitan areas.

While we support OCTA's mission and stated goals related to the I-405 Improvement Project (Project), especially in relation to increased throughput, Alternative #3 also has areas of significant concern that will need to be addressed if OCTA elects to move forward with this option. The primary impacts of Alternative #3 that will need to be addressed are listed below:

Southbound I-405 HOT Lane Vehicle Access to South Coast Plaza

- South Coast Plaza receives approximately 24 million annual visitors and many from outside of Costa Mesa and Orange County. The proposed High Occupancy Toll (HOT) lanes create a physical barrier for vehicles to merge (with the goal of exiting the freeway) out of the HOT lanes and have the potential to disrupt out-of-area drivers by forcing them to deviate from the "normal" exiting pattern to SCP. The last proposed egress in the southbound HOT lanes is set near the Warner/Magnolia exits. This is an unnatural merge point for vehicles traveling to SCP, creating disorder and sense of confusion, as they prepare to exit at the Bristol Street off-ramp. Today, at least two HOV egress points provide drivers a significantly easier merge toward exiting at Bristol and they will no longer be options once the HOT channelizers are installed. A potential solution to this problem would be the addition of signage for SCP at no less than three strategic locations in the HOT lanes along I-405 South. ***We request that OCTA include improved SCP signage in their final plans and design.*** 1

IBG5 Continued

- The first location would be approximately a mile from the proposed Warner/Magnolia egress. The purpose of this signage is to alert vehicles that they may want to exit the HOT lanes at Warner/Magnolia to begin their merge toward exiting I-405 for SCP at the Bristol Street exit.
- The second sign for SCP would be immediately at the egress opening at Warner/Magnolia.
- The third sign for SCP would be at the southbound terminus of the HOT lanes. The intent of this sign is to alert drivers that they have less than a mile to merge and exit at Bristol Street for SCP. 1

- The third sign at the terminus of the southbound I-405 HOT lanes highlights another area of significant concern for our customers and their drive to SCP. We are concerned that the ***distance from the terminus of the southbound HOT lanes and the Bristol Street exit is too short*** a distance to allow for a safe and stress-free exit for drivers in the right/inside HOT lane. This safety issue will need to be addressed before the project moves forward. 2

Thank you for taking the time to consider the areas of concern described in this letter. It is our belief that Alternative #3 as currently designed will likely have a disruptive impact on our business operations. We look forward to working with you to resolve these matters before the final design is approved by the OCTA Board of Directors and definitely before construction commences. As always, we look forward to working with you in an effort to build a better transportation infrastructure for Orange County. 3

Sincerely,

Justin McCusker

cc: Will Kempton, CEO, OCTA

IBG6

Costa Mesa
Chamber of Commerce

July 16, 2012

Mayor Eric Bever
Costa Mesa City Council
77 Fair Drive
Costa Mesa, CA 92626

RE: I-405 Improvement Project

Dear Mayor Bever and City Council Members:

On behalf of the Board of Directors of the Costa Mesa Chamber of Commerce I felt it time that we weigh in on the various alternatives being considered for the widening of I-405. A representative of the Chamber has been following this issue for the last two years. So, the opinion reached is after considerable deliberation. It also reflects a business perspective as to the impacts that any widening will have on local commerce in both the near term and in the long term.

Commerce within any urban area relies heavily on a reliable transportation network, and as a Chamber of Commerce, we support OCTA's efforts to improve mobility along and around the San Diego Freeway corridor, including within the City of Costa Mesa, through the study of the three "build" alternatives now being considered as part of the I-405 Freeway Improvement Project. Over the last 20 years, and in partnership with OCTA, our city has been quite proactive in pursuing and implementing I-405 mainline, SR-73 confluence, and freeway interchange/ramping improvements well in advance of the passage of Measure M2, which brought new focus to the I-405 corridor. We believe the citizens of Orange County have benefited greatly from Costa Mesa's leadership aided by the investment and cooperation of local development interests.

Our review of the technical documents causes us to clearly prefer Alternative 2 over the "solution set" of Alternative 1. Additionally, and recognizing our City Council's position to the contrary, we do conclude that the Alternative 3 project could indeed offer mobility enhancements and choices that would benefit our city in the years leading up to the Year 2040 horizon of the study documentation. But we also recognize and echo the concerns of our community as to the short and long term construction impacts of Alternative 3. That alternative may involve "too much, too soon" on the heels of recent construction activities within the I-405 corridor area of our city. We understand the frustration and opposition especially from residents living near the I-405. 1

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IBG6 Continued

page 2

Ultimately, however, we are concerned that Alternative 2 may not offer long term mobility within our city at a level in keeping with our prior efforts to facilitate and implement improvements to "our" portion of I-405. On that basis, we ask the Costa Mesa City Council to encourage OCTA to consider other possible solutions beyond Alternatives 2 or 3 as now explicitly defined, to include design refinements and/or construction staging strategies to reduce impacts, with or without a toll road element, and that will assure the County's standing as an environment with both enviable commerce and efficient circulation.

The Chamber applauds Costa Mesa's initiative over the years to improve traffic circulation along I-405 and within its boundaries, but caution against summarily dismissing an opportunity to reach a consensus on an alternative that might better provide for better long term local and regional traffic circulation than would be gained through Alternative 2. 1

Sincerely,

Ed Fawcett
President/CEO

cc: Ms. Smita Deshpande, Caltrans - District 12

IBG7

From: Henry Michaels [Henry_Michaels@elwyn.org]
Sent: Monday, July 16, 2012 1:14 PM
To: Parsons, 405.dedcomments
Cc: Henry Michaels
Subject: Comments on 404 Improvement Projects

To whom it may concern,

Elwyn California serves over 200 individuals with developmental disabilities in the Orange County area. Many of them attend our facility at 18325 Mt. Baldy Circle in Fountain Valley on a daily basis taking ACCESS transportation. As our disabled clients (many severely) need to stand outside and wait for their ACCESS pick up, I wish to ensure steps will be taken to ensure their pick up times will not be seriously delayed. I understand during the construction process that traffic patterns may change in our area. I've already expressed to OCTA representatives that I would hope alternatives routes would be explored by the ACCESS busses to avoid any traffic congested areas that may ensure prompt pick up and drop offs of Elwyn clients. Our client arrival time in the morning is between 8:00 a.m. and 8:30 p.m. Afternoon pick ups are 4:00 p.m. to 4:30 p.m. If there is anything further we need to do or be aware of in this process, please let me know. Thank you. 1

Henry J. Michaels

Henry J. Michaels
Director, Orange County Programs

18325 Mt. Baldy Circle
Fountain Valley, CA 92708
(714) 557-6313, Ext. 38222
(714) 887-0155, (FAX)

IBG8

JOHN WAYNE AIRPORT
Orange County, California

Alan L. Murphy
Airport Director

May 29, 2012

Smita Deshpande
Branch Chief Caltrans – District 12
Attn: 405 DEIR/DEIS Comment Period
2201 Dupont Drive, Suite 200
Irvine, CA 92612

Subject: Comments on the DEIR/DEIS for the San Diego Freeway (1- 405) Improvement Project

Dear Ms. Deshpande:

Thank you for the opportunity to review the Draft Environmental Impact Report (DEIR) and Draft Environmental Impact Statement (DEIS) for the San Diego Freeway (I-405) Improvement Project. As noted in the project description, the California Department of Transportation (Caltrans), in cooperation with the Orange County Transportation Authority (OCTA), proposes to increase capacity, improve traffic and interchange operations, and enhance safety by widening the segment of I-405 from SR-73 to I-605 in Orange County.

In reviewing the draft documents, John Wayne Airport (JWA) is located to the south, and just outside of the I-405 Project Study Area and therefore the airport has no comment on the proposed project at this time.

Thank you for the opportunity to comment on the DEIR/DEIS. Please feel free to contact me at (949) 252-5284 or via email at krigoni@ocair.com should any questions arise. 1

Sincerely,

Kari A. Rigoni
Planning Manager, JWA

cc: Alan Murphy
Larry Serafini

3160 Airway Avenue
Costa Mesa, CA
92626-4608
949.252.5171
949.252.5176 fax
www.ocair.com

IBG9

seal beach
chamber of commerce
"Your Business Success is Our Priority"

July 17, 2012

Orange County Transportation Authority
c/o Paul Glaab
550 S. Main Street
Orange, CA 92863-1584

Subject: 1-405 Widening Project

To Mr. Glabb:

The Seal Beach Chamber of Commerce has serious concerns over this project. While we appreciate the effort that has gone into devising alternatives as listed in the Enironmental Impact Report / Environmental Impact Statement (EIR/EIS), we feel that solutions to ease our concerns have not been reached.

We agree with the Seal Beach City Council that the main concerns expressed by residents of Seal Beach are:

1) Retention of the existing sound wall in the current location
2) Increased traffic congestion along the 1-405 freeway, including northbound bottleneck resulting from required lane merging before the LA Count line; and
3) Air quality, public health concerns, and safety issues; and
4) Creation of a toll road (Alternative 3)

1

We find particularly onerous the proposed "one tolled Express Lane in each direction between State Route 73 (SR-73) and State Route 22 (SR-22) east of 1-405 to be managed jointly as a tolled Express Facility with two lanes in each direction between SR-73 and 1-605. The tolled Express Facility would operate so that HOV2s would be tolled and HOV3+ would either be free or receive a discount."

We would like to go on record that we are categorically opposed to the creation of a toll road (Alternative 3) as we believe the consequences of this plan have not been adequately studied and furthermore, it is not in the best interests not only of the citizens of Seal Beach but also of the surrounding communities.

2

Sincerely,

Nat Ferguson
President

IBG10

From: Stephen Thorp [sthorp@burnhamusa.com]
Sent: Tuesday, July 17, 2012 10:29 PM
To: Parsons, 405.dedcomments
Cc: JAmante@tustinca.org; Bates, Pat; Campbell, Bill; itycouncil@cityoforange.org; FVProud@FountainValley.org; mayor@garden-grove.org; CityManager@anaheim.net; hansen@surfcity-hb.org; council@cityoflagunaniguel.org; Wendy Knowles; 2, District; Adams, Audra; Nguyen, Janet; mpulido@santa-ana.org; Elizabeth Wade; Laurena Weinert
Subject: San Diego Freeway (I-405) Improvement Project - opposition to Alternative #3

July 17, 2012

Mrs. Smita Deshpande
Catrans, District 12
2201 Dupont Drive, Suite 200
Irvine, CA 92612

RE: San Diego Freeway (I-405) Improvement Project
Objection to Alternative #3

Dear Smita,

As means of a brief introduction, we are the owners of the South Coast Collection shopping center which is located at the northwest corner of Hyland Avenue and the San Diego Freeway (I-405), in Costa Mesa, just a block west of the Harbor Blvd. off ramp. Over the course of the past few months we have taken considerable time to carefully consider all of the Alternatives in relation to the San Diego Freeway (I-405) Improvement Project. Without prejudice, we absorbed all of the information that was made available in connection with the project, and we have had the opportunity to meet with both Mr. Niall Barrett and Mrs. Christina Byme. Notwithstanding the aforementioned, this letter shall serve as our formal opposition to the Caltrans Revised Alternative #3 for the San Diego Freeway (I-405) Improvement Project.

1

For the most part, Alternative #1 and Alternative #2 seem to address the real concerns of improving traffic flows on the San Diego Freeway (I-405). Many of your studies have identified the bottleneck created by the reduction of lanes in Fountain Valley as one of the primary factors contributing to the traffic problems that Caltrans is seeking to mitigate. Both Alternative #1 and Alternative #2 are adequate solutions that we support as they do not have a significant impact on our property.

However, Alternative #3 does have a significant impact on our property. Since acquiring South Coast Collection (300,000 square foot shopping center) in 2009, we have invested millions of dollars improving the once-failed project and spent endless hours over the past three years bringing new tenants to the project. While the economy continues to be in a state of flux, we are constantly working with our tenants to assist them in getting traction during these difficult economic times. It is a delicate balancing act that requires a tremendous amount of resources – the slightest challenge imposed on our property would certainly compromise the project. The potential failure of the project would cause hundreds of jobs to be lost which would affect families throughout Orange County.

2

We would like to set forth some of our objections to the proposed Alternative #3.

1) **Construction to the Harbor Blvd. on/off ramps.** The modification to the Harbor Blvd. on/off ramps will cause delays in patrons arriving and departing from South Coast Collection as it is the main on/off ramp used for access from the San Diego Freeway (I-405). We understand that the construction time frame on the Harbor Blvd. ramps would last approximately 18 months. During

3

1

IBG10 Continued

that time, it is without question that South Coast Collection would have impaired ingress and egress, thus resulting in reduced visits by patrons to the property. 3

2) **HOT lane locks traffic in at Warner Avenue (southbound) and Bristol Street (northbound) with no opportunity to exit at Harbor Blvd.** Prospective patrons visiting South Coast Collection that utilize the HOT lanes will be precluded from exiting the HOT lane at Harbor Blvd. The result will be patrons missing the Harbor Blvd. exit and not returning to the property. 4

3) **Construction on the Hyland Avenue (Harbor northbound ramp) on ramp.** The modification to the on ramp at Hyland Avenue will be moved onto our property which will cause a diminution of value to our property. Additionally, the relocation of the on ramp onto our property will cause our newly installed LED reader-board/pylon sign to potentially fall within the modified right-of-way thus compromising the value of the asset. 5

4) **Sustained impacts on quality of life.** South Coast Collection, its tenants and their respective employees, its patrons, etc., will have to suffer through years of construction related impacts – the noise, dust, pollution, and delays in travel times all adversely impact South Coast Collection. 6

While the matters mentioned above do not represent a comprehensive list of impacts Alternative #3 will have on South Coast Collection, it is a brief list that accurately reflects several matters that will have an adverse affect to our project, its tenants and its patrons. A loss in retail sales at South Coast Collection will compromise the viability of our tenants, and at this point, it is avoidable so long as Alternative #3 is removed from consideration. 7

Smita, with all due respect, it is totally irresponsible for Caltrans to even consider Alternative #3. Of the three Alternatives, Alternative #3 has the most significant impacts on quality of life, property rights, etc., yet it does not create a substantially better result than that of Alternative #2. We are in support of either Alternative #1 or Alternative #2, but we vehemently oppose Alternative #3.

Thank you for your time and your understanding. Should you have any questions, please feel free to call anyone of us at anytime.

Sincerely,

SOUTH COAST COLLECTION

Scott T. Burnham, Bryon C. Ward, and Stephen K. Thorp

cc via e-mail:

Jerry Amante: JAmante@tustinca.org
Patricia Bates: PatBates@ocgov.com
Bill Campbell: Bill.Campbell@ocgov.com
Carolyn V. Cavecche: citycouncil@cityoforange.org
Larry Crandall: FVProud@FountainValley.org
William J. Dalton: mayor@garden-grove.org
Lorri Galloway: CityManager@anaheim.net
Paul Glaab: council@cityoflagunaniguel.org
Don Hansen: dhansen@surfcity-hb.org
Wendy Knowles: wknowles@octa.net
John Moorlach: district2@ocgov.com
Shawn Nelson: audra.adams@ocgov.com
Janet Nguyen: Janet.Nguyen@ocgov.com
Miguel Pulido: mpulido@santa-ana.org

2

IBG10 Continued

Elizabeth Wade: ewade@octa.net
Laurena Weinert: lweinert@octa.net

*** **PLEASE NOTE:** We have moved to Suite **#200**. ***

Stephen K. Thorp
Executive Vice President
Burnham USA Equities, Inc.
1100 Newport Center Drive, Suite #200
Newport Beach, CA 92660
Main: (949) 760-9150
Fax: (949) 760-0430
e-mail: sthorp@burnhamusa.com

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3

IBG11

From: Skip Wilson/Gerry Giannini [gerral@att.net]
Sent: Tuesday, June 19, 2012 3:51 PM
To: Parsons, 405.dedcomments
Subject: YES ON OPTION THREE

We are a real-estate and property management company in Orange County.

YES on Option Three is the forward thinking option to implement for the 405. The most important aspect to consider is
that this Option is good for ALL OF THE PEOPLE of LA, Orange and San Diego Counties. The select few who oppose the Option are NOT the majority. Enough of "NOT IN MY BACK YARD". LIfe is full of inconveniences,
move forward, not backward. 1

Respectfully,

R. P. "Skip" Wilson, Jr.
Gerald A. "Gerry" Giannini
THE GERRAL GROUP
SEVILLE PROPERTIES
California D.R.E. No. 00449831
gerral@att.net - Primary e-mail
gerral.wg@gmail.com - Secondary e-mail

RESPONSE TO INDUSTRY AND BUSINESS GROUP COMMENTS (IBG)

Response to Comment Letter IBG1

Comment IBG1-1

Caltrans and OCTA thank Allen Matkins Leck Gamble Mallory & Natsis LLP for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. Allen Matkins Leck Gamble Mallory & Natsis LLP will be notified when the Final EIR/EIS is available for review.

The build alternatives would all require full acquisition of the properties where Sports Authority, Days Inn, and Fountain Valley Skating Center are located, along with partial acquisition of the property where Boomers is located on the south side of I-405, between Magnolia Street and Warner Avenue, as discussed in Section 3.1.4.2.3 of the Draft EIR/EIS. OCTA and Caltrans have developed design options for all of the alternatives that would remove the braided ramps between Warner Avenue and Magnolia Street on the north and/or south sides of I-405. If the design option for removal of the ramps on the south side of I-405 is incorporated into the Preferred Alternative, no acquisition or relocation of any of these properties would be required. Please see Common Response – Impacts to Businesses.

Comment IBG1-2

Discussion of the Fountain Valley Skating Center within the Final EIR/EIS has been supplemented, as applicable, with the information provided in the comment. See also Common Response – Impacts to Businesses.

Comment IBG1-3

Please see Response to Comment IBG1-2.

Comment IBG1-4

Relocation assistance would be provided if relocation of the Fountain Valley Skating Center is required. As noted in Response to Comment IBG1-1, a design option has been identified that would avoid acquisition of the Fountain Valley Skating Center. Please also see Response to Comment IBG1-1.

Comment IBG1-5

The Relocation Impact Memorandum was prepared in accordance with the Caltrans ROW manual, and data was utilized from readily available sources as cited in the Draft EIR/EIS.

Please see Response to Comment IBG1-1. Please also see Responses to Comments IBG1-2 and IBG1-3 and also Common Response – Impacts to Businesses.

Comment IBG1-6

The Draft EIR/EIS and the Relocation Impact Memorandum were prepared consistent with the Caltrans SER and the requirements of CEQA and NEPA. As noted in Response to Comment IBG1-1, a design option has been identified that would avoid acquisition of the Fountain Valley Skating Center. See also Common Response – Impacts to Businesses.

Comment IBG1-7

See Response to Comment IBG1-6.

Comment IBG1-8

Excess lands will be handled in accordance with Caltrans policy regarding disposal of excess lands, including Chapter 16 of the Caltrans ROW manual. Please also see Response to Comment IBG1-1.

Comment IBG1-9

Please see Response to Comment IBG1-1 and also Common Response – Impacts to Businesses.

Comment IBG1-10

Please see Response to Comment IBG1-1 and also Common Response – Impacts to Businesses. Your comment and all other comments received are included in this Final EIR/EIS and are part of the public and administrative record for the project.

Response to Comment Letter IBG2

Comment IBG2-1

Caltrans and OCTA thank the American Council of Engineering Companies (ACEC) for participating in the environmental process for the I-405 Improvement Project. ACEC's comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. ACEC will be notified when the Final EIR/EIS is available for review. Please see Common Responses – Preferred Alternative Identification and Measure M Funding.

Response to Comment Letter IBG3

Comment IBG3-1

Caltrans and OCTA thank the Automobile Club of Southern California (AAA) for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS.

AAA will be notified when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Comment IBG3-2

Mitigation measures are one response to environmental impacts. Excess toll revenue from the Express Lanes under Alternative 3 is not mitigation for any of the project impacts. Excess toll revenues (i.e., net revenues after all operating, maintenance, capital, debt service, and other expenditures) from the Express Lanes in Alternative 3 would be available for OCTA to expend on transportation improvements in the I-405 corridor consistent with the provisions of the California Streets and Highways Code Section 143 (j)(1). If Alternative 3 becomes the Preferred Alternative, the OCTA Board would adopt a policy regarding the use of net revenues.

Please see Common Response – Measure M Funding.

Comment IBG3-3

Carpools (i.e., HOVs) meeting the occupancy requirement would not be charged to use the Express Lanes in Alternative 3. With respect to a potential change in the HOV occupancy requirement, see Common Response – Opposition of Tolling. Due to the increased capacity in all of the build alternatives, traffic currently diverting to local streets to avoid congestion on I-405 is expected to divert back onto the freeway, thereby improving traffic on local streets nearby. One of the unusual characteristics of I-405 in the project area is that it is a diagonal roadway superimposed on a grid system of local arterial streets; therefore, there are essentially no local streets that run exactly parallel to I-405.

Response to Comment Letter IBG4

Comment IBG4-1

Caltrans and OCTA thank Barnard Ventures for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. Barnard Ventures will be notified when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

The proposed improvements do not encroach onto the property of the businesses at 18349 Euclid Street. Access to the site is not anticipated to be affected, and no impacts (i.e., temporary or permanent) to the existing driveway are anticipated. The proposed retaining wall limits start 35 ft from the Euclid Street curb line. In addition, the proposed project impacts along Euclid Street north of the freeway undercrossing in the area of the businesses are minimal, and it is not anticipated to impact the traffic patterns significantly during and after construction. With the

proposed new southbound on-ramp from Ellis Avenue, traffic congestion southbound on Euclid Street could be reduced as a result of a better operating intersection at the southbound I-405 ramps, hence improving traffic conditions in the vicinity of the businesses.

Comment IBG4-2

Based on the close proximity to I-405, the noise increase at the businesses as a result of the project is directly related to the forecasted increase in traffic along I-405 in the future. The proposed improvements stay within the existing State ROW.

The proposed widening adjacent to the referenced property will be slightly lower than existing freeway grades and elevations; therefore, visibility to the businesses would not be adversely affected from either northbound or southbound lanes.

Comment IBG4-3

Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter IBG5

Comment IBG5-1

Caltrans and OCTA thank C.J. Segerstrom & Sons for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. C.J. Segerstrom & Sons will be notified when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

The distance between the southern termination of the Express Lanes and the Bristol Street off-ramp is sufficient to accommodate the number of lane changes required to access the exit. Signage will be detailed during final design and will adhere to freeway signing standards in the California Manual on Uniform Traffic Control Devices (MUTCD).

Comment IBG5-2

Please see Response to Comment IBGS-1.

Comment IBG5-3

Please see Common Response – Impacts to Businesses.

Response to Comment Letter IBG6

Comment IBG6-1

Caltrans and OCTA thank the Costa Mesa Chamber of Commerce for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. The Costa Mesa Chamber of Commerce will be notified when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter IBG7

Comment IBG7-1

Caltrans and OCTA thank Elwyn California for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. Elwyn California will be notified when the Final EIR/EIS is available for review.

Other than potential for standard construction-related delays on the mainline and arterials, it is not anticipated that construction of the Preferred Alternative would affect pickup or dropoff of Elwyn California clients. Please continue to coordinate with OCTA regarding your concerns associated with ACCESS service to your facility.

Response to Comment Letter IBG8

Comment IBG8-1

Caltrans and OCTA thank John Wayne Airport for participating in the environmental process for the I-405 Improvement Project and acknowledge that John Wayne Airport has no comments on the Draft EIR/EIS. John Wayne Airport will be notified when the Final EIR/EIS is available for review.

Response to Comment Letter IBG9

Comment IBG9-1

Caltrans and OCTA thank the Seal Beach Chamber of Commerce for participating in the environmental process for the I-405 Improvement Project. The Seal Beach Chamber of Commerce will be notified when the Final EIR/EIS is available for review. Please see Common Responses – Almond Avenue Soundwall, Air Quality, Traffic Flow at the Orange County/Los Angeles County Line, Health Risks, and Preferred Alternative Identification.

Comment IBG9-2

Please see Common Response – Opposition to Tolling.

Response to Comment Letter IBG10

Comment IBG10-1

Caltrans and OCTA thank the South Coast Collection for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. The South Coast Collection will be notified when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Comment IBG10-2

Please see Response to Comment IBG10-1 and Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Comment IBG10-3

The 18 months described in the Draft TMP for the construction duration at the Harbor Boulevard interchange consists of all major activities, such as widening of the Harbor Boulevard Undercrossing structures on both sides of I-405. Traffic mitigation, such as overnight construction, 55-hour closures over the weekend, and ramp detours, is anticipated to minimize traffic disruption to the surrounding local businesses and residents in the area. Please see Common Response – Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes.

Comment IBG10-4

Please see Common Response – Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes.

Comment IBG10-5

Please see Common Response – Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes.

Comment IBG10-6

Please see Common Response – Compensation for Construction Impacts.

Comment IBG10-7

Please see Common Response – Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes.

Response to Comment Letter IBG11

Comment IBG11-1

Caltrans and OCTA thank The Gerral Group/Seville Properties for participating in the environmental process for the I-405 Improvement Project. The Gerral Group Seville Properties will be notified when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

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PUBLIC COMMENTS (PC)-A

PC-A1

From: Jared_Abe@vfc.com
Sent: Thursday, June 21, 2012 4:02 PM
To: Parsons, 405.dedcomments
Subject: Leave Our Wall Alone Please

To whom it may concern,

As a parent of 2 in the College Park East neighborhood, we frequent the parks often. Our bike routes to the parks involve riding along the current freeway wall. As it is now, there are bike lanes on each side of the road, so my children are safe in either direction. Our neighborhood is known for the many bike riders, walkers, and joggers, especially along the freeway wall. As both a pedestrian and car driver, I feel those roads are safe and can't imagine what type of safety issues it would cause to move the wall in. Not to mention there are 2 parks that would be affected by the wall relocation. As a parent and adult, I feel it's our responsibility to stand up for our children who don't have a voice in this matter. The pollution in our neighborhood is bad enough as it is, please don't allow the wall to be moved in order to create more room for more vehicles. Instead, push to encourage more car pooling. Adding more lanes is only a temporary solution to an ever growing problem. Everyone as a whole should have to make sacrifices to the traffic issues in our city, not just one neighborhood. Yes to car pooling and other solutions and a big NO to moving the wall and creating an unsafe atmosphere for the children. 1

Thanks you for your time,

Jared Abe
College Park East Resident

PC-A2

I-405 Improvement Project
Public Hearing

Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Laine Acevez	
Organization:	
Address(Optional):	
Phone Number:	Email address:

Comments: Less Traffic 1

(Space for comments continued on reverse)

PC-A3

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last):	Martin Acosta
Organization:	Labor Local 652
Address(Optional):	
Phone Number:	Email address:

Comments: todos los proyectos que ayuden
a mejorar las condiciones de vida
de las comunidades.
deben ser aprobados lo mas pronto
posible, con el paso del tiempo las
cosas empeoran, los precios suben
todo debe arreglarse pronto,
por el bien de las comunidades.
y oportunidades de trabajar Gracias

1

(Space for comments continued on reverse)

Caltrans

OCTA

PC-A3 Translation

Comment:

All the projects that help improve the quality of life of the communities should be approved as fast as possible. As time passes by, the existing conditions worsen, prices increase, and everything should be resolved as soon as possible for the well being of the communities and job opportunities. Thank you. 1

PC-A4

From: cadams29@ca.rr.com
Sent: Friday, June 08, 2012 9:18 PM
To: Parsons, 405.dedcomments
Subject: San Diego Freeway (I-405) Improvement Project

Why isn't there some sort of metro-rail alternative included in the project ? We can't continue to depend upon automobiles as the primary mode of transportation as the population continues to grow, otherwise our freeways will need to be widened again in a couple more decades, turned into double-deck roadways, or additional freeways added. At some point, widening the freeways or adding additional freeways is going to require the removal of existing businesses and homes. Why not build a rail system on the existing freeways instead of adding additional general purpose lanes, carpool lanes, or toll lanes ? 1

As for alternative 3 that would require the replacement of the recently widened Fairview Street overpass, that would waste the millions of dollars spent by the City of Costa Mesa for that overpass widening.

Sincerely,
Craig Adams 2

PC-A5

From: Jim Adams [jimeadams@sbcglobal.net]
Sent: Monday, June 18, 2012 10:51 AM
To: Parsons, 405.dedcomments
Subject: I-405 Improvement Project Public Hearing

Hello: I attended the Public Hearings for the I-405 Improvement Project on June 4, 2012 and June 14, 2012. After listening to two presentations and viewing the video numerous times , the following is my comments regarding the project.

Although I don't live in the corridor, I travel the corridor, as well as other corridors in Orange County on a regular basis. I am a 52 year resident of Orange County residing at 436 S. Camellia Street in Anaheim, CA 92804.

I would prefer the Alternative #3 over the other alternatives for various reasons. First, I am of the belief that even though it is new and people don't adapt easily to changes the express (toll) lanes is the way to future travel in Southern California. Secondly, it will contribute to the funding of the projects, and third, the projected travel time between the 73 and the 605 makes it even more appealing. 1

I am very supportive of the project and thank you for the opportunity to make comments.

Jim Adams, Council Representative
LA/OC Building Trades Council
(213) 483-4222

PC-A6

From: Arn Mira Adler [ArnMiraAdler@SBCGlobal.net]
Sent: Friday, June 22, 2012 10:37 AM
To: Parsons, 405.dedcomments
Subject: Comments: 405 Construction

Good morning. Please excuse my confusion regarding whether this should be addressed to Smita Deshpande, or M. Parsons. The Orange County Register article is unclear.

Please accept the following comments:

1. I am completely opposed to wasting the taxpayers' money by demolishing the $7 million Fairview Street Bridge. This new bridge should have not have been constructed if there was a possibility that the area would need to be redesigned. 1
2. While the general purpose lanes (the second alternative) would clearly benefit the greatest number of users, the Authority should live within its means. An $800 million shortfall at a time when we will see our children's education diminished again, our helpless ill and elderly inadequately cared for, and our colleges and universities hanging on by their teeth is not acceptable. If the people choose to fund any construction by approving a MILLAGE instead of paying INTEREST, so be it. The habit of using bonds, where the interest accrued is the equivalent of the face value of the project, literally doubles the cost. 2
3. The situation between the 22 Freeway, Valley View exit, and the 605 should have been resolved before the construction in that area began. Northbound, after enduring years of added congestion prior to the opening of the 7th Street Bridge, we are still going to endure some closures and faded striping which puts drivers at risk. Southbound, the area is a nightmare – one less lane leading to the 22, signs pointing off into vacant land (one of which is broken) are making this driver use surface streets rather than the freeway. How much money will it cost, depending on what decision is made, to finish this project? How long will it take? How long will it be before the fast lane on the eastbound 22 Freeway, which is now sprouting weeds, will again be available to those who paid for it? 3
4. There is a large "alert" electronic sign on the westbound 22 near Magnolia. It warns us to buckle up and avoid cell phone use. What it does not tell us is whether or not the traffic is backed up to Golden West, or how long it will take to get from Beach Boulevard to the 605. With proper warning, drivers might have the option of bailing out onto Beach Boulevard.
5. I certainly sympathize with the College Park East residents. If the sound wall is moved, the cost of resurfacing to reduce noise (as was done on the westbound 22 Freeway in the area of Euclid/Magnolia) might be factored into the project. 4

Generally, I am unfamiliar with the procedures the Authority might have in place to control the time frame of its projects. Has consideration ever been given to "swarming" part of a project, completing it, and then moving to another part, thus reducing the years an area is affected? I understand that this might not be appropriate; I simply do not understand why. 5

Thank you for your consideration.

Roberta S. Adler
13171 Coleman Place
Garden Grove, CA 92843-1217

PC-A7

I-405 Improvement Project
Public Hearing

Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

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- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Jose M. Aguila

Organization:

Address(Optional): 714 E Camile ST. Santa Ana Ca 92701

Phone Number: (714) 395-2460

Email address:

Comments: We need more toll Roads. 1

(Space for comments continued on reverse)

PC-A8

I-405 Improvement Project
Public Hearing

Comment Sheet

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- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Juan Aguilera

Organization: Labor Local 652

Address(Optional): 1606 E 4th 1th ST Santa Ana CA 92701

Phone Number: 714 543 5836

Email address:

Comments: This project will make the traffic much easy to move. Also it will produce a lot of construction Jobs and will help to stop the traffic congestion.. and will prevent car accidents. 1

(Space for comments continued on reverse)

PC-A9

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): John AGUIRRE
Organization:
Address(Optional):
Phone Number:
Email address:

Comments: Help fix the traffic Problem 1

(Space for comments continued on reverse)

PC-A10

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): PEGGY ALLARD
Organization:
Address(Optional): 3630 VIOLET ST
Phone Number: 562-598-3987
Email address: allard4061@roadrunner.com

Comments:

I attended the meeting for 1-405 Improvement Project on Tuesday, June 12th, 2012. After listening, reading and asking questions I decided to vote for Alternative 1 because it provides a continuous carpool land on both sides of the freeway, the wall will not need to be torn down and all is in line with Measure M.

If the wall is torn down it would cause:

1. **Great expense with little relief to traffic congestion.**
2. **Replacement wall will be less stable and efficient.**
3. **Loss of parking.**
4. **Relocation of utilities.**

1

(Space for comments continued on reverse)

PC-A11

From: Milton Allione [Milton.Allione@brilogy.com]
Sent: Tuesday, June 05, 2012 6:53 AM
To: Parsons, 405.dedcomments
Cc: Colleen O'Donoghue
Subject: Costa Mesa Public Hearing

Smita Deshpande
Branch Chief - Caltrans District 12
"Attn: 405 DEIR / DEIS Comment Period"
2201 Dupont Drive
Suite 200, Irvine, CA 92612

Last nights 'hearing' was a complete joke.

OCTA had no intent of hearing from the public, and tried several times to avoid public comments – i.e., the intent was to be nothing more than an informational presentation.

Public outcry forced the venue change, which was not set up to accommodate public comment.

Please ensure that future meeting hold provide a queue and microphone so all audience participants can hear questions and answers. 1

PC-A12

I-405 Improvement Project
Public Hearing

Comment Sheet

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- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): John Almanza
Organization:
Address(Optional): 1106 S. Lambert Dr Fullerton CA. 92833
Phone Number: 7147730639
Email address:

Comments: We need more Freeways, yes to more LANES. 1

(Space for comments continued on reverse)

PC-A13

I-405 Improvement Project
Public Hearing

Comment Sheet

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- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): JACK ALVARADO	
Organization: 21024 ARROYO LN	
Address(Optional): LOMA LINDA, CA 92354	
Phone Number: (909) 799 3202	Email address:

Comments: Improve our Freeways, yes to toll express lanes 1

(Space for comments continued on reverse)

PC-A14

I-405 Improvement Project
Public Hearing

Comment Sheet

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- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): EDWARD ALVARADO	
Organization:	
Address(Optional):	
Phone Number:	Email address:

Comments: I would like to be more involved in community activities and less time in traffic 1

(Space for comments continued on reverse)

PC-A15

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): RAUL ALVAREZ

Organization:

Address(Optional): 608 N. BAKER St Santa Ana CA.

Phone Number: 714-631-1230

Email address:

Comments: It takes too much time to get Home to ~~[illegible]~~ our Families. We need to invest money to our Bridges & Freeways to Keep America movin. 1

(Space for comments continued on reverse)

PC-A16

I-405 Improvement Project
Public Hearing
Comment Sheet

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Meeting Venue (please check one of the following):

- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Luis Ambrosio

Organization:

Address(Optional): 142 S. Esplanade Orange CA. APT #207 92869

Phone Number: 714-381-7745

Email address:

Comments: Needs more work, on Freeways, to Help traffic with more carpool Lanes. 1

(Space for comments continued on reverse)

PC-A17

From: Amy [akmmarsh@yahoo.com]
Sent: Friday, June 15, 2012 2:11 PM
To: Parsons, 405.dedcomments
Subject: 405_SEAL BEACH RETAINING WALL

Concerns/Comments re: the proposed expansion of the 405.

Any scenario that involves tearing down and moving the soundwall in Seal Beach along Almond avenue is unacceptable

• Any period of time without any part of the wall is unacceptable in our neighborhood. The noise would be completely intolerable not only from the construction, but from the freeway. Could you sleep with nothing between your home and the 405? How do you expect our children to?
• I am confident that the noise level while there is no wall violates any number of environmental issues in the study that were glossed only looking at the final result. The final result will certainly be bad enough for us, but the rebuild is completely intolerable. 1
• There is absolutely no way they can build a new wall before tearing down the old (not enough room for the workers and equipment between the two structures).
• No one knows how long the wall be down because "they haven't looked at that closely yet". That answer is completely unacceptable given how long it could potentially be down.
• There will still be a backup as you approach the 605 because LA County is not do any expansion there. THAT BACK UP WILL FURTHER BOTTLENECK OUR EXITS AND CREATES FURTHER POLLUTION IN THE HOMES & COMMUNITIES BORDERING THE 405 2
• Our property values will likely decrease – almost certainly during the period where the wall is being rebuilt and it is non-existent, and even afterwards because we will lose the landscaping we currently enjoy, not all of the wall will be uniform as not all of it is moving, and because the noise and pollution will be that much closer to our homes. In addition, our exits will be bottlenecked by the narrowing of lanes at the county line so getting to and from our homes will be perceived as more challenging instead of an improvement. 3
• Pollution will only increase in an area that already has more than its fair share of black soot on everything. 4
• We will lose 1 side of parking on Almond. This may not seem like a big deal at first blush, but our street sweeping does one side of a cul de sac at a time, and several of our cul de sacs have limited to almost no curb parking. What happens when the street sweeper is coming down the side of Almond that has parking – where are those cars supposed to go? Blocks away?
• We have enjoyed that wider street now for several decades and a more narrow street will affect the safety of our children, bicyclists, roller bladers, runners, walkers, dog walkers, and the elderly who prefer to use their walkers on the road instead of the bumpy sidewalk. And that list is not all inclusive as many of our residents use Almond to access our parks. 5
• Measure M did not approve Alternative 2 and 3, only Alternative 1. 6
• The new wall will not be as good as our current one – not up to the same earthquake standards as when originally built.
• I lack faith that the builders will truly make rebuilding the wall a priority – what if something happens and we don't get our wall back for a long time or at all! 7
• Power outages for the entire neighborhood as power lines are relocated is unacceptable 8
• We are equally concerned for our neighbors in Fountain Valley who will lose jobs and revenue for the city when 4 of their businesses are uprooted. I know there is talk about relocating them, but so much of a business's success is dependent on it's location – it is unlikely to be a move up for them. 9
• We will lose trees in Almond Park if the wall is moved at all in that area. The plan right now is to not move that part, so why do you have to move the adjacent parts???? 10
• It seems that either Alternative 2 or 3 will create more lanes of traffic outside our neighborhood by just moving the bottleneck to the LA Count/Orange County interface on the 405. The result is we'll have MORE pollution and noise in our neighborhood as the freeway clogs right at the border, and all those extra cars have nowhere to go with no other freeways expanded. The 605 northbound has never been an issue; the majority of the traffic backup is caused by the 405 north of OC, and expanding the freeway to the border not only fails to address the issue it makes the pollution worse in this area as more cars are backed up more hours of the day on the freeway. The added pollution could be significant for all of us, especially children with asthma, and elderly people with emphysema/COPD, bronchitis, or asthma. 11

Proposals:

PC-A17 (continued)

• Go with Alternative 1 as approved by the voters in Measure M
• Narrow the shoulder by a few feet where necessary to avoid moving the wall at all – bridges don't have to have a 10' foot shoulder, so having small sections with smaller shoulders should be achievable without having to make changes to the soundwall.
• Start eliminating one of the General Purpose lanes early to avoid moving the wall
• Consider light rail or some other public transportation.
• Lobby the heck out of the Navy to give a few feet where needed on their side – we don't need 10 feet all the way, just occasionally
• DO WHATEVER IT TAKES NOT TO MOVE THE WALL!!!!!!!!!! 12

PC-A18

From: keesgal@aol.com
Sent: Saturday, June 16, 2012 5:43 AM
To: Parsons, 405.dedcomments
Subject: Fwd: 405homeowner compensation

-----Original Message-----
From: keesgal <keesgal@aol.com>
To: cbyrne <cbyrne@octa.net>
Sent: Sat, Jun 16, 2012 5:40 am
Subject: 405homeowner compensation

I live one street from the Fairview ramp and barely lived through the last project with the noise&truck fumes pouring into our home of 20years.the trucks stage on our street and wait to load or unload having extreamley loud diesel engines roaring alone the cigarette butts and trash from meals bags they leave and the yelling we hear nitely and many times profane words on project . the soot kept me busy washing so water bill was high,my lite bill was high cause we couldn't open windows and needed fans daily which we had to buy since we always used only window air. I was @work puffy eye from awake@nite with noise and beeping and lites in our windows from the project.My bills are low due to being conservative and relying on nature to comfort us. 1

Is there any compensation for us homeowners@the project sight for comfort as we are stuck in our homes with this horrid mess again?. A move or hotel is not practable since many homeowners have pets .Maybe have some paper work with a deadline date to apply for those of us who may need to be totally inconvenienced by another Fairview project. The times the electric was out several times due to trucks hitting wires and the days AA&T was out due to hitting controls under ground that took 2 days to repair leaving us no phone and online and att&t trucks all over the street not knowing how to repair problem.
thank you for your time.
Lin Anderson 3129 Van Buren,Costa Mesa,92626

PC-A19

I-405 Improvement Project
Public Hearing

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- [ ] Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): KAY ANGON
Organization: PLUMBERS LOCAL 582
Address (Optional): 2018 SARAH CT. W. COVINA
Phone Number: 626 912 4834
Email address: KAYANGON@YAHOO.COM

Comments: WILL HELP EASE TRAFFIC TO GET HOME AT A EARIER TIME 1

(Space for comments continued on reverse)

Caltrans OCTA

PC-A20

From: Erwin Anisman [eanisman@yahoo.com]
Sent: Monday, June 25, 2012 9:45 PM
To: Parsons, 405.dedcomments
Subject: 405 project

I am very disappointed that you don't have a light rail or rapid bus element to your plan just more and more lanes for more and more cars. I have heard your lip service to public transportation before, but nothing has come of it before and nothing will come of it now. 1
Erwin Anisman
eanisman@yahoo.com

PC-A21

I-405 Improvement Project
Public Hearing

Comment Sheet

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- [ ] Wednesday, June 6, 2012 – Westminster Community Center
- [ ] Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Mike Antonacci
Organization: Pipefitters Local 582
Address (Optional):
Phone Number: 714-496-3888
Email address:

Comments: Would really like to see 405 Expansion to get Union workers back to work. 1

(Space for comments continued on reverse)

PC-A22

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☑ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): GEORGE AALIN	
Organization: Labor Local 652	
Address(Optional): 695 QUAIL DR. LAKE ELSINORE CAL.	
Phone Number: 951-506-8959	Email address: GEORGE AALIN @ HOTMAIL.COM

Comments: WE NEED THE INGR STRUCTURE BACK TO THE 405 THAT HELPS FEED THIS GREAT STATE OF S. CAL. I FEAL THAT UNION WORKERS GIVE THE MOST TO S. CAL. WE NEED ALL THIS WORK FOR THE FLOW OF THIS GREAT STATE 1

(Space for comments continued on reverse)

PC-A23

From: Christina Byrne [cbyrne@octa.net]
Sent: Wednesday, June 06, 2012 8:14 AM
To: Joan
Cc: Parsons, 405.dedcomments
Subject: Re: 405 fwy

Thank you for submitting your formal comment on the Draft Environmental Impact Report/Statement (EIR/S) for the I-405 Improvement Project. Please note, that a response to your comment will be included in the Final EIR/S.

Christina Byrne

On Jun 6, 2012, at 5:12 AM, "Joan" <gthumbgal@sbcglobal.net> wrote:

Christina,

Please know a lot of us do not want Alternative #3. 1

Sincerely,
Joan Archibald
714-350-2282

PC-A24

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Antonio Arellano
Organization: Labor Local 652
Address(Optional): 21111 Sedco blvd Lake Elsinore CA 92530
Phone Number: (951) 378-4769
Email address:

Comments: I Think is a good IDea because is To many accidents & will help The economy To get better I Think is going To create better Job for alot people I would like To see That happened. 1

(Space for comments continued on reverse)

PC-A25

I-405 Improvement Project
Public Hearing
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- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Jose G. Arellano
Organization: 652 local
Address(Optional): 18055 grand Ave Lake Elsinore CA 92530
Phone Number: 951-678-5035 - cell 230-9762
Email address:

Comments: nesesitamos que se ampleen los caminos porque nesesitamos mas amplitud para la jente se pueda transportar mas fasilmente y nesesitamos mas trabajo para la gente. 1

(Space for comments continued on reverse)

PC-A25 Translation

Comment:

We need to expand the roads because we need more space so people can travel more easily and we need more jobs for the people. 1

PC-A26

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Joe Arias
Organization: Plumbers Local #78
Address(Optional): 10840 Pounds Ave. Whittier, CA. 90603
Phone Number: 323-691-5510
Email address:

Comments: This will benefit the community for generations to come. 1

(Space for comments continued on reverse)

PC-A27

From: Kenneth Arnold [arncomp@pacbell.net]
Sent: Friday, July 13, 2012 11:59 AM
To: Moorlach, John; Adams, Audra; Nguyen, Janet; fvcrandall@yahoo.com; fvproud@fountainvalley.org
Subject: OCTA Honor Measure M

In regards to the 405 expansion project;
Please !!!
We have already paid most of the cost of a two lane expansion of the 405 with our measure M sales tax dollars. We do not want any of that hijacked to create toll lanes. We want the FREEway expansion we have been promised and have been paying for.

My preference was for the alternative not offered, an additional GP lane and an additional HOV lane in each direction. 1

Your votes will be remembered.

Sincerely,

Kenneth Arnold
Fountain Valley, CA

PC-A28

I-405 Improvement Project
Public Hearing
Comment Sheet

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Name (First and Last): JOE ARSENIAN
Organization: SBA
Address(Optional):
Phone Number:
Email address: Peomech2003@Yahoo.com

Comments: I'm HAPPY TO BE WORKING SO IT DOESN'T MATTER TO ME 1

(Space for comments continued on reverse)

PC-A29

From: Katie Arthur [kaarthur@ca.rr.com]
Sent: Thursday, June 28, 2012 2:01 PM
To: Parsons, 405.dedcomments
Subject: 405 Widening in Costa Mesa

My family and I are outraged and adamantly opposed to Alternative #3.
We do NOT support anything about this Alternative. Leave the bridge alone.
Alternative #2 is just fine and dandy, thank you very much. 1

Katie Arthur, Herb Netal
400 Cabrillo St.
Costa Mesa, CA 92627

PC-A30

From: Katie Arthur [mailto:kaarthur@ca.rr.com]
Sent: Thursday, June 14, 2012 1:16 PM
To: Christina Byrne
Subject: Opposition to the I-405, esp. Option #3

To Whom It May Concern:
We are adamantly opposed to the proposed I-405 widening in Costa Mesa.
The current options proposed by OCTA will have a significant negative impact to CM residents and CM businesses. We are especially(!!) opposed to Alternative #3.
If something must be done, then the Freeway should be widened north of Costa Mesa, where the impact to the number of residents and businesses will be less than what has to date been proposed by OCTA. 1

We have 5 voters in our household and all 5 of us are adamantly opposed to this plan.

Sincerely,
Katie Arthur
Herb Netal
Alex Arthur
Colin Netal
Lucas Netal

400 Cabrillo St.
Costa Mesa, CA 92627

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PC-A31

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Robert Arzate
Organization: Local 582
Address(Optional):
Phone Number: 562-256-5965
Email address: ninsinla@yahoo.com

Comments: This expansion project would be great for our comunte and our economy 1

(Space for comments continued on reverse)

PC-A32

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Valerie Ascencio

Organization:

Address(Optional): 11265-B Terra Vista, Rancho Cucamonga Ca 91730

Phone Number: (909) 989-0745

Email address:

Comments:

travel time takes to long - too much traffic 1

(Space for comments continued on reverse)

PC-A33

From: Ruthie Ashton [radgreek@yahoo.com]
Sent: Friday, July 13, 2012 2:41 PM
To: Parsons, 405.dedcomments

I have a suggestion: It would show good faith, if the OCTA would be willing to install soundproof, double-pained windows as well as air purification systems in each of the homes along the 405, where they are trying to push the expansion program.
A number of years ago, when Home Depot was building on Harbor and Wilson, in the College Park neighborhood, they offered this to the homes just behind them, so as to make the transaction during their building program, more suitable for the residents.
I think this would be an excellent idea for OCTA to adopt. 1

PC-A34

-----Original Message-----
From: Jim Atkinson [mailto:fremont@fea.net]
Sent: Wednesday, June 06, 2012 7:58 PM
To: Christina Byrne; Diane; Lance Hailstone; David Stiller; The Old Salt; Director Ohlig-Hall; Shawn Dewane; Paul Shoenberger
Subject: I 405 widening project

Hello,
I live in Costa Mesa near Fairview and Baker. I am very opposed to the Option 3 presented in plans for the I 405 project. I travelled the I
405 from Costa Mesa to El Segundo every day for nearly 30 years. When the 405 was widened through most of Costa Mesa, it allowed traffic to flow easily up to the Santa Ana River. There it would come to a halt in the north bound side in the afternoons. And in the Mornings south bound traffic begins to open up near the Costa Mesa portion of the 405. 1
What needs to happen is to remove the bottle neck that is created near Euclid and then again at Brookhurst and again at Warner. Going North the loss of the lanes in those spots creates a significant slow down or halt due to the required mergers that must take place.
I believed option 1 or option 2 will addres the problems on the freeways and thereby relieve some of the traffic concerns on surface streeets in Costa Mesa. The traffic on surface streets is due to people trying to get around the northbound jams on the freeway. Widening the Fairview Bridge will not do anything to relieve the freeway traffic congestion.
Traffic only stops in Costa Mesa due to the lanes lost in Fountain Valley and Huntington Beach. Fix that freeway flow and you will have fixed the problem. 2
Once again, I srtrongly object to Option 3 of the I 405 widening plan.
Thanks for your time and consideration on this matter, Jim

PC-A35

From: Jim Atkinson [fremont@fea.net]
Sent: Tuesday, July 17, 2012 8:36 PM
To: Campbell, Bill; dhansen@surfcity-hb.org; Laurena Weinert; FVProud@FountainValley.org; CityManager@anaheim.net; mayor@garden-grove.org; council@cityoflagunaniguel.org; Wendy Knowles; 2, District; Adams, Audra; Nguyen, Janet; mpulido@santa-ana.org; Elizabeth Wade; JAmante@tustinca.org; Bates, Pat; citycouncil@cityoforange.org; Diane
Subject: I 405 widening project

Hello,
I live in Costa Mesa near Fairview and Baker. I am very opposed to the Option 3 presented in plans for the I 405 project. I traveled the I 405 from Costa Mesa to El Segundo every day for nearly 30 years. When the 405 was widened through most of Costa Mesa, it allowed traffic to flow easily up to the Santa Ana River. There it would come to a halt in the north bound side in the afternoons. And in the Mornings south bound traffic begins to open up near the Costa Mesa portion of the 405. 1

What needs to happen is to remove the bottle neck that is created near Euclid and then again at Brookhurst and again at Warner. Going North the loss of the lanes in those spots creates a significant slow down or halt due to the required mergers that must take place.

I believed option 1 or option 2 will address the problems on the freeways and thereby relieve some of the traffic concerns on surface streets in Costa Mesa. The traffic on surface streets is due to people trying to get around the northbound jams on the freeway. Widening the Fairview Bridge will not do anything to relieve the freeway traffic congestion. Traffic only stops in Costa Mesa due to the lanes lost in Fountain Valley and Huntington Beach. Fix that freeway flow and you will have fixed the problem. 2

Increasing the number of lanes by adding toll lanes or carpool lanes does little for the daily commuter. I carpooled for several years before the carpool lanes came to OC and for many more after. They were not much relief and my commute times were no shorter with carpool lanes than they were without them. In most cases, just an extra lane or two would have made much more of a difference. And the carpool entrances and exits just become bottlenecks to traffic flow.

Once again, I strongly object to Option 3 of the I 405 widening plan. 3
Thanks for your time and consideration on this matter,
Jim

PC-A36

From: Larry Aube [aube@cox.net]
Sent: Thursday, July 12, 2012 11:25 PM
To: Parsons, 405.dedcomments
Subject: Comments on the San Diego Freeway (I-405) Improvement Project DEIR/EIS

I favor Build Alternative 2: Add Two General Purpose Lanes in Each Direction. I think that it gives taxpayers the best value for our money. 1

Larry Aube
Irvine, CA
aube@cox.net

PC-A37

I-405 Improvement Project
Public Hearing

Comment Sheet

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Name (First and Last): Juan C Aule
Organization: Tenerife
Address(Optional): 3572 Hatteras St
Phone Number: (951) 329-2816 Email address:

Comments: I will to work
again time be my fam 1

(Space for comments continued on reverse)

PC-A38

To whom it may concern,

As a resident of College Park East and an educator that teaches "Environmental Studies" I am opposed to the widening of the freeway (405) as well as the toll roads. 1

I would like to know by widening the 405 freeway in Orange County help the LA Congestion. I feel that LA County needs to have a plan in place expanding the lanes of the 405 in Orange County will be deadlocked when they reach LA County. 2

Also, Almond Street in College Park East is designated a "Tsunami Evacuation and flood route. If you make it one way, how is the expansion path affected and what is the mitigation county proposed. 3

Lastly, I feel that the pollution would be a negative impact on the health to the residents of the area. It

PC-A38 Continued

would be harmful with noise and air pollution. I feel that many health issues would be felt on a long time basis. We need more independent studies from universities, professors and hospitals and other health experts to deal with this issue and give the residents some feedback. 4

We do not need more freeway lanes but an alternative "mass transportation" (buses & mass regional transportation) to Orange County, Riverside and Los Angeles County — 5

Sincerely,

Bill McGuire
4556 Elder Avenue
Seal Beach CA 90740

PC-A39

I-405 Improvement Project
Public Hearing

Comment Sheet

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- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Clemente Avila Jr

Organization: Ironworker

Address(Optional):

Phone Number:

Email address:

Comments: More time For Family, less traffic
Save gas money, less miles on my Car. 1

(Space for comments continued on reverse)

PC-A40

I-405 Improvement Project
Public Hearing

Comment Sheet

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- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Tony S Ayala

Organization: Local 582 Plumbers & Steamfitters

Address(Optional):

Phone Number:

Email address:

Comments: The improvements being made are a welcome site to Souther California. The 405 freeway acts as a gateway to LAX, always busy but much needed. The improvements will help traffic congestion everywhere and make landmarks more easily accessible to travelers and tourists. 1

(Space for comments continued on reverse)

PC-A41

I-405 Improvement Project
Public Hearing
Comment Sheet

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Name (First and Last): Alp Aydin	
Organization: UA Plumbers 582	
Address(Optional):	
Phone Number:	Email address:

Comments:

(Space for comments continued on reverse)

PC-A42

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): FMAD AZIZ	
Organization:	
Address(Optional):	
Phone Number: 626-354-1976	Email address: emadaziz@msn.com

Comments: THE TRAFFIC ON THE 405 FREEWAY IS HORRIBLE. I AM SO GLAD SOMEONE FINALLY WANTS TO DO SOMETHING ABOUT IT. PLEASE, CONTINUE WITH THIS PROJECT. ALTERNATE 3 WOULD BE THE MOST BENEFIT, I BELIEVE 1

(Space for comments continued on reverse)

RESPONSE TO PUBLIC COMMENTS (PC)-A

Response to Comment Letter PC-A1

Comment PC-A1-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Caltrans and OCTA acknowledge and thank you for your sacrifices throughout construction of the WCC Project and look forward to working with you and your neighbors during the proposed construction of the Preferred Alternative. Caltrans and OCTA will be continuing and enhancing the public outreach effort for those who reside within and adjacent to the corridor and those who travel the corridor each day.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Response to Comment Letter PC-A2

Comment PC-A2-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Respuesta a la Carta De Comentario PC-A3

Commentario PC-A3-1

Las agencias de Caltrans y Orange County Transportation Authroity les gustaría agradecerle por haber participado en el proceso ambiental para el proyecto de ampliación de la autopista de San Diego (I-405). Su comentario fue considerado durante el proceso de selección de la “Alternative Preferida”, como esta escrito en el reporte llamando en ingles “I-405 Improvement Project Final EIR/EIS.” Se le notificará en la dirección proveida en su Cometario cuando el reporte “Final EIR/EIS” va a estar disponible para revisarlo.

Response to Comment Letter Translation PC-A3

Comment PC-A3-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-A4

Comment PC-A4-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Alternatives M3, M9, M10, M11, M12, and M13 (see Section 2.2.7 and Figure 2-8), evaluated as part of the I-405 MIS (2003-2006), included project components similar to what you are recommending within your comment. These alternatives were not considered viable alternatives for further consideration because they do not fulfill the project purpose and are substantially more expensive than the build alternatives (see discussion of Alternatives M3, M9, M10, M11, M12, and M13 in Section 2.7). Please also see Common Response – Elimination of LRT and BRT Alternatives.

Comment PC-A4-2

Only Alternative 3 would require replacement of the Fairview Road Overcrossing. Caltrans/OCTA have considered design options to avoid replacement of the Fairview Road Overcrossing under Alternative 3. Please see Common Response – Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes.

Response to Comment Letter PC-A5

Comment PC-A5-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-A6

Comment PC-A6-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternative 3 would require replacement of the Fairview Road Overcrossing. Caltrans/OCTA have considered design options to avoid replacement of the Fairview Road Overcrossing under Alternative 3. Please see Common Response – Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes.

Comment PC-A6-2

Please see Common Response – Preferred Alternative Identification.

Comment PC-A6-3

The concerns being expressed are directly related to the WCC Project, which should be directed to OCTA and public outreach.

Comment PC-A6-4

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Comment PC-A6-5

As described in Section 2.2.5, the project would likely be constructed in phases in a manner that expedites construction and minimizes throw away and durations. As noted in your comment, construct phasing ("swarming") is crucial because it determines the timing, location, and durations for construction activities within the project area. Final construction phasing cannot be determined until the next phase of the project. The preliminary phasing, as described in the Draft TMP (Community Impact Assessment, Appendix D), is shown graphically in Figure 2-7 on page 2-27 of the Draft EIR/EIS . The four construction stages would have some overlap between work items to be constructed in consecutive stages to accommodate the total construction schedule of approximately 54 months. Construction of interchange improvements, consisting of freeway ramp reconstruction, local arterial improvements, and overcrossing structure replacement, is envisioned to be staggered throughout the four main stages to minimize impacting two consecutive interchanges or closing two consecutive on- or off-ramps at the same time. Arterials

and overcrossing improvements that would add capacity over the existing condition are proposed in the earlier stages in efforts to ease traffic congestion during subsequent construction stages.

It should be noted that it is likely that this project will be a design-build project or will utilize another alternative delivery method, and final construction phasing could be different than what has been considered within the environmental document phase of the project.

Response to Comment Letter PC-A7

Comment PC-A7-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-A8

Comment PC-A8-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-A9

Comment PC-A9-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-A10

Comment PC-A10-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Response to Comment Letter PC-A11

Comment PC-A11-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Based on the recommendation of the PDT, Caltrans determined that the open forum hearing format was appropriate for this project. Open forum hearings are preferred to formal hearings, because they result in greater and more balanced input and are less likely to result in confrontational situations.

Response to Comment Letter PC-A12

Comment PC-A12-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-A13

Comment PC-A13-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-A14

Comment PC-A14-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred

Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-A15

Comment PC-A15-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-A16

Comment PC-A16-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-A17

Comment PC-A17-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Comment PC-A17-2

Please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Comment PC-A17-3

Please see Response to Comment PC-A17-1 and Common Response – Property Values.

Comment PC-A17-4

Overall, all of the build alternatives reduce congestion (see Section 3.1.6) and result in improved local and regional air quality (see Section 3.2.6). “Black soot” referenced in the comment is

likely partially associated with vehicle emissions and DPM, as well as a multitude of other sources including entrained road dust and other particulate-producing events (e.g., fires, smog). Any vehicle-related "black soot" on the subject property is likely related more to the proximity of the location to the freeway than it is to the magnitude of the vehicles traveling within the project corridor. As described in Section 3.2.6, future MSAT (i.e., DPM) emissions and overall project emission are projected to decrease. Please see Common Responses – Air Quality and Health Risks.

Comment PC-A17-5

Please see Response to Comment PC-A17-1.

Comment PC-A17-6

Please see Common Response – Measure M Funding.

Comment PC-A17-7

The soundwall that currently exists adjacent to Almond Avenue was installed as a temporary soundwall and was anticipated to be replaced. If replaced, the new soundwall would be constructed as a permanent feature designed to meet current building standards. Please also see Response to Comment PC-A17-1.

Comment PC-A17-8

As described in Section 3.1.5, most of the utility lines within the study area would be avoided during construction; however, each build alternative would require replacement and/or relocation of some water, sewer, gas, electrical, and telecommunications lines within the project ROW limits. Temporary outages are necessary to switch over from existing to relocated utilities and are anticipated to be on the order of minutes up to hours. Affected areas would be notified well in advance of all planned outages. Utility relocations are considered routine and are not anticipated to result in any long-term or permanent disruptions in service as a result of relocation or replacement of utilities. See Common Response – Relocating Utilities Underground.

Comment PC-A17-9

The build alternatives would all require full acquisition of the properties where Sports Authority, Days Inn, and Fountain Valley Skating Center are located, along with partial acquisition of the property where Boomers is located, on the south side of I-405 between Magnolia Street and Warner Avenue, as discussed in Section 3.1.4.2.3 of the Draft EIR/EIS. OCTA and Caltrans have developed design options for all of the alternatives that would remove the braided ramps between Warner Avenue and Magnolia Street on the north and/or south sides of I-405. If the design option for removal of the ramps on the south side of I-405 is incorporated into the Preferred

Alternative, no acquisition or relocation of any of these properties would be required. Please see Common Response – Impacts to Businesses.

Comment PC-A17-10

Please see Response to Comment PC-A17-1.

Comment PC-A17-11

Please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line. In regard to air and noise pollution, please see Common Responses – Noise/Noise Analysis, Air Quality, and Health Risks.

Comment PC-A17-12

Where feasible, Caltrans/OCTA have made revisions to the project alternatives in response to issues identified by the public, including Almond Avenue soundwall (please see Response to Comment PC-A1-1), Fairview Bridge (please see Response to Comment PC-A4-2), and acquisition of businesses near the intersection of I-405 and Warner Avenue within Fountain Valley (please see Response to Comment PC-A17-9). However, incorporation of alternatives such as LRT and BRT are not viable alternatives at this time. Please see Response to Comment PC-A4-1 and Common Response – Elimination of LRT and BRT Alternatives. In regards to coordination with the Navy, the priority of the design team was to minimize residential impacts, including ROW. OCTA, Caltrans, and FHWA have worked extensively with the Navy to move I-405 toward and into the Navy property to avoid impacting the residential areas on the northbound side of I-405. Please see Common Response – Shifting Improvements away from Residential Properties onto NAVWPNSTA Seal Beach Property.

Response to Comment Letter PC-A18

Comment PC-A18-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternative 3 would require replacement of the Fairview Road Overcrossing. Caltrans/OCTA have considered design options to avoid replacement of the Fairview Road Overcrossing under Alternative 3. Please see Common Response – Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes.

Response to Comment Letter PC-A19

Comment PC-A19-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-A20

Comment PC-A20-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Incorporation of alternatives such as LRT and BRT are not viable alternatives at this time. Please see Response to Comment PC A4-1 and Common Response – Elimination of LRT and BRT Alternatives.

Response to Comment Letter PC-A21

Comment PC-A21-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-A22

Comment PC-A22-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-A23

Comment PC-A23-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred

Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-A24

Comment PC-A24-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Respuesta a la Carta De Comentario PC-A25

Commentario PC-A25-1

Las agencias de Caltrans y Orange County Transportation Authroity les gustaría agradecerle por haber participado en el proceso ambiental para el proyecto de ampliación de la autopista de San Diego (I-405). Su comentario fue considerado durante el proceso de selección de la "Alternative Preferida", como esta escrito en el reporte llamando en ingles "I-405 Improvement Project Final EIR/EIS." Se le notificará en la dirección proveida en su Cometario cuando el reporte "Final EIR/EIS" va a estar disponible para revisarlo.

Response to Comment Letter Translation PC-A25

Comment PC-A25-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-A26

Comment PC-A26-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-A27

Comment PC-A27-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-A28

Comment PC-A28-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-A29

Comment PC-A29-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Only Alternative 3 would require replacement of the Fairview Road Overcrossing. Caltrans/OCTA have considered design options to avoid replacement of the Fairview Road Overcrossing under Alternative 3. Please see Common Response – Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes.

Response to Comment Letter PC-A30

Comment PC-A30-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Only Alternative 3 would require replacement of the Fairview Road Overcrossing. Caltrans/OCTA have considered design options to avoid replacement of the Fairview Road Overcrossing under Alternative 3. Please see Common Response – Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes.

Response to Comment Letter PC-A31

Comment PC-A31-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-A32

Comment PC-A32-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-A33

Comment PC-A33-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

There are currently no plans to install double-paned windows or air purification systems to all homes along the I-405 project corridor. Measures proposed to reduce air quality and noise impacts can be found in Sections 3.2.6.4 and 3.2.7.4 of the Draft EIR/EIS, respectively.

Response to Comment Letter PC-A34

Comment PC-A34-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

We acknowledge the opposition to Alternative 3 in Costa Mesa. With respect to revisions to Alternative 3, please see Common Response – Replacement of Fairview Road Overcrossing/ Truncation of Tolled Express Lanes.

Comment PC-A34-2

Please see Response to Comment PC-A34-1.

None of the proposed build alternatives is expected to eliminate congestion on I-405 in Costa Mesa or elsewhere in the corridor; the build alternatives would reduce congestion compared to the No Build Alternative, as shown in Tables 3.1.6-4, 3.1.6-5, 3.1.6-12, and 3.1.6-13 of the Draft EIR/EIS. Additional capacity on the freeway is anticipated to shift some traffic from the arterial system onto the freeway due to the reduced congestion and the added capacity provided under the build alternatives.

None of the build alternatives propose to widen the Fairview Road Overcrossing bridge. The proposal in the Draft EIR/EIS as part of Alternative 3 was to replace the bridge to lengthen it to accommodate additional lanes and shoulders on I-405 beneath the bridge in Alternative 3. Caltrans/OCTA have considered design options to avoid replacement of the Fairview Road Overcrossing under Alternative 3. Please see Common Response – Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes.

Response to Comment Letter PC-A35

Comment PC-A35-1

Please see Responses to Comments PC-A34-1 and PC-A34-2.

Comment PC-A35-2

Only Alternative 3 would require replacement of the Fairview Road Overcrossing. Caltrans/OCTA have considered design options to avoid replacement of the Fairview Road Overcrossing under Alternative 3. Please see Common Response – Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes.

Comment PC-A35-3

As described in Section 3.1.6 and as shown in Table 3.1.6-7 of the Draft EIR/EIS, all of the proposed alternatives would result in substantial reductions in corridor travel times in the GP and HOV lanes and for the GP and tolled Express Lanes for Alternative 3 compared to the No Build Alternative. Alternative 3 has limited access points, also reducing the number of entrances and exits. Alternative 3 provides all users the option of trip reliability and decreased travel times and maximizes vehicle throughput; any corridor user that needs trip reliability or decreased travel

times would have the option of utilizing the express toll facility for a fee, and HOV 3+ vehicles would be able to utilize this option for a reduced fee.

Response to Comment Letter PC-A36

Comment PC-A36-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-A37

Comment PC-A37-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-A38

Comment PC-A38-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Comment PC-A38-2

With respect to a potential bottleneck at the Los Angeles county line, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Comment PC-A38-3

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. None of the proposed alternatives would affect Almond Avenue's status as a tsunami evacuation route. Please see Common Response – Almond Avenue Soundwall.

Comment PC-A38-4

MSATs have the greatest potential to affect the health of residents located adjacent to the project. Although the various alternatives would place travel lanes closer to some residences, it is anticipated that MSAT exposure, including DPM, would be less than existing conditions. MSAT emissions are likely lower than existing levels in the design year as a result of EPA's and California's control programs that are projected to further reduce MSAT emissions. Please see Common Response – Health Risks.

Comment PC-A38-5

Study of additional alternatives, which included other alternatives such as LRT and BRT, was evaluated as part of the MIS; however, incorporation of LRT and BRT are not viable alternatives at this time. Please see Response to Comment PC A4-1 and Common Response – Elimination of LRT and BRT Alternatives.

Response to Comment Letter PC-A39

Comment PC-A39-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-A40

Comment PC-A40-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-A41

Comment PC-A41-1

No response required. No address or comment was provided.

Response to Comment Letter PC-A42

Comment PC-A42-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred

Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

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PUBLIC COMMENTS (PC)-B

PC-B1

4833 Dogwood Ave.
Seal Beach, CA 90740

July 17, 2012

Ms. Smita Deshpande, Branch Chief
Cal Trans District 12
2201 Dupont Drive, Suite 200
Irvine, CA 92612
Attn: 405 DEIR/DEIS Comment Period

Dear Madam,

I am writing this letter in response to the plan to widen the 405 Freeway using Measure M funds. I have several concerns regarding these plans as they relate to area near Seal Beach.

My understanding is that the project will widen the freeway through Orange County only that Los Angeles County has no plans to do the same. This Orange County widening project would create several issues for those of us who live in the College Park East neighborhood:

- It seems readily apparent that traffic will back up at the county line at the 605 Freeway; this will create more noise and air pollution that will impact the health of residents of CPE. } 1
- Widening the freeway by two lanes will also impact the safety of drivers who enter the northbound 405 freeway from Seal Beach Blvd. It is already difficult to merge across lanes on the freeway due to the exit lanes for the 22Fwy/7th St exit. Adding additional lanes wiil only exacerbate this issue. } 2
- If the freeway is widened by two lanes it will necessitate moving the Almond Ave. sound wall by 10 feet. This will impact parking and safety of drivers and pedestrians on this street. This will most likely lower property values for the homeowners in CPE. } 3
- Measure M was not intended to fund toll roads. Our tax dollars have traditionally funded freeways that are available to all and the HOV lanes were designed to alleviate traffic by encouraging carpooling by multiple passengers in one vehicle. Toll roads would not allow freeway egress into our community. } 4

PC-B1 Continued

Is it possible to widen the freeway but not beyond Valley View Blvd northbound? This would help alleviate the backup on the 405 Freeway between the 405/22 merge and the 605 Freeway. This would not necessitate moving the Almond Ave soundwall, it would potentially mitigate adverse air pollution and it would allow full access to our community via the Seal Beach Blvd. exit. } 5

Sincerely,

John O. Bailey, Jr.

PC-B2

From: michael bailey [michaelebailey@cox.net]
Sent: Wednesday, June 13, 2012 11:05 PM
To: Parsons, 405.dedcomments
Subject: Comment on I-405 Project

My name is Michael E. Bailey. My address is: 25801 Marguerite Parkway, No 103, Mission Viejo, CA 92692.

My comment on this project is that the project will be very extensive. It will result in 2 new lanes in each direction, including an HOV lane and a toll lane and will require demolition and rebuilding more than 17 bridges in a process that will take at least 4 yers to complete. It will be good for the economy since it will create many jobs. It will also help end transportation bottle necks and increase transportation funds through the toll lane. 1

It will have major impacts on the bus system through many detours and on pedestrian/bike access at interchanges where freeway on and off ramps meet arterial city streets and county roads. Mitigation is necessary. This can be done by improving service on OCTA Route 1 on Pacific Coast Highway and improving the bus stops along the Route 1 bus line. Mitigation could also include making improvements to the bus lines in communities the I-405 passes through in Orange County,; it could be done by improving Metrolink Stations in the cities the I-405 passes by both for bus and for bike/pedestrian access. Many bus lines will need to be detoured and the detours can be expected to last for some time. The OCTA Bus Operations Fund needs to be compensated for the cost to bus operations of the detours which will be so many, the entire bus route network will probably be slowed down. There will be extra cost to bus operations for drivers time, fuel costs, printing and distributing "Riders' Alerts", putting bus stops out of service and putting up new temporary bus stops, and redrawing bus routes for some bus lines in the schedule book. These are costs that need compensating. 2

The new toll lane in each direction will generate income from the project and California Streets and Highways Code Section 143 allows revenue from toll lanes to go to public transit. So I feel strongly that a portion of money raised from tolls should go into the Bus Operations Fund on a regular yearly schedule to be used to improve bus servihce countywide. 3

Thank you, Michael E. Bailey.

PC-B3

From: michael bailey [michaelebailey@cox.net]
Sent: Tuesday, June 26, 2012 11:28 PM
To: Parsons, 405.dedcomments
Subject: EIR Comments

The I-405 Project will be a major undertaking with major impacts on the OCTA bus system, the biking and pedestrian infrastructure near the construction project; and the impacts will last 4 to 5 years. This needs some remidiation.

Remediation could include funding for a fare scholarships program to reduce the impact of a 25% fare increase to fixed route bus service and ACCESS service on transit dependent passengers who otherwise could not pay the fare increase. Remediation could also include increasing bus service on Pacific Coast Highway. It could also include some financial support for the Santa Ana and Garden Grove Streetcar lines in the OCTA GO-LOCAL Program. Improving bus service and a fare scholarship program are very much needed and would be great choices for remediation of construction impacts on transit. REmediation of impacts to pedestrian and biking infrastructure should include providing the best, most up-to-date infrastructure available to upgrade these two areas of public transport, including wide islands of refuge with wheelchair access, walk signal buttons that are wheelchair accessible and provide audible as well as visual signals on when to cross, improved sidewalks and bus stops, and wider wheelchair cuts in sidewalks, and the special yellow raised markings to let blind and low vision people know when they are getting to a street crossing and close to the edge of the sidewalk. 1

Thank you. My name is Michael E. Bailey, 25801 Marguerite Parkway, No. 103, Mission Viejo, CA 92692. Email: michaelebailey@cox.net.

PC-B4

I-405 Improvement Project
Public Hearing
Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- [x] Monday, June 4, 2012 – Orange Coast Community College
- [ ] Thursday, June 7, 2012 – Rush Park Auditorium
- [ ] Wednesday, June 6, 2012 – Westminster Community Center
- [ ] Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): David Dalas
Organization: Local 582
Address(Optional): P.O Box 2420
Phone Number: 714. 333-8256
Email address:

Comments: Freeway to congested. Sitting in traffic for hours when I can be playing with my kids. Put some out of work tax paying citizens back to work & help feed his/her family. Thank you 1

(Space for comments continued on reverse)

PC-B5

I-405 Improvement Project
Public Hearing
Comment Sheet

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- [ ] Wednesday, June 6, 2012 – Westminster Community Center
- [ ] Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Davy Banales
Organization:
Address(Optional): 1402 S. Central Ave Compton Ca 90220
Phone Number: 310 916-2390
Email address: Dbanales@Att.Net

Comments: I drive on the side of town everyday and really would appreciate more lanes on the 405. I think it would benefit the traffic and cut down on some drive time. Please make the freeway bigger. 1

(Space for comments continued on reverse)

PC-B6

From: Mike Bantel [bantel@exoanalytic.com]
Sent: Thursday, July 12, 2012 5:01 PM
To: Parsons, 405.dedcomments; cbyrne@octa.net
Subject: Public Record Comments for "San Diego Freeway (I-405) Improvement Project"

Hi Smita Deshpande and Christina Byrne

My comments concern the building of the new South bound on ramp at Euclid and the additional North bound lanes that go over the Santa Ana River Trail.

1) I'm not opposed to the plans, but I do hope you orchestrate the construction to minimize noise and dust for the near-by residents. 1

2) I attended the June 4th meeting at OCC, and a Parson employee told me that they didn't fully understand the Santa Ana River Trail usage and they would have to close it for construction. For the public record, you need to understand that the Santa Ana River trail is heavily used. I estimate that on the weekends in the summer months more than 1000 bicyclist travel under the 405 on this river trail. The Santa Ana River Trail was recently designated a National Recreational Trail (May 31st), and it is not some simple bike path, it is more like a highway for bicyclists –Los Angeles Times described the trail as "a veritable freeway for bicycles" – you should Google Santa Ana River Trial. Now, to make matters worse, I do not see any easy detour route. I strongly advise that you visit the location and ride the detour yourself so that you fully understand the situation. The detour is a long detour (~ 2 miles) that requires pedestrians and bicyclists to go to the east side of Harbor Blvd and cross the North bound 405 exit (which has a signal) and then cross the North and South on ramps that DO NOT have signals only cross walks. With 1000's of people dodging on bound vehicles on the weekends someone will eventually get hit or killed. Furthermore, the west side of Harbor Blvd might be tempting for cyclists, but it is also a sort of a precarious path that doesn't really accommodate cyclists. I imagine that you will have to consider constructing a reinforced corridor along the path to keep it open for pedestrian and cyclist and have traffic guards on the ends during construction to control passing when construction becomes potentially unsafe. 2

Thanks

Mike

Dr. Michael Bantel
1812 Alask Ave (South side of 405 and East of the Santa Ana River – near Moon Park)
Costa Mesa, CA 92626
Home: (714) 751-3887
Cell: (949) 292-5880

PC-B7

LEAVE OUR WALL ALONE!

OCTA wants to tear down our Soundwall and move it up to 10 feet closer to our homes to expand the 405!!

If they move the wall as proposed in at least 2 of their alternatives:

- **There will be some unknown period where there is NO WALL while they rebuild**
- **We lose parking on one side of Almond and safety for our kids, runners, bikers, and dog walkers that enjoy the larger street**
- **There will still be a bottle neck at the 605 because LA County is NOT expanding the 405 on their side of the county line**
- **We will have increased noise and pollution and the related health concerns**
- **All our house values will likely go down – especially during the period of the rebuild**

1

They can make exceptions but they have to hear from us!!! PLEASE MAKE YOUR CONCERNS HEARD –

LEAVE OUR WALL ALONE!

Comments may be mailed to Smita Deshpande, Caltrans District 12 at 2201 Dupont Drive, Suite 200, Irvine CA, 92612 or by e-mailed to **405.dedcomments.parsons@parsons.com.**

Comments must be postmarked by July 2.

Research for yourself at: http://www.sealbeachca.gov/ServiceUpdates.aspx?id=1418

PC-B7 Continued

Please find another way for your construction project. Leave our wall alone. } 1 cont.

Chuck + Barbara Barone
4273 Birchwood Ave.
Seal Beach, Ca 90740

College Park East

PC-B8

From: tony@tonybarra.com
Sent: Monday, June 25, 2012 10:58 AM
To: Parsons, 405.dedcomments
Subject: Highway Robbery

I wanted to voice my objection on the 3rd proposal to construct toll lanes on the 405 "FREEWAY". OCTA may risk a class action lawsuit if the proceed with option 3. They cannot legally use Measure M tax dollars to build a toll road. Essentially that would be "taxing" the public twice. We did not approve these funds for Toll roads. } 1

Tony Barra
O.C. Concerned Citizen

PC-B9

I-405 Improvement Project
Public Hearing

Comment Sheet

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- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): MARCELO BARRAGAN
Organization: 20975 TONY. RD Labor Local 652
Address(Optional): PERRIS
Phone Number: 951-230-0096
Email address:

Comments:
I oppose on el comercio de construccion en la MA' } 1

(Space for comments continued on reverse)

PC-B9 Translation

Comment:

Employment in the construction industry is at its lowest point.

PC-B10

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last):	Miguel BARRAGAN
Organization:	Labor Local 652
Address(Optional):	605 Wood st Santa Ana Ca. 92703
Phone Number: 714-244-5421	Email address:

Comments: Empleo en el condado – Comercio de construcción esta en lomas bajo de todos los tiempos 1

(Space for comments continued on reverse)

Caltrans OCTA

PC-B10 Translation

Comment:

Employment in the county in the construction industry is at its lowest point ever.

PC-B11

I-405 Improvement Project
Public Hearing

Comment Sheet

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- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): EDGAR BARRERA
Organization:
Address(Optional): 13152 PIERSAN ST APT #5 GARDEN GROVE CA 92843
Phone Number: 714-591-7555
Email address:

Comments: IMPROVE ~~MA~~ MY ~~WE~~ WAY BACK HOME EASIER 1

(Space for comments continued on reverse)

PC-B12

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): VICTOR M BARRERA	
Organization: Labor Local 652	
Address(Optional): 305 E MOUNTAIN VIEW L.B. Cal. 90805	
Phone Number: 760 792-8051	Email address:

Comments:

Tambien ayudara a nuestra infraestructura de los puentes y calles 1

(Space for comments continued on reverse)

PC-B12 Translation

Comment:

It will also help our bridges and road infrastructure.

PC-B13

I-405 Improvement Project
Public Hearing

Comment Sheet

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- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Jaime Barton

Organization:

Address(Optional): 1605 No. Susan St Santa Ana, CA 92703

Phone Number: 714 554-0730

Email address: Carpenterbrasonslocal500@yahoo.c

Comments: Develop & Build additional Bordjes & Lanes for I-405 } 1

(Space for comments continued on reverse)

PC-B14

I-405 Improvement Project
Public Hearing

Comment Sheet

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- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Julian Bautista

Organization: Labor Local 652

Address(Optional): 5658 Bella Dr. Riverside ca. 92509

Phone Number: 714) 396-8344

Email address:

Comments: the 405 freeway from the 73 to the 605 freeway is the busiest in the nation } 1

(Space for comments continued on reverse)

PC-B15

From: Robert Beachler [robert.beachler@gmail.com]
Sent: Tuesday, July 17, 2012 6:28 AM
To: Parsons, 405.dedcomments
Subject: 405 Expansion

Can't we just wait until the West County Connectors project is finished, before deciding? That would be my recommendation. } 1

Thank you.

Sent from my iPad

PC-B16

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Seth Beasley	
Organization: UA local 582	
Address(Optional):	
Phone Number: 951-233-4461	Email address:

Comments: Improving the 405 Freeway would improve traffic flow and reduce gasoline use and less polution. } 1

(Space for comments continued on reverse)

PC-B17

From: Vaughn Becht [mailto:vaughnbecht@yahoo.com]
Sent: Saturday, July 14, 2012 2:41 PM
To: Christina Byrne
Subject: Re: I-405 Improvement Project: Important Upcoming Dates

SHORT AND SWEET ALTERNATIVE ONE OR ALTERNATIVE TWO. ALTERNATIVE THREE IS A NOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOO .THANK YOU . HOME OWNER VAUGHN BECHT 5761 MEINHARDT RD WESTMINSTER,CAL . PHONE 714-313-9706 } 1

PC-B18

From: Vaughn Becht <vaughnbecht@yahoo.com>
Date: July 18, 2012 5:37:44 PM PDT
To: Christina Byrne <cbyrne@octa.net>
Subject: Re: I-405 Improvement Project: Important Upcoming Dates
Reply-To: Vaughn Becht <vaughnbecht@yahoo.com>

NOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOO/ ATERNATIVE 3 } 1

PC-B19

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☑ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Jay Burke
Organization:
Address(Optional): 20 Santa [illegible], La Quinta CA [illegible]
Phone Number: [illegible]
Email address: [illegible]

Comments: As a [illegible] using [illegible] on a daily basis, I believe this project will help everyone with their daily commutes. Please continue with this project. } 1

(Space for comments continued on reverse)

Caltrans OCTA

PC-B20

Smita Deshpande, Branch Chief,
Caltrans-District 12, "Attn: 405 DEIR-DEIS Comment Period"
2201 Dupont Drive, Suite 200
Irvine, CA, 92612

Subject: State Route 405 (I-405; San Diego Freeway) between SR-73 and I-605 and Draft EIR/EIS

I am concerned about the impacts the State Route 405 improvement project will have on our community. I am especially concerned about Alternative 3 which will widen the San Diego Freeway in the City of Costa Mesa and convert an existing car pool lane to a toll lane.

Alternative 3 would require that the Fairview/I 405 interchange be demolished and rebuilt, even though it was just rebuilt three years ago. Residences and public parks near the I- 405 will be adversely affected both during construction and upon completion of the project. Problems include air pollution, noise, and degradation of the visual quality of our neighborhoods. Ramp closures at Harbor, Fairview, and South Coast will not only inconvenience residents, but impair access to the many businesses which contribute to our local and regional economy. 1

In addition,

Please include these comments in the public/administrative record for this project and the project EIR/EIS. Thank you for the opportunity to comment.

Yours truly,

GEORGE BERG
(Name)

3097 YUKON AVE COSTA MESA
(Address) (City)

_____ Please keep me informed about future hearings and future steps in the review process for the I- 405 project.

PC-B21

From: flamingofling@juno.com
Sent: Thursday, June 21, 2012 6:17 PM
To: Parsons, 405.dedcomments
Subject: 405 freeway alternative 3

To Whom It May Concern:

I am absolutely against the proposed 405 freeway expansion Alternative 3. When we voted for "Measure M" we **DID NOT VOTE FOR TOLL ROADS.** This is such a breach of the public trust for the Transportation people to try to sneak in toll lanes under the guise of improving roads and freeways. 1

We don't want the Fairview bridge demolished (with the resulting year of no access), we don't want our Costa Mesa ingress and egress diminished by this ill-conceived plan, and we don't want to pay tolls to use a freeway we've paid dearly for over the years through higher taxes. This is NOT NEW YORK or NEW JERSEY where you have to pay to drive! California's economy has been ruined by the politicians and it's absolutely unethical for more government bureaucrats to gouge Orange County residents for using the freeways we've already paid for! Which lobbyists stand to gain from this fiasco? **NO ON ALTERNATIVE 3!!!** 2

Lynne Bianco
1589 Corsica Place, Costa Mesa 91106

PC-B22

From: Harold Biggerstaff [hbiggerstaff@gmail.com]
Sent: Wednesday, July 11, 2012 12:56 PM
To: Parsons, 405.dedcomments
Subject: I-405 Improvement Project

Being directly affected by this project, I wish to express my thoughts in abbreviated form.
1. Prefer no widening of 405 in Seal Beach area, but realize that to improve traffic flow it would be advantageous to add lanes. Alternative 1 adds one general purpose lane in each direction and reduces travel time from 133 minutes per GP lane to 57 thereby saving 76 minutes. That is quite an improvement!! Adding more lanes is only going to create a bottle-neck where the freeway transitions from Orange to LA county. Adding to the bottle-neck is the mixing of traffic entering the freeway, north bound, from Seal Beach Blvd. and the traffic exiting from the 405 to the 605 and from the 22 to the 7th street exit into Long Beach. This condition alone seems to defeat the objective of improving traffic flow. **Question**: Since LA county has no plan to expand their portion of the 405, why would OCTA want to create this bottle-neck? 1
2. Any widening of the freeway brings traffic closer to those who live adjacent to it. This means more noise and air pollution, adversely affecting property values and quality of life. In the case of Seal Beach it could also mean tearing down a perfectly good sound wall and replacing it (a needless expense at a bad time). This move could require Almond Ave. to be reduced to a sub-standard width, creating a safety hazard. Widening could also mean the rerouting of major utility pipes and lines (another needless expense at a bad time). **Question**: Why would you widen more than alternative 1 when you get so much gain at minimal expense? 2
3. No toll lanes. The tax payer builds these freeways to be just that: free!!! So far, toll roads have not proven a success. Measure M has no mention of toll roads or lanes so it seems that to include them would require voter approval. **Question**: why are they even being considered? 3
4.The 405 has served pretty well for 50+ years. With the improvements in alternative 1, it would seem that it's needs could be met efficiently at a reasonable cost. **Question**: If cost and efficiency were truly the goal, would it not make more sense to go up rather that out? Why not put an elevated rapid transit rail line down the center? 4
Have endeavored to be concise out of consideration. Please do not assume that this lessens, in any way, my deep concerns.

Harold Biggerstaff
4457 Hazelnut Avenue
Seal Beach, CA 90740
562-596-0968
hbiggerstaff@roadrunner.com

PC-B23

From: Patricia Biggerstaff [pbiggerstaff1@live.com]
Sent: Wednesday, July 11, 2012 2:32 PM
To: Parsons, 405.dedcomments
Subject: Expansion of the 405 Freeway

I am writing this letter to voice my very strong objection to the widening of the 405 Freeway and the subsequent movement of the College Park East sound wall. There are so many issues that need to be addressed regarding this project that one is hard pressed as to where to begin. One of the most objectionable is the movement of the wall even further into the College Park East tract which would result in the creation of a sub-standard road which would barely accommodate a two lane street. This is the only through road at the southern end of the tract and it crosses all the cul-de-sacs on Almond Ave. It is not a short road and would impact many residents. Aside from the decreasing width of the road, the sound and the air quality would also be negatively affected by the closer proximity to homes. Home prices would, in all likelihood, also see a town turn. 1 2

After attending a meeting in Rossmoor on June 26th, with a standing room only crowd, it was evident that all of the audience of about 200 to 300 people were opposed to any of the proposals put forth by OCTA and Cal Trans. If one had to be chosen the only one that appeared to receive even a modicum of support was Alternative 1, which did not involve the removal of the wall. The Toll Road concept was totally unacceptable, I don't believe Measure M money was ever intended to finance a toll road. One of the gentlemen who helped write the legislation was present at the meeting and stated that toll roads were never mentioned in the bill and were never an option to be considered. Another one of the most glaring faults of this entire project is ending the expansion at the LA County line. Can you imagine the bottle neck that would be created by such an abrupt cessation of lanes? 3 4

There are many other objections to this project which I could list but I'm sure you have heard them all. I would be totally remiss, however, if I did not mention the cost. The state, according to all we have heard, is broke and we have to vote for more taxes, according to our esteemed Governor Brown to stay solvent. Two of the alternatives do not have the money to finance the projects and need another $100 million or so to be completed – Why would they even be considered when the state has no money to fund them? Could actions like this be the reason, the state of California is on the verge of bankruptcy? 5

Please listen to the people who are so strongly opposed to this project and use whatever influence you have to see that it does not send us even further into debt.

Sincerely,

Patricia Biggerstaff
4457 Hazelnut Ave.
Seal Beach, CA 90740
562-596-0968
pbiggerstaff@roadrunner.com

PC-B24

From: babiggs@socal.rr.com
Sent: Sunday, June 17, 2012 2:30 PM
To: Parsons, 405.dedcomments
Subject: Comment on 405 Improvement Project

Comments on 405 Improvement Project

I appreciate the fact that those in charge of this project have allowed us to voice our opinions and that we have been listened to.

I am vehemently opposed to Alternative 3. We have paid and continue to pay for road improvements through taxes; Measure M, gasoline and some I'm sure I'm not aware of. Therefore I do not want to pay additional money to drive in a lane that I have already paid for. I also do not believe in social engineering, I do not think that we should be forced to carpool or pay a toll. **1**

I believe that if you want to move the largest number of vehicles through this section of the freeway adding two general purpose lanes is the best solution. While having a toll lane may allow some people to move through this section quicker, it is not realistically available for all drivers, while two general purpose lanes would be. All of us have to pay for this, therefore it should be available for all of us to use. **2**

The toll lane may allow the users to travel at 60-70 MPH, if it were uninterrupted, but the current proposal has places to leave and enter the toll lane, this is going to slow that traffic down, just as it is currently slowed in the existing HOV lanes. So I believe that the toll lane will not move much faster than the existing HOV lanes do now. During rush hour the HOV lane moves only slightly faster than the general purpose lanes.

I am in favor of having the HOV lanes have continuous access, this will help prevent a lot of slowing and most likely some accidents. **3**

I also believe that the best use of our tax payer dollars is to build two lanes at this time. Although it would be great if we could get by with only adding one lane,(Alternative 1), in time, a second lane will be required. Doing both lanes now, when construction costs are lower and we can benefit by not having to do some of the same work over again at a later time, makes the most sense to me. So my vote is for Alternative 2. **4**

During the meeting I attended there was a lot of conern over the sound wall height. Many there thought that the wall should be reconstucted at a greater height. Would it be feasable to build portions of the sound wall higher adjacent to homes; 16 feet or more, and lower adjactent to commercial properties and/or intersections? By varying the height this may make the costs the same as building the wall one continuous height. **5**

I also have a hard time believing the numbers presented on the Traffic Projections (Year 2040). I do not believe that adding a toll lane will allow an additional 1000 cars per hour, nor that the time in the toll lane will only be 13 minutes. In fact most of the numbers in that presentation are suspect,and should be checked for reasonableness. **6**

Thank you for your consideration.
Barbara Biggs

PC-B25

From: Carol Bills [c.bills@gte.net]
Sent: Wednesday, June 20, 2012 6:15 PM
To: Parsons, 405.dedcomments
Subject: Comments - I-405 Improvement Project

I attended the meeting on Wednesday, June 6 at the Westminster Community Center.

If I have to vote for one of the 3 options it will obviously be Alternate 1. This is the least intrusive and most likely to have funding available which is something I consider of the utmost importance. There is not enough funding for Alternates 2 and 3 and it won't just appear. Also Alternatives 2 and 3 take more property, including yards and businesses. **1**

I don't know how you can consider a toll road that appears to be based on the 91 Freeway model. I travel that road frequently and it is not efficient and certainly not a good alternative. The tolls keep going up because of the cost of maintaining this road by a private company. I do not see how this will all of a sudden become a viable option on the 405. You are also basing throughput and travel time on models that are unlikely and your projections are skewed to push through Alternatives 2 and 3. In this economy, and all evidence points to years of hardship, people will do all they can to avoid toll roads, especially one that is only 10 or 14 miles. Paying $6 to $8 for a toll that leads most people nowhere is unreasonable. **2**

As a resident that will be directly affected, I have very real concerns about additional pollution, sound wall problems and another drop in home values that are already deflated. The sound wall across the street from me was erected a few years after I moved here. Because the sound was not measured in the proper way (consulted a sound engineer), the wall created a canyon effect and the freeway noise is louder since the wall went up. Everyone on my side of the street has had to put in double pane windows in an effort to muffle the noise and many days we can't open our front windows or talk in front of our homes at all. Also, the dust and particulates are already very bad. I have developed breathing problems since I moved here and I can only imagine what it will be like with years of construction. **3**

It would be beneficial to have a Caltrans person discuss the sound wall problem with people in our neighborhood. The gentlemen at the sound wall exhibit after the meeting dismissed us as idiots and claimed he had never heard anyone complain about the sound walls. There were 4 of us in front of him and he still denied our claims. Please do not dismiss this as a very real and very troublesome issue that is being ignored. **4**

Carol Bills

Carol Bills
15131 Vermont Street
Westminster, CA 92683
714-892-4994 phone
714-742-6426 cell
c.bills@gte.net

PC-B26

From: Carol Bills [c.bills@gte.net]
Sent: Monday, July 02, 2012 10:03 AM
To: Parsons, 405.dedcomments
Subject: Tollway
Attachments: OC Tollways0001.pdf

Importance: High

As an addendum to my comments sent June 20, I wish to include the attached article from the Los Angeles Times, Sunday, July 1.

The article clearly states that ridership continues to fall below projections and the search is on for long-term money-saving measures. FasTrak tolls are increasing again at a time when ridership is down and cost cutting measures are in place including job loss.

To even propose toll lanes for the new 405 project is ludicrous. This article speaks for itself. 1

Carol Bills

Carol Bills
15131 Vermont Street
Westminster, CA 92683
714-892-4994 phone
714-742-6426 cell
c.bills@gte.net

PC-B26 Continued

O.C. tollways to stop taking cash

Booth attendant jobs will be cut and prices raised to bolster the system's finances.

BY MIKE REICHER

GLENN KOENIG Los Angeles Times

RIDERSHIP on O.C. toll roads is lower than projected, causing operators to seek ways to save money.

Operators of Orange County's toll road network are planning to eliminate cash payments and tollbooth jobs as they try to squeeze more out of their financially strapped pay-to-drive highways.

Drivers who use the route 73, 261, 241 and 133 toll roads will need to have payment accounts linked to their transponders or their license plates in order to use the corridors. Cash payments will be phased out over the next 18 months.

The FasTrak transponders and license-plate accounts electronically deduct money from a driver's credit line.

In addition, a rate hike takes effect Sunday. Cash tolls will increase 25 to 50 cents at most toll plazas and FasTrak tolls will increase 5% to 10%. Rates vary depending on the time of day.

The changes, which will eliminate about 100 tollbooth jobs, come about a year after the 73 toll road project restructured its roughly $2.1 billion in debt. An agreement with bondholders requires the agency to raise tolls whenever feasible.

As ridership continues to fall below projections, leaders are looking for long-term money-saving measures.

Without tollbooths, even casual users will have to register beforehand or else pay a fine for using the public road. Cameras will capture license plate numbers, and motorists who have set up pre-paid accounts registered to the photographed number will be billed.

FasTrak customers will still be able to use their transponders, according to the Transportation Corridor Agencies website.

Drivers who use the toll roads but have not registered their license plate numbers will receive a violation unless they pay the toll online within 48 hours, said Lori Olin, a spokeswoman for the Transportation Corridor Agencies, which oversees the entire network of tollways.

The fine is currently $57.50, plus the toll amount.

"There's going to be a much broader opportunity for people to pay for the use of the toll road without having to slow down and pull cash out of their pocket," said Newport Beach City Councilman Rush Hill, chairman of the San Joaquin Hills Transportation Corridor Agency Board of Directors.

The TCA contractor that staffs the county's tollbooths, Central Parking Systems, has 81 attendants throughout the county. The TCA directly employs 12 tollbooth workers, according to Olin. Those 12 cash handlers will receive severance pay.

The San Joaquin Hills agency has increased toll rates 12 times since fiscal year 1997, according to the bond-rating company Fitch, making its per-mile toll rate one of the highest in comparison with similar toll roads. Its last rate hike was in July 2011.

mike.reicher@latimes.com

PC-B27

Dear Smita Deshpande: July 12, 2012

A few weeks ago I attended the community meeting at the Fountain Valley Senior Center regarding the 405 widening project. As you know, there were 3 options presented at the meeting. The following is my and my wife's thoughts regarding this issue. I have addressed the options in reverse order beginning with Option 3.

Option 3

I will start by expressing our objections to the construction of any type of express lanes. We don't like the use of the words "express lanes" because it too vague of a description and is misleading to the public and therefore I will refer to them as toll lanes since that is what they are.

There are several reasons why we feel that the use of the existing 405 easement for toll lanes is inappropriate. We, as taxpayer, have already paid for the land and road surface through various taxes and fees. Therefore, to take something that has already been paid for through taxes and turn around and limit its use via a toll is not acceptable. 1

The presentation at the meeting used the 91 freeway as an example/prototype of how the 405 toll lanes would work. It amazed me that they used the 91 Freeway as an example, because it has done little to relieve the congestion west bound in the morning and east bound in the afternoon/evening. When I have traveled the 91, the general purpose lanes (west bound in the morning and east bound in the evening) have major congestion while the toll lanes are under used. I don't see how there would be any difference on the 405.

Much of the traffic on the 405 would not be able to use the proposed toll lanes because of the limited ingress and egress and therefore the drivers of these vehicles would be forced to drive in the already congested general purpose lanes. Since this option would only allow for one added general purpose lane, there would only be limited relief from the current congestion and within a relatively short period of time we would be back to where we are today. 2

It is our belief that the voter approved Measure M2 did not include a toll/express lane in its content. If that is in fact true, it would be inappropriate to use any portion of the M2 money to fund the toll lanes or the elimination of the 2 person carpool lane. 3

Another reason for our opposition to the toll lanes is the issue of fairness to all commuters from all ranges of income levels. Individuals who are at the lower income level are disproportionately unable to make use of the toll lanes than those who have a higher level of income. There should be equal access to all public facilities such as toll roads regardless of income. Because of this, people or families of lower income will more likely be confined to the more congested general purpose lanes because of the burdensome cost. This is blatantly unfair and therefore, not only should there be no toll lanes on the 405 Freeway, they really should be removed from all roads within the State. 4

Option 2

In our opinion, this is really the only minimally acceptable option. I have lived in southern California for over 60 years and over the past several years, I have noticed a substantial waste of tax dollars when it comes to freeway widening projects. On the south bound 55 freeway between Dyer Rd and the 405, the freeway has been widened numerous times one lane at a time. The cost of piecemealing this out must cost several times more than if the three widening 5

PC-B27 Continued

projects over the past ten years or so had been undertaken in one single project (currently, it appears that a forth widening project is underway on the S/B 55). Some of these projects had been completed within a few years of one another. The same can be said the 405 bridge over the Santa Ana River. It is my belief, when it comes to any freeway widening project in the State, that if there is a current need for one lane then add two lanes, if there is a need for two lanes, then add three lanes. Don't waste money on the same stretch of road by performing one widening project followed by another and followed yet another project. Do them at the same time. You probably would not add a room to your existing house followed a few years later by expanding that same room and yet a few years later expanding that room again. The prudent option would be to enlarge the room just one time based on your long term needs. 5 cont.

We are confident that the long term needs of the 405 Freeway and the commuters would justify the minimal addition of two added general purpose lanes.

Option 1

There's not much I need to say about this option that I have not already stated above in Option 2. This option is totally inadequate and therefore should not be a consideration at all. It would be a total waste of money now and in the future. 6

General Comments

We have heard several comments from individuals regarding their concern on the impact this project would have on their community or them individually. Although we understand their concerns and feel some sympathy for their situation, it has always been our belief that difficult decisions must be made with the entire community in mind and not just the impact on a few individuals, businesses or neighborhoods. We have seen decisions made by community leaders based solely on the objections of a few out of an entire community. This is synonymous to the tail wagging the dog. Few community leaders are willing or able to explain why something needs to be done for the benefit of the entire community even though it may have a negative impact on a few. In this case, when someone purchases a property adjacent to a freeway, it is not reasonable to think that there would be no further expansion. 7

Even though we live in Fountain Valley, we support the expansion of the 405 and the impact on the businesses along Magnolia Ave. Again, this project is beneficial to the entire community (all Orange County residents) and this should outweigh the negative impact on those few companies and residents. This does not mean that every reasonable effort should not be made to avoid impacting them negatively.

Another concern some individuals or community leaders have expressed is the potential bottle neck created when the 405 crosses into Los Angeles County. If any construction is based on the ability of neighboring communities' desire to pay for continued expansion, nothing will ever come to fruition. We could wait years before funds are made available to complete the widening project into Los Angeles County. This issue/concern should not stand in the way of proceeding with the construction of Option 2. 8

Sincerely,

Larry Black
Fountain Valley
E-mail Address: LnSOpinion@yahoo.com

PC-B28

From: Jeff Blanton [jblanton@wpldrs.com]
Sent: Thursday, June 07, 2012 6:27 AM
To: Parsons, 405.dedcomments
Subject: Against the 405 Expansion Proposal Three

As a resident of Costa Mesa I want to register my vote against the 405 expansion proposal three. 1

Jeff Blanton

1111 Charleston Street
Suite G
Costa Mesa, CA. 92626

PC-B29

From: joyce bloom [jceblm@gmail.com]
Sent: Tuesday, July 17, 2012 8:12 AM
To: Parsons, 405.dedcomments
Cc: dennis@sunnews.org
Subject: 405 Project

Dear Sirs: July 16, 2012

The Rossmoor Community and all our schools in the Los Alamitos Unified School District would be adversely impacted by the considerable increase in traffic if your project should come to fruition. The Rossmoor community knows that the EIR did not take into consideration the amount of pollution that would rain on our community and particularly our schools which are close to the 605. For that reason alone I am against the 405 project and would prefer Alternative 4 - do nothing! I am particularly incensed by the Alternative 3 which is solely for the "ECONOMIC ELITE" in southern Orange County. California led the country in freeways. The majority of Californians oppose any attempt to charge for milage traveled. I have traveld the 91 Freeway and the Fast Track has not made traveling better for the majority of the people who use the 91. Orange County and the OCTA should lead the way toward better and faster public transportation. Los Angeles has shown us that it can be done and the OCTA should lead the way. 1

Joyce Bloom

PC-B30

RECEIVED
CEO OFFICE
JUL 16 2012

July 1, 2012

OCTA Board Member
550 S.Main St
PO BOX 14184 Orange CA 92863 TEL: (714) 560 6282

Subject: I-405 widening impacting the College Park East Community in the City Seal Beach (Between the SR -73 and I-605)

Dear Board Member:

I am a resident of the City of Seal Beach College Park East Community. **I am asking you to vote for Alternative 1** for the I-405 Freeway Improvement project. This alternative will have the most limited community and environmental impacts compared to any other alternative. My community believes this alternative is the best choice because:

1. Alternative 1 does not encroach 10 feet into Almond St. which has an existing soundwall that protects the community. If this wall is torn down and a new wall is built for widening the I-405, it will make Almond a very narrow and probably a one way street. In case you were not aware, Almond Street is a dedicated Tsunami escape route and the only community access route out from the College Park Community. Almond Street needs to be wide and two ways configuration is needed in order to serve as an escape route due to floods and/or Tsunamis and to have bikeways 1

2. Alternatives 2 and 3 will encroach 10 feet into Almond St and will also impact to existing parks at Astor Street and at Orleander Street. Like many parks in our community, children play and senior citizens walk along Almond Street every day. Mothers and their children walk these parks every day and walk along Almond St. An alternative that encroaches into our community will create expose families and children to more vehicle exhaust which causes **respiratory problems, lung disease and/or lung cancer**. The closer the freeway is closer to our community, the more exposed to vehicle exhaust and harmful toxics. 2

3. Funding is only available for Alternative 1.
Alternatives 2 and 3 have a funding gap which will require OCTA to issue bonds and take more of the County's tax dollars. The community and residents do not favor this irresponsible tax-waste scenario.

4-Both alternatives 2 and 3 are proposing 10 lanes in each direction in Orange County .These lanes configuration that is being proposed by OCTA makes no sense. This creates a classic bottleneck scenario considering the fact that the I-405 in Los Angeles County contains only 6 lanes 3

5.-The MTA Los Angeles and Caltrans do not have the capital funds to widen the I-405 freeway in Los Angeles County and will not have it until at least 50 years.

Sincerely,

PC-B31

I-405 Improvement Project
Public Hearing

Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Lane Bongiorno	
Organization:	
Address(Optional):	
Phone Number: 562 296 5343	Email address:

Comments: Yes, this would be great to aliviate traffic — 1

(Space for comments continued on reverse)

PC-B32

I-405 Improvement Project
Public Hearing

Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Carolyn Borg	
Organization:	
Address (Optional): 3601 Bluebell St. Seal Beach 90740	
Phone Number: (562) 430-0793	Email address: carolynsborg@gmail.com

Comments: I am totally opposed to moving the Almond Ave. Sound Wall at all! This proposal will impact the CPENA neighborhood and homeowners that are close to the 405! It is already very noisy by the 405 - if you move the sound wall it will only get worse! This will greatly reduce our quality of life in my neighborhood! — 1

(Space for comments continued on reverse)

PC-B33

From: Born, Andrew V [andrew.v.born@boeing.com]
Sent: Thursday, July 12, 2012 4:18 PM
To: Parsons, 405.dedcomments
Subject: For I-405 Improvement Project, please implement Build Alternative 2: Add Two General Purpose Lanes in Each Direction

1. Please Build Alternative 2: Add Two General Purpose Lanes in Each Direction Alternative 2 would add one general purpose freeway lane in each direction on I-405 from Euclid Street to the I-605 interchange (as in Alternative 1), plus add a second general purpose lane in the northbound direction from Brookhurst Street to the SR-22/7th Street interchange and a second general purpose lane in the southbound direction from the Seal Beach Boulevard on-ramp to Brookhurst Street. } 1

2. Please ensure that users of carpool lane on I-405 can easily access the Seal Beach offramp Don't' force us to change too many lanes in too short a time, or force us to exist carpool lane too many miles before our exit). I live on Seal Beach Blvd, so please match safety with performance. } 2

3. Please use carpool lane striping similar to SR-22 Allow vehicles to enter/exit whenever it's safe, not forcing them to exit/enter when it's legal but possibly only semi-safe. Give drivers the choice when they can enter/exit. } 3

PC-B34

From: Barney Brady [barneybrady36@aol.com]
Sent: Tuesday, June 19, 2012 9:12 AM
To: Parsons, 405.dedcomments
Subject: Leave our Wall Alone

Caltrans,

Leave our wall alone. Come up with another solution. This one is not acceptable. } 1

Barney Brady
College Park East

PC-B35

From: Karen At All Inclusive Getaways [karen@all-inclusives.com]
Sent: Tuesday, July 17, 2012 9:40 AM
To: Parsons, 405.dedcomments
Subject: I-405 project

I 405 project...

I use this portion of the freeway under consideration all the time...here would be my vote..

- Alternative 2: Adds one general purpose freeway lane in each direction on I-405 from Euclid Street to the I-605 interchange, and adds a second general purpose lane in the northbound direction from Brookhurst Street to the SR-22/7th Street interchange and a second general purpose lane in the southbound direction from the Seal Beach Boulevard on-ramp to Brookhurst Street } 1

Thank you,
Karen D. Branton
Commuter
949-582-2230

PC-B36

From: Briggs, Michelle L [michelle.briggs@va.gov]
Sent: Friday, July 20, 2012 11:40 AM
To: Parsons, 405.dedcomments
Subject: Property damage from freeway construction

To Whom it may concern,
Since this 405 freeway construction & now that the pile drive is located almost directly behind my house , I now have noticed a new crack on the wall in my kitchen running from the floor to the window. Who is responsible for fixing this? The dishes rattle constantly on my walls during this construction & at night we have had the constant noise of trucks doing their construction. Not to mention the increase dirt & dust that now is on our property. The dog constantly barks at night due to the noise & the backup beeping of the trucks. It really is all too much! Who can I file a complaint to fix the crack, ect. } 1
Thank you
Michelle Rogachenko Briggs
address in 12581 Martha Ann Dr.

PC-B37

From: Lisa Broder [lisabroder.realestate@gmail.com]
Sent: Monday, July 16, 2012 8:32 AM
To: Parsons, 405.dedcomments
Subject: EIS for Proposted 405 Freeway Expansion

Please do the research prior to moving forward with the expansion to ensure our homes and neighborhood are not negatively affected. This is where we live, work and play. We do not want to sacrifice air quality for freeway expansion. } 1
Thank you,
Lisa Broder

--
Lisa Broder
ReMax Real Estate Specialists
562 900-4444 cell
562 598-3149 direct
DRE #00917329

PC-B38

From: Ron Broder [ronbroder.re@gmail.com]
Sent: Monday, July 16, 2012 8:56 AM
To: Parsons, 405.dedcomments
Subject: Freeway Expansion

How could the EIR for the 405 North not address the fact that Hopkinson School, a very highly regarded elementary school in Rossmoor is located right next to where the new freeway narrows to 2 fewer lanes??? } 1

The configuration of Rossmoor has the 405 literally wrapping around the southern tip of the community, exposing residents to one of the greatest impacts anywhere in the project. And yet, Rossmoor was only superficially analyzed in the air quality supplemental. } 2

It seems clear that the makers of this report deliberately disregarded the impact that this would have on the children in this community in a effort to run this expansion through. This is literally a killer to the Rossmoor community. Rather than losing two lanes at the county interface, we would like OCTA to consider squeezing down capacity miles from the county line. If and when Los Angeles County increases the capacity of the 405 in Long Beach, then the additional lanes of traffic could be opened at the county line. } 3

Ron Broder
ronbroder.re@gmail.com

PC-B39

405.dedcomments.parsons@parsons.com 405.dedcomments.parsons@parsons.com

Hi, I am a new resident in College Park East, Seal Beach. My home is three houses up from the wall on Almond Ave. I have read about the issues and I am not sure that that meetings and discussions with residents by Cities not united will change the outcome. I would not be surprised to see the project go forward regardless of the objections of Seal Beach or its residents. With that being said I believe the emphasis should be on building a proper sound wall. From what I have read every 1meter increase in height could lead to a additional 3db reduction in noise...so I say lets make sure they build a 25ft wall to replace the current wall. } 1
Also I have read that installing sound absorption panels can reduce the noise up to an addition 3 to 6db. So I say lets make sure they install sound absorbing panels on our wall. As an experiment I climbed up a ladder in my backyard and the higher I got the louder it got, I can not imagine what it would sound like if I had a two story home and opened a window on the upper floor! We may not be able to stop progress and maybe we should not. Especially seeing how this state needs economic expansion to get out of our economic woes. So how do we insure we get a proper wall? That is the question for me? Do you know if this has been previously answered? } 2

Best Regards
Bob Bromen
College Park East
Seal Beach

PC-B40

From: Erik and Susy Brommers [mailto:erikandsusyb@yahoo.com]
Sent: Saturday, July 21, 2012 9:49 AM
To: john.moorlach@ocgov.com; Audra.Adams@ocgov.com; PatBates@ocgov.com; Bill.Campbell@ocgov.com; Janet.Nguyen@ocgov.com; Wendy Knowles
Subject: Proposed 405 freeway widening

Dear representatives and officials,

As a homeowner in north Costa Mesa, I strongly oppose the addition of a tollway on the 405 freeway. This would negatively impact the quality of life that we now enjoy in Costa Mesa. Please vote against alternative 3. Remember us, the people you represent, and we will remember you at the time of reelection. } 1

Thank you,

Susana Brommers
1218 Dorset Ln
Costa Mesa, CA 92626

PC-B41

I-405 Improvement Project
Public Hearing

Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

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- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Ronald E. Brown	
Organization:	
Address(Optional):	
Phone Number: (714) 901-4080	Email address: kingjual dv1134@yahoo.com

Comments: We need to fix to the flow of traffic (too many people on the road, and I got get to work

Thank you

1

(Space for comments continued on reverse)

PC-B42

Mike Buhbe
412 Central Way
Seal Beach, California 90740

July 10, 2012

Dear Ms. Smita Deshpande,

I actively campaign in Seal Beach on local issues, and I know my neighbors in College Park East will suffer under current CalTrans plans for widening the 405 Freeway.

The CalTrans expansion plans should be revised as follows.

(1) End the 405 improvement at Valley View Street

(2) If alternatives 2 or 3 or chosen, end one or two lanes at Valley View

(3) Rubberized asphalt between Valley View and the the Los Angeles County line should be installed to reduce traffic noise in Seal Beach

(4) Align the center line movement on the 405 with a 4 foot shoulder; the Almond Avenue sound wall will not need to be moved into the College Park East housing area.

1

Thank you for your attention to this important issue in Seal Beach.

I trust you will make a decision to make the lives of my Seal Beach neighbors less stressed by this freeway expansion.

Sincerely,

Michael Buhbe

PC-B43

From: Keith Burgoyne [kburgoyne@socal.rr.com]
Sent: Sunday, July 15, 2012 10:28 AM
To: Parsons, 405.dedcomments
Cc: dlcarey2@verizon.net
Subject: 405 Options

Dear OCTA,

Thank you for your hard work on the I405 expansion project.

It must be recognized that California motorists already fund freeway maintenance and expansion through gas taxes or Measure M sales tax funding. These are funding sources that are either tied to usage or allocated across the population as a whole. Therefore the benefits from the funding must either be provided to those who have paid through a gas tax, or across the population as a whole. 1

Using either funding to create or even subsidize "toll lanes" is essentially unethical. In particular the concept of tolls lanes that automatically rate adjust to demand operate on a "highest bidder" concept. This produces allocating to the advantage of wealthier individuals and to the disadvantage of less wealthy individuals, with failure to recognize less wealthier individuals helped subsidized the lanes through gas and sales taxes. Indeed, the expense of the gas and sales taxes might be just sufficient to prevent a subset of individuals from being able to afford the tolls. 2

There is no way to analyze the funding sources that does reflect how gas tax funding and Measure M tax funding is not benefitting , and therefore subsidizing, the potential creation of toll lanes. Indeed, it is to be recognized that Measure M funding has ALREADY been used to subsidize "highest bidder" toll lanes simply by it having funded the research and analysis of them as an option.

Spending the general populace's money on projects which will only benefit the wealthy and not the general population is unethical and must be opposed. Therefore "I405 Build Alternative 3: Express Facility Alternative" must be opposed on ethical grounds. "I405 Build Alternative 1: Add One General Purpose Lane in Each Direction" and "I405 Build Alternative 2: Add Two General Purpose Lanes in Each Direction" are the other ethical options to be considered. 3

Let us please, as a society, make sure we are pursuing ethical outcomes.

Thank you,
Keith Burgoyne
5702 Meinhardt Road
Westminster, CA 92683
714.805.7726

cc: Diana Lee Carey
Traffic Commissioner
I-405 AdHoc Committee Chairman
City of Westminster

PC-B44

From: carol burke [cbcostamesa@aol.com]
Sent: Monday, July 16, 2012 8:08 AM
To: Parsons, 405.dedcomments
Subject: "NO" on 405 building

Since I do not see any of your suggestions as an improvement to the freeway system, I do not support your "visions" for improvement. Continuing to support this over-use car culture by trying to provide these non - improvement toll roads or what not, will not create what is really needed... High speed trains! 1
carol
cbcostamesa@aol.com

PC-B45

JULY 15,2012

Dear Ms. Smita Deshpande

Caltrans District 12

Re: 405 DEIR/DEIS

I am writing you concerning the sound wall along Almond Ave. in College Park East.

We all know that there is a traffic problem on the 405 Freeway on the other side of the sound wall and many studies have been done to resolve that issue. Our small portion of our area will not solve that issue by bringing the wall closer into our neighborhood. That debate can go on forever. My family and I have lived in this track from 1994 to present. The increase of noise, road dust (worse air quality) and increase health risk to this community is a major concern. By bringing the wall closer into the track we also put at Risk the Kids playing , joggers and walkers along Almond Ave and Almond Park. 1

We know the State has many Freeway projects underway. We also know that a Billion and a half dollars spent in addition to the States lack of Monies could be better spent on a project not taxing our future sales and property tax. 2

I am not a Cal Trans project planer, but spend a lot of time driving on our freeways. I understand traffic flow and gridlock. I see it every day. The additional demo and rebuild will have a huge impact on the freeway between Valley View and Seal Beach Blvd. I am sure there are other alternatives like ending the new lanes at Valley View , Only one lane to flow into the county line vs 2, under the present tear up that is going on. 3

Thank you for your time,

Michael J. Burton

3590 Rose Cr.

Seal Beach, Ca 90740

323-974-9646 cell

PC-B46

From: MichaelJBurton1@aol.com
Sent: Tuesday, July 17, 2012 9:32 AM
To: Parsons, 405.dedcomments
Subject: 405 DEIR/DEIS- KEEP THE EXISTING SOUNDWALL ALOING ALMOND AVE.

Dear Ms Smita Deshpande,

Caltrans District 12
Subject : 405 DEIR/DEIS

Please keep the existing sound wall along the Almond Avenue in College Park East because:

1. You have a good intention to try to resolve the traffic problem on the 405 freeway BUT moving the wall closer will surely increase smog , noise , worse air quality/ health risks to ALL nearby residents.
2. Impacts on the safety for kids, runners, bikers, dog walkers etc
3. County will save a lot of money to leave the wall alone since it doesn't have to relocate all the lines that provide powers, telephone and cable to the neighborhood
4. There still will be a bottle neck at the 605 because LA county will not expand the 405 on their side of the county line
5. There is a risk of the project completion: The OC county doesn't have budget allocated for the total project but depends on the future sale tax and property tax. 1

Suggestions:

- End the 405 Improvement Project at Valley View Street and use the existing seven lanes of 405 between Valley View Street and the LA County line in any manner desired for the optimum traffic flow.
- If either Alternatives 2 or 3 are chosen, end either one or both of the new lanes at Valley View so that they only have to take away one or no lanes at the county line instead of 2 lanes.

- Use rubberized asphalt on the 405 between Valley View and the LA County line to minimize noise
  - With a center line movement, a 4 foot inside shoulder and 405 realignment, the Almond Avenue sound wall will not need to be moved into SB College Park East.
  - A 4 foot inside shoulder on the south side of the freeway is acceptable, why not on the north side of the freeway? The soundwall would not need to be moved. 2

Thank you for your concerns,

Michael Burton
3590 Rose Cir
Seal Beach, CA 90740
Cell (323) 974-9646

PC-B47

From: Bil [bajabil@verizon.net]
Sent: Tuesday, July 17, 2012 10:30 AM
To: Parsons, 405.dedcomments
Subject: I 405 fwy widening options

Parsons;

We live in Huntington Beach and often use the Seal Beach Blvd on/off ramps to/from Northbound I405 and we are very much against any option that closes off Seal Beach Blvd access to or from the I405. **1**

Sincerely,
William Butts
Suzanne Butts
Huntington Beach, CA

RESPONSE TO PUBLIC COMMENTS (PC)-B

Response to Comment Letter PC-B1

Comment PC-B1-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

With respect to a potential bottleneck at the Los Angeles county line, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

The highest traffic noise level from a freeway occurs when traffic is at full capacity but flowing at the posted speed. Noise levels are reduced substantially when traffic is at stop-and-go conditions. Future traffic noise levels are predicted for the free-flowing conditions, and soundwalls are recommended to provide noise abatement for the highest possible traffic noise that can be produced by the freeway. Please see Common Response – Noise/Noise Analysis.

MSATs have the greatest potential to affect the health of residents located adjacent to the project. MSAT emissions are likely lower than existing levels in the design year as a result of EPA's and California's control programs that are projected to further reduce MSAT emissions. Please see Common Response – Health Risks.

Comment PC-B1-2

Only one lane change will be required under any of the build alternatives between the Seal Beach Boulevard entrance to northbound I-405 and the SR-22 westbound exit to avoid exiting the freeway at SR-22 westbound.

Comment PC-B1-3

The Draft EIR/EIS identified that only Alternatives 2 and 3 would require moving the walls to accommodate the additional lanes being added on I-405. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Comment PC-B1-4

Renewed Measure M funds would not be used for the Express Lanes in Alternative 3. The Express Lanes would be available free of charge to HOVs meeting the occupancy requirement.

We appreciate the concern expressed in the comment regarding limited access to the Express Lanes. Please see Common Responses – Opposition to Tolling and Measure M Funding.

Comment PC-B1-5

Dropping the additional GP lane in Alternatives 1 and 3 upstream of I-605 (at Valley View Street as suggested in the comment) would create a chokepoint at the drop location, because there would be no roadway to receive the lane's traffic. Carrying that lane to I-605 and providing a full two-lane exit at the beginning of I-605 provides a location for ending the lane that has the capacity to receive the lane's traffic. Consideration was given to dropping the second additional lane included in Alternative 2 just south of SR-22, but this was rejected due to the level of congestion such a bottleneck would create. Carrying the second lane to the SR-22 West exit ramp provides a location for ending the lane that has the capacity to receive the lane's traffic.

Widening I-405 between I-405/SR-22 and I-405/I-605 is required to transition the direct connector from SR-22 to I-605 appropriately. In addition, the additional GP lanes proposed for this project will need to transition into the existing cross section of I-405.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Response to Comment Letter PC-B2

Comment PC-B2-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Comment PC-B2-2

Impacts to the bus system are positive. Improvements along arterial streets in the vicinity of I-405 that are part of all of the build alternatives will improve traffic service on arterials used by buses. Bike and pedestrian facilities are improved by the build alternatives compared to the No Build Alternative and are summarized in the Draft EIR/EIS on page 3.1.6-103. The TMP required during design of the project will address detours, including public transit bus detours.

Comment PC-B2-3

Excess toll revenues (i.e., net revenues after all operating, capital, debt service, and other expenditures) from the Express Lanes in Alternative 3 would be available for OCTA to expend

on transportation improvements in the I-405 corridor consistent with provisions of the California Streets and Highways Code Section 143 (j)(1). If Alternative 3 becomes the Preferred Alternative, the OCTA Board would adopt a policy regarding the use of net revenues.

Response to Comment Letter PC-B3

Comment PC-B3-1

Caltrans and OCTA thank you for your participation in the I-405 Improvement Project environmental process. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. If you provided an address with your comment or are on the project mailing list, you will be notified when the Final EIR/EIS is available for review.

Please see Response to Comments PC-B2-2 and PC-B2-3.

Response to Comment Letter PC-B4

Comment PC-B4-1

Caltrans and OCTA thank you for your participation in the I-405 Improvement Project environmental process. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. If you provided an address with your comment or are on the project mailing list, you will be notified when the Final EIR/EIS is available for review.

Response to Comment Letter PC-B5

Comment PC-B5-1

Caltrans and OCTA thank you for your participation in the I-405 Improvement Project environmental process. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. If you provided an address with your comment or are on the project mailing list, you will be notified when the Final EIR/EIS is available for review.

Response to Comment Letter PC-B6

Comment PC-B6-1

Caltrans and OCTA thank you for your participation in the I-405 Improvement Project environmental process. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. If you provided an address with your comment or are on the project mailing list, you will be notified when the Final EIR/EIS is available for review.

Minimization, avoidance, and/or mitigation of air quality and noise effects is a top priority. The Final EIR/EIS incorporates measures to minimize air quality and noise effects, as described in Measures AQ-1 through AQ-14 and NOI-1 through NOI-4, respectively.

Comment PC-B6-2

Caltrans and OCTA acknowledge the regional significance and high usage of the Santa Ana River Trail. Construction of any of the build alternatives would include a new permanent aerial easement for the new Euclid Street southbound I-405 on-ramp from Ellis Avenue that would cross over the Santa Ana River Trail. This permanent aerial easement would not affect the function, value, and attributes of the Santa Ana River Trail. Coordination with the County of Orange has been initiated during the Draft EIR/EIS, and a letter was sent to the County of Orange notifying them about the anticipated reduction in access for the trail system during construction; however, the trail would be accessible from at least one riverbank at all times during construction, as described in Measure LU-6 in Section 3.1.4. To date, the County has not responded to the letter and did not comment on the Draft EIR/EIS. It should be noted that the restricted access could be up to 1-year, but it would be reopened as soon as feasible to restore access to both sides. Subsequent to construction, the new on-ramp would continue to allow recreational use of the trail on both riverbanks and would not reduce the width of, or access to, the trails. The new southbound on-ramp would add approximately 2,000 square ft of overhead concrete to the existing trail.

Prior to any closure of the trail, the bike/pedestrian detour will be signed, and any improvements to enhance detoured pedestrian/biker safety will be incorporated into the TMP, as described in Section 3.1.6. As described in Measure T-1, a Final TMP will be prepared prior to project construction that identifies methods to avoid and minimize construction-related traffic and circulation effects and minimize impacts to pedestrian and bicycle access, including ADA-compliant features, as a result of the proposed project.

Because one riverbank is expected to be open at all times if either side must be fully closed, no rerouting of users is anticipated except across bridges over the river at either end of the closure.

Response to Comment Letter PC-B7

Comment PC-B7-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

The Draft EIR/EIS identified that only Alternatives 2 and 3 would require moving the walls to accommodate the additional lanes being added on I-405. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common

Responses – Almond Avenue Soundwall, Traffic Flow at the Orange County/Los Angeles County Line, Noise/Noise Analysis, Air Quality, Health Risks, and Property Values.

Response to Comment Letter PC-B8

Comment PC-B8-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Common Responses – Preferred Alternative Identification and Measure M Funding.

Respuesta a la Carta De Comentario PC-B9

Commentario PC-B9-1

Las agencias de Caltrans y Orange County Transportation Authroity les gustaría agradecerle por haber participado en el proceso ambiental para el proyecto de ampliación de la autopista de San Diego (I-405). Su comentario fue considerado durante el proceso de selección de la "Alternative Preferida", como esta escrito en el reporte llamando en ingles "I-405 Improvement Project Final EIR/EIS." Se le notificará en la dirección proveida en su Cometario cuando el reporte "Final EIR/EIS" va a estar disponible para revisarlo.

Response to Comment Letter Translation PC-B9

Comment PC-B9-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Respuesta a la Carta De Comentario PC-B10

Commentario PC-B10-1

Las agencias de Caltrans y Orange County Transportation Authroity les gustaría agradecerle por haber participado en el proceso ambiental para el proyecto de ampliación de la autopista de San Diego (I-405). Su comentario fue considerado durante el proceso de selección de la "Alternative Preferida", como esta escrito en el reporte llamando en ingles "I-405 Improvement Project Final EIR/EIS." Se le notificará en la dirección proveida en su Cometario cuando el reporte "Final EIR/EIS" va a estar disponible para revisarlo.

Response to Comment Letter Translation PC-B10

Comment PC-B10-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-B11

Comment PC-B11-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Respuesta a la Carta De Comentario PC-B12

Commentario PC-B12-1

Las agencias de Caltrans y Orange County Transportation Authroity les gustaría agradecerle por haber participado en el proceso ambiental para el proyecto de ampliación de la autopista de San Diego (I-405). Su comentario fue considerado durante el proceso de selección de la “Alternative Preferida”, como esta escrito en el reporte llamando en ingles “I-405 Improvement Project Final EIR/EIS.” Se le notificará en la dirección proveida en su Cometario cuando el reporte “Final EIR/EIS” va a estar disponible para revisarlo.

Response to Comment Letter Translation PC-B12

Comment PC-B12-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-B13

Comment PC-B13-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-B14

Comment PC-B14-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-B15

Comment PC-B15-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

The planning and design phases for large transportation projects take many years. The WCC Project will not be completed until 2015. Waiting until then would push construction of the I-405 Improvement Project from 2015 to approximately 2020, resulting in the traffic conditions within the corridor described for the 2020 No Build Alternative. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-B16

Comment PC-B16-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-B17

Comment PC-B17-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-B18

Comment PC-B18-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-B19

Comment PC-B19-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-B20

Comment PC-B20-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternative 3 would require replacement of the Fairview Road Overcrossing. Caltrans/OCTA have considered design options to avoid replacement of the Fairview Road Overcrossing under Alternative 3. Please see Common Response – Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes.

All reasonable and feasible soundwalls will be constructed, as described in the Final EIR/EIS and final Noise Abatement Decision Report, to abate traffic noise. Construction mitigation measures NOI-1 through NOI-4 have been identified to minimize construction noise impacts. Air quality Measures AQ-1 through AQ-14, described in Section 3.2.6, will avoid and/or minimize construction-related air quality effects. As described in Section 3.2.6, emissions will be reduced under all of the build alternatives compared to the future No Build Alternative, and no permanent adverse project-related air quality effects were identified. Please see Common Responses – Air Quality, Health Risks, and Noise/Noise Analysis.

As discussed in Section 3.1.7.3, there would be changes to the visual quality and/or character associated with vegetation removal, construction activities, and the introduction of new and modified permanent structures. For the build alternatives, removal of the eucalyptus trees and other vegetation within the interchange areas would likely have the greatest impact on visual quality; however, this effect would remain until trees grow back to existing conditions. Other elements, such as replacement structures, new retaining walls, and soundwalls, would be a permanent change to the elements within the existing viewsheds along the corridor, including some areas where visual impacts were determined to be Moderately High, as described for Viewpoints 17A and 17B. With the implementation of Mitigation Measures VIS-1 to VIS-21, the potential adverse effects of the build alternatives on the visual character and quality of the project surroundings would be minimized.

As described in Section 3.1.4 of the Draft EIR/EIS, temporary long-term closures would represent a temporary inconvenience to residents, businesses, and business patrons within the project area, and detours would result in minimal increased travel time and distances. All temporary long-term closures are supported by adequate detours using the local arterial street network. Access to all businesses will be maintained during construction of the project, and all are accessible from alternate freeway off-ramps and by utilizing local streets. Based on the short-term and temporary nature of the closures (i.e., 10 to 30 days) and minimal increased detour travel times and distances (i.e., 0.75- to 1.75 miles and 1.5 to 5.5 minutes), the closures would not result in either a substantial economic effect on businesses or substantial delays or travels cost for residents or business patrons. Please see Common Response – Preferred Alternative Identification.

Under Alternatives 1 and 2, the interchange ramps at Harbor Boulevard, Fairview Road, and South Coast Drive are not expected to require long-term closures. Alternative 3 would require long-term closure of the following interchange ramps in Costa Mesa:

- South Coast Drive northbound off-ramp
- Fairview Road northbound off-ramp
- Fairview Road northbound on-ramp
- Fairview Road southbound off-ramp
- Harbor Boulevard northbound loop on-ramp
- Harbor Boulevard southbound on-ramp

However, a design option for Alternative 3 has been developed that would eliminate new lanes south of Euclid Street, except for extension of the southbound auxiliary lane approaching the Harbor Boulevard exit ramp north to Euclid Street. Please see Common Response – Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes.

If this design option is adopted and Alternative 3 is identified as the Preferred Alternative, the interchange ramps at Harbor Boulevard, Fairview Road, and South Coast Drive are not expected to require long-term closures, consistent with Alternatives 1 and 2.

Response to Comment Letter PC-B21

Comment PC-B21-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. See Common Responses – Preferred Alternative Identification and Measure M Funding.

Comment PC-B21-2

Only Alternative 3 would require replacement of the Fairview Road Overcrossing. Caltrans/OCTA have considered design options to avoid replacement of the Fairview Road Overcrossing under Alternative 3.

Please see Common Responses – Opposition to Tolling, Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes, and Preferred Alternative Identification.

Response to Comment Letter PC-B22

Comment PC-B22-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

With respect to a potential bottleneck at the Los Angeles county line, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Comment PC-B22-2

Alternatives 2 and 3 provide additional transportation benefits compared to Alternative 1. The benefits to congestion of all of the build alternatives are summarized in the Draft EIR/EIS in Tables 3.1.6-4 through 3.1.6-8 and 3.1.6-12 through 3.1.6-14.

Comment PC-B22-3

Please see Common Responses – Opposition to Toll Lanes and Measure M Funding.

Comment PC-B22-4

Constructing a transit guideway over I-405 was considered early during the MIS phase of the project and was dropped from further consideration. Furthermore, the proposed alternatives have minimized ROW impacts along the corridor that allow for a more cost-effective project.

Response to Comment Letter PC-B23

Comment PC-B23-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Almond Avenue Soundwall.

Comment PC-B23-2

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Comment PC-B23-3

Please see Common Responses – Preferred Alternative Identification; Almond Avenue Soundwall; Measure M Funding; Coordination between Caltrans Districts 7 and 12, OCTA, Los Angeles Metro, COG, and the City of Long Beach; and Traffic Flow at the Orange County/Los Angeles County Line. With respect to Renewed Measure M and tolling, please see Common Response – Opposition to Tolling.

Comment PC-B23-4

With respect to a potential bottleneck at the Los Angeles county line, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Comment PC-B23-5

Please see Common Response – Measure M Funding.

Response to Comment Letter PC-B24

Comment PC-B24-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in

your comment when the Final EIR/EIS is available for review. Please see Common Response – Opposition to Tolling.

Comment PC-B24-2

We acknowledge the opposition to the tolled Express Lanes. The proposed Express Lanes in Alternative 3 would be paid for with the tolls. Not only do the Express Lanes allow their users to enjoy reliable high speed for a price, but it results in more traffic being served by the entire freeway, as shown in the Draft EIR/EIS in Table 3.1.6-14. Please also see Common Response – Opposition to Tolling.

Comment PC-B24-3

The analysis of speeds in the Express Lanes of Alternative 3 at the transition areas are summarized in the Draft EIR/EIS on page 3.1.6-98. The analysis shows that there is some speed reduction at the Magnolia Street/Warner Avenue intermediate access area, but the other areas are anticipated to have uncongested high-speed operation.

Comment PC-B24-4

Please see Common Responses – Preferred Alternative Identification and Measure M Funding.

Comment PC-B24-5

Soundwalls are recommended in accordance to Caltrans' Traffic Noise Analysis Protocol, which specifies that soundwalls must reduce traffic noise levels by at least 5 dB at the impacted frequent outdoor use areas. The Noise Study Report identifies heights and lengths required to provide the feasible abatement of 5 dB. Commercial areas that are not specified to be noise sensitive are usually not included behind soundwalls unless they are in close proximity to residential areas. Gaps in the soundwalls and lower soundwall heights for commercial areas are considered where it is not detrimental to the goal of providing feasible traffic noise abatement to residential areas. In accordance to the Caltrans design guidelines, the maximum soundwall height should not exceed 16 ft due to seismic issues. Please see Common Response – Noise/Noise Analysis.

Comment PC-B24-6

The speed and throughput values shown in the Draft EIR/EIS in Tables 3.1.6-6 and 3.1.6-14 are accurate. Slow-moving congested freeway lanes have lower and unstable throughput compared to uncongested lanes. During peak periods, the GP lanes on I-405 are forecast to be heavily congested with lower throughput (i.e., approximately 1,200 vehicles per lane per hour) than the Express Lanes, whose throughput will be managed to approximately 1,700 vehicles per lane per hour. For an explanation of how this management works, see the Draft EIR/EIS, page 2-20.

Response to Comment Letter PC-B25

Comment PC-B25-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Comment PC-B25-2

The SR-91 Express Lanes do not eliminate congestion in the GP lanes, but they are highly successful, very efficient, and provide the option of less congestion and trip reliability to motorists willing to pay a toll. The tolls are set at the rates necessary to maintain high-speed operations. For an explanation of how this management works, see the Draft EIR/EIS, page 2-20. The same methods were used for all of the build alternatives. For additional information, please see Common Response – Opposition to Tolling.

Comment PC-B25-3

Soundwalls are most effective for areas that are adjacent to the wall. In most cases, the frequent outdoor use areas of the first row of residences along the freeway will receive the most benefit from a soundwall. The original study for this particular soundwall could not be located; however, results of a detailed computer analysis indicated that the existing soundwall in this area should have provided a 1- to 2-dB reduction in traffic noise levels at the front yards of the second-row residences along Vermont Street. Because the average human ear can barely perceive noise level changes of 3 dB, the decrease in noise levels may not have been instantly noticeable.

A possible reason for the perceptible increase in noise levels may be due to the change in the characteristics of the traffic noise due to construction of the soundwall. The constructed soundwall has been effective in eliminating a noticeable portion of the tire/pavement and car engine noise levels, which are typically perceived as a constant noise due to the enduring flow of traffic of a busy freeway such as I-405. Eliminating or reducing the constant noise would make truck pass-by noise levels more prominent and noticeable. Although installing the soundwall does reduce the overall traffic noise, it may result in a more annoying noise exposure to some individuals. Please see Common Response – Noise/Noise Analysis.

The EIR/EIS discloses the potential for impacts from MSATs to the extent that current scientific information allows. Sensitive receptors are identified, and a qualitative assessment of impacts to the sensitive receptors was performed. Please see Common Response – Health Risks.

Comment PC-B25-4

Each of the proposed soundwalls will go through a voting process that will involve the residences that benefitted by the soundwall. It is during this period where Caltrans will discuss the specifics of the soundwall and projected outcome with the communities when it is deemed necessary. Please also see Common Response – Noise/Noise Analysis.

Response to Comment Letter PC-B26

Comment PC-B26-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

The article referenced in the comment refers to toll roads located in southern Orange County, on which all motorists pay a toll. The tolled Express Lanes proposed in Alternative 3 are only two lanes of I-405 in each direction. The remainder of the lanes on I-405 remains free. For additional information, please see Common Response – Opposition to Tolling.

Response to Comment Letter PC-B27

Comment PC-B27-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

The SR-91 Express Lanes do not eliminate congestion in the GP lanes, but they are highly successful, very efficient, and provide the option of less congestion and trip reliability to motorists willing to pay a toll. With respect to the issue of double taxation and other topics, please see Common Response – Opposition to Tolling.

Comment PC-B27-2

None of the proposed build alternatives are anticipated to eliminate congestion on I-405. The Express Lanes provide an option to that congestion to motorists willing to pay a toll in exchange for a reliable trip time. The Express Lanes would be managed to maintain that reliable trip time regardless of the extent of congestion on the GP lanes. For an explanation of how this management works, see the Draft EIR/EIS, page 2-20.

Comment PC-B27-3

Please see Common Response – Measure M Funding.

Comment PC-B27-4

The project does not include concessions or subsidy programs for low-income or other disadvantaged individuals for use of the tolled Express Lane facility. No one is required to use the tolled Express Lane facility, and the GP lanes remain available for all users unwilling or unable to pay the toll for the Express Lane facility. Please see Common Response – Opposition to Tolling.

Comment PC-B27-5

We appreciate the comments regarding limiting the number of times work is performed on the same stretch of highway. All of the proposed build alternatives are justified in terms of traffic needs, and none are anticipated to eliminate congestion on I-405.

Comment PC-B27-6

We appreciate the comments regarding Alternative 1.

Comment PC-B27-7

The build alternatives would all require full acquisition of the properties where Sports Authority, Days Inn, and Fountain Valley Skating Center are located, along with partial acquisition of the property where Boomers is located, on the south side of I-405 between Magnolia Street and Warner Avenue, as discussed in Section 3.1.4.2.3 of the Draft EIR/EIS. OCTA and Caltrans have developed design options for all of the alternatives that would remove the braided ramps between Warner Avenue and Magnolia Street on the north and/or south sides of I-405. If the design option for removal of the ramps on the south side of I-405 is incorporated into the Preferred Alternative, no acquisition or relocation of any of these properties would be required. Please see Common Response – Impacts to Businesses.

Comment PC-B27-8

With respect to a potential bottleneck at the Los Angeles county line, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Response to Comment Letter PC-B28

Comment PC-B28-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in

your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-B29

Comment PC-B29-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Responses – Almond Avenue Soundwall, Health Risks, and Opposition to Tolling.

Response to Comment Letter PC-B30

Comment PC-B30-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Comment PC-B30-2

Please see Response to Comment PC-B30-1.

Comment PC-B30-3

OCTA would fund all of the proposed build alternatives with bonding. Revenue anticipation bonds would be issued against the Measure M Extension future sales tax revenue for any of the build alternatives. The source of funding for the incremental cost difference between Alternative 3 and Alternative 1 would be from revenue anticipation bonds to be issued against future toll revenues for the Express Lanes in Alternative 3. The source of funding for the incremental cost difference between Alternative 2 and Alternative 1 has not been determined. The Final EIR/EIS

contains information regarding full funding of the Preferred Alternative in Table 1-10. Please also see Common Response – Measure M Funding.

Alternative 2 includes 10 lanes in each direction west of the SR-22 confluence near Valley View Street, whereas Alternatives 1 and 3 both include 9 lanes in each direction. In the northbound direction under Alternative 2, 2 lanes would continue onto SR-22/7th Street westbound, and 3 lanes (2 GP lanes and 1 HOV lane) would continue onto I-605 northbound, leaving 5 lanes (4 GP and 1 HOV) to continue north into Los Angeles County and exactly matching the existing 5 lanes in Los Angeles County. In the northbound direction under Alternatives 1 and 3, 1 lane would continue onto SR-22/7th Street westbound, and 3 lanes (2 GP lanes and 1 HOV or Express Lane) would continue onto I-605 northbound, leaving 5 lanes (4 GP and 1 HOV) to continue north into Los Angeles County and exactly matching the existing 5 lanes in Los Angeles County. Proposed southbound lane configurations are similar but not exactly the same as those described for the northbound direction. With respect to a potential bottleneck at the Los Angeles county line, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Response to Comment Letter PC-B31

Comment PC-B31-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-B32

Comment PC-B32-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Response to Comment Letter PC-B33

Comment PC-B33-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Comment PC-B33-2

Alternatives 1 and 2 would provide continuous access to the HOV lanes; carpoolers would be able to enter and exit the HOV lanes at any point. The Express Lanes in Alternative 3 would have limited access.

Comment PC-B33-3

With respect to striping of HOV lanes, please see Response to Comment PC-B33-2.

Response to Comment Letter PC-B34

Comment PC-B34-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Response to Comment Letter PC-B35

Comment PC-B35-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-B36

Comment PC-B36-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

It appears that this comment pertains to the WCC Project; therefore, please direct your comment to the OCTA Community Relations Office (550 South Main Street, Orange, CA, 714-560-5376).

Response to Comment Letter PC-B37

Comment PC-B37-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

The Draft EIR/EIS, including specialized technical studies (see Appendix F for a complete list), represents a comprehensive analysis of the potential temporary and permanent environmental effects of the proposed build alternatives on the environment.

Response to Comment Letter PC-B38

Comment PC-B38-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Hopkinson Elementary school was considered in the Draft EIR/EIS, as applicable. Hopkinson Elementary School was evaluated as a potential Section 4(f) resource and is shown in Table 2 and Figure 2 of Appendix B as it relates to Section 4(f). Hopkinson Elementary School is also shown as Number 32 in Figure 3.1.1-4 in the Draft EIR/EIS. The Draft EIR/EIS evaluated sensitive air quality receptors within 500 ft of the centerline, and no significant air quality effects on any sensitive receptor were identified. Hopkinson Elementary school is located greater than 500 ft (see Figure 3.2.6-3); therefore, no substantial project-related effects on air quality at Hopkinson Elementary School are anticipated. Additionally, the nearest representative noise receptors (i.e., R6.48, R6.49, R6.50, R6.51, and R6.52) are shown in L-26 in Appendix N5,

which are protected by 14- to 16-ft-tall soundwalls. As shown in Appendix N1 (Table G-18 page G-80), there is no change in dBA between existing and future build noise levels for the Preferred Alternative at R6.48 through R6.51. At R6.52, there is a reduction of 4 dBA between the existing and design year build (Preferred Alternative) noise level. Hopkinson Elementary school is located approximately 275 ft and two rows of houses farther east than R6.48 and R6.53. No project-related increases in noise at Hopkinson Elementary school are anticipated

Comment PC-B38-2

MSATs have the greatest potential to affect the health of residents located adjacent to the project. Although the various alternatives would place travel lanes closer to some residences, it is anticipated that MSAT exposure, including DPM, would be less than existing conditions. MSAT emissions are likely lower than existing levels in the design year as a result of EPA's and California's control programs that are projected to further reduce MSAT emissions.

The EIR/EIS discloses the potential for impacts from MSATs to the extent that current scientific information allows. Sensitive receptors are identified, and a qualitative assessment of impacts to the sensitive receptors was performed. Please see Common Responses – Air Quality and Health Risks.

Comment PC-B38-3

Dropping the additional GP lane in Alternatives 1 and 3 upstream of I-605 near Valley View Street as suggested in the comment would create a chokepoint at the drop location because there would be no roadway to receive the lane's traffic. Carrying that lane to I-605 and providing a full two-lane exit at the beginning of I-605 provides a location for ending the lane that has the capacity to receive the lane's traffic. Consideration was given to dropping the second additional lane included in Alternative 2 just south of SR-22, but this was rejected due to the level of congestion such a bottleneck would create. Carrying the second lane to the SR-22 West exit ramp provides a location for ending the lane that has the capacity to receive the lane's traffic.

Response to Comment Letter PC-B39

Comment PC-B39-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Soundwalls have a "diminishing margin of return" once the line-of-sight to major sources of traffic noise have been cut or blocked, which include, but are not limited to, tire, engine, and

truck stack exhaust noise. The insertion loss for barriers does not follow a linear trend in reducing noise levels once the line-of-sight is removed from the tallest noise source, which for traffic noise is the exhaust from truck stacks, which are approximately 12 ft from ground level. Even if the wall could be replaced with a wall taller than the original, the insertion loss would still be less than the required 5-dB insertion needed to attain acoustic feasibility according to Caltrans' Traffic Noise Analysis Protocol. In fact, adding 12 ft in height to the existing 18-ft-tall soundwall would still not lower noise levels by an additional 5 dB. Please also see Common Response – Noise/Noise Analysis.

Comment PC-B39-2

Sound absorptive panels are generally used when there are closely located parallel barriers to eliminate sound reflection. The soundwall along the southbound side of I-405 is too far away to reflect the traffic noise toward houses along the northbound side of I-405. Because the shortest and most dominant sound propagation path for the traffic lanes in this area would be over the top of the barrier, adding absorptive panels to the side of the soundwall where traffic flows would not be effective in lowering traffic noise levels for the residences along Almond Avenue. Soundwalls that are proposed to meet State and federal noise abatement requirements are discussed in Section 3.2.7 of the Final EIR/EIS. Please also see Common Response – Noise/Noise Analysis.

Response to Comment Letter PC-B40

Comment PC-B40-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Responses – Preferred Alternative Identification and Opposition to Tolling.

Response to Comment Letter PC-B41

Comment PC-B41-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-B42

Comment PC-B42-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Alternative 3 improvements extend north of Valley View Street to transition the additional lanes south of I-405/SR-22 appropriately to the Orange/Los Angeles county line. Rubberized asphalt is not proposed under this project. FHWA policy does not allow the use of pavement type or surface texture as a traffic noise abatement measure because it can lose its effectiveness over time. Presently, FHWA and several state transportation departments are conducting research to determine the longevity of the noise-reduction characteristics of rubberized asphalt.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Response to Comment Letter PC-B43

Comment PC-B43-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Measure M Funding.

Comment PC-B43-2

Please see Response to Comment PC-B43-1 and Common Response – Opposition to Tolling.

Comment PC-B43-3

Please see Responses to Comments PC-B43-1 and PC-B43-2.

Response to Comment Letter PC-B44

Comment PC-B44-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in

your comment when the Final EIR/EIS is available for review. The proposed build alternatives are all consistent with the Caltrans goal/vision to improve mobility across California.

Please also see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-B45

Comment PC-B45-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Comment PC-B45-2

Please see Common Response – Measure M Funding.

Comment PC-B45-3

Dropping the additional GP lane in Alternatives 1 and 3 upstream of I-605 near Valley View Street as suggested in the comment would create a chokepoint at the drop location because there would be no roadway to receive the lane's traffic. Carrying that lane to I-605 and providing a full two-lane exit at the beginning of I-605 provides a location for ending the lane that has the capacity to receive the lane's traffic. Consideration was given to dropping the second additional lane included in Alternative 2 just south of SR-22, but this was rejected due to the level of congestion such a bottleneck would create. Carrying the second lane to the SR-22 West exit ramp provides a location for ending the lane that has the capacity to receive the lane's traffic.

Response to Comment Letter PC-B46

Comment PC-B46-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue Soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under

Alternatives 2 and 3. Please see Common Responses – Almond Avenue Soundwall, Traffic Flow at Orange County/Los Angeles County Line, and Measure M Funding.

Comment PC-B46-2

Dropping the additional GP lane in Alternatives 1 and 3 upstream of I-605 near Valley View Street as suggested in the comment would create a chokepoint at the drop location because there would be no roadway to receive the lane's traffic. Carrying that lane to I-605 and providing a full two-lane exit at the beginning of I-605 provides a location for ending the lane that has the capacity to receive the lane's traffic. Consideration was given to dropping the second additional lane included in Alternative 2 just south of SR-22, but this was rejected due to the level of congestion such a bottleneck would create. Carrying the second lane to the SR-22 West exit ramp provides a location for ending the lane that has the capacity to receive the lane's traffic.

Rubberized asphalt is not proposed under this project. FHWA policy does not allow the use of pavement type or surface texture as a traffic noise abatement measure because it can lose its effectiveness over time. Presently, FHWA and several state transportation departments are conducting research to determine the longevity of the noise-reduction characteristics of rubberized asphalt. A 4-ft-wide shoulder and other potential nonstandard features were considered for Alternative 2 in the vicinity of the Almond Avenue soundwall. Please see Common Response – Almond Avenue Soundwall.

Response to Comment Letter PC-B47

Comment PC-B47-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please also see Common Response – Preferred Alternative Identification.

Access to Seal Beach Boulevard via the on-/off-ramps is not anticipated to be restricted during construction. Mitigation with ramp detours is part of the TMP to be finalized during the design phase.

PUBLIC COMMENTS (PC)-C

PC-C1

From: Sandy Cabello [sandy@peinsulation.com]
Sent: Tuesday, July 17, 2012 12:43 PM
To: Parsons, 405.dedcomments
Subject: COLLEGE PARK EAST RESIDENT OF SEAL BEACH COMMENTS ON 405 FREEWAY EXPANSION

To Whom It May Concern:

I would like to request the **NO BUILD** option as my first choice. I realize the need for more freeways, but what I can't understand is the widening will stop at the Los Angeles County Line. The City of Los Angeles does not have the money for further expansion of the freeway in the City of L.A. How can the expansion help? Once the cars reach the L.A County line they will have to merge into fewer lanes creating a massive parking lot that emits exhaust particles into the air. **1**

My main concern is the health ramifications from the all of the exhaust that will be emitted into the air that surrounds my home and the residents. Have studies been done to see if how all of this will directly affect the local residents? The residents of College Park East and Rossmoor have given up plenty with the numerous shops along Seal Beach Blvd. How much more are we to endure, more, and more cars for the sake of others. That's not right. **2**

I also would like to address the noise wall along Almond Ave. in Seal Beach (College Park East). Please, please, do <u>**not**</u> remove it. If it were to be removed it would create more dirt and dust for my neighborhood and expose us further. It's my understanding that a new wall would be an inferior to what we currently have and shorter in height. If my **1st choice** were to **falter**, I would choose the **3**

> *Build Alternative 1: Add One General Purpose Lane in Each Direction* as my **2nd Choice** because it would have less of an impact on the neighborhood than the other two Alternatives.

I'm a long time resident of College Park East (30 Years) who reside a couple of homes off of Almond Ave. I would directly be impacted by the expansion of the 405 freeway, please sincerely consider my request.

Sandra Cabello

PC-C2

I-405 Improvement Project
Public Hearing

Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☑ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Gerardo Calderon
Organization:
Address(Optional):
Phone Number: (323) 314-6440
Email address: gera_cldr@yahoo.com

Comments: Too much Traffic need to expand, will help people get job. **1**

(Space for comments continued on reverse)

PC-C3

I-405 Improvement Project
Public Hearing

Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Joe J. Caldenon
Organization:
Address(Optional): Santa Ana
Phone Number: 714 554-0730
Email address:

Comments: I'm for widening the Freeways. } 1

(Space for comments continued on reverse)

PC-C4

I-405 Improvement Project
Public Hearing

Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Lynne Callahan
Organization:
Address(Optional): 10484 Parakeet Cir Fountain Valley 92708
Phone Number: 714-805-4296
Email address:

Comments: We would like to have more Bridges and more lanes } 1

(Space for comments continued on reverse)

PC-C5

I-405 Improvement Project
Public Hearing
Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Colleen A. Cafe	
Organization:	
Address(Optional):	
Phone Number:	Email address:

Comments: I drive on the fwy and I Think is the good project : reduce traffic and accidents 1

(Space for comments continued on reverse)

PC-C6

From: Margie Cammack [jcammack@ca.rr.com]
Sent: Monday, June 18, 2012 9:21 PM
To: Parsons, 405.dedcomments
Cc: Jim Cammack
Subject: No Build Alternative

Our family has lived in southern Cypress since 1973. We are for the "No Build Alternative". What we need is some form of mass transit, not another freeway lane. Our daughter is going to graduate school in Atlanta. Every time we visit, we wonder why southern California can't have something like the Marta system. 1
Jim and Marge Cammack
11642 Luzon Street
Cypress, CA

PC-C7

From: Colleen Campbell [cece37campbell@socal.rr.com]
Sent: Sunday, July 01, 2012 2:52 PM
To: Parsons, 405.dedcomments
Subject: 405 Widening

Ladies and Gentlemen: As a citizen of Westminster, I totally oppose your proposal to make a toll lane in the widening plans, especially from Fountain Valley, Westminster, Garden Grove, Seal Beach, through to the connector to the 605.

What that stretch of freeway *really* needs most of all are more full public access lanes, not a toll lane, or another lane serving cars with 3 or more people in them. Please just add more full-access lanes. 1

Thank you, Colleen Campbell, Westminster

PC-C8

From: Colleen Campbell [cece37campbell@socal.rr.com]
Sent: Sunday, July 01, 2012 3:01 PM
To: Nguyen, Janet
Subject: 405 Freeway Widening

Dear Supervisor Nguyen:

As a citizen of Westminster, I totally oppose the proposal to make a toll lane in the widening plans, especially from Fountain Valley, Westminster, Garden Grove, Seal Beach, through to the connector to the 605.

What that stretch of freeway *really* needs most of all are more full public access lanes, not a toll lane, or another lane serving cars with 3 or more people in them. Please just add more full-access lanes. **1**

Please express the concerns and total opposition to the OCTA proposal of me, my family, friends and neighbors in this area of O.C.

Thank you, Colleen Campbell, Westminster

PC-C9

4433 Ironwood Avenue
Seal Beach, CA 90740
July 12, 2012

Ms. Smita Deshpande, Branch Chief
CalTrans District 12
2201 Dupont Drive, Suite 200
Irvine, CA 92612

Attn: 405 DEIR/DEIS Comment Period

Dear Ms. Deshpande:

Having reviewed the above mentioned DEIR/DEIS, I would like to present my comments.

The document itself is not adequate. It virtually ignores the environmental impacts to the community of College Park East (CPE), Seal Beach, which is a community of over 1700 homes on over 300 acres that runs along the northern border of the 405 Freeway, from the 22 Freeway to Seal Beach Boulevard. Matter of fact, there are only three references to our community in the entire document, and those were in passing: nothing of substance. *Why were the environmental impacts to CPE not discussed or even mentioned?* For this reasons alone, this document should be deemed inadequate and should go back to study and evaluate the environmental impacts of this project to us. **1**

Almond Avenue

Sound wall:
My first concern is with the Almond Avenue sound wall. This sound wall runs right along the 405 Freeway, the entire length of our community. Alternative one would not require relocating this sound wall. Alternatives two and three would relocate this sound wall approximately eight to ten feet to the north (with a four foot planter [for utilities] and curb, that becomes twelve to fourteen feet), closer to our community, cutting the existing roadway in half and leaving us with a substandard street. Almond Avenue is a main arterial street for our community. To cut this street in half is totally not acceptable. *Why was this not discussed in the DEIR/DEIS?* There are questions regarding security for the homeowners: prior to the wall going up many years ago, there was a significant problem with robberies and break-ins. *What security measures will be offered to the homeowners if the wall has to be re-built?* **2**

No parking:
Given that sixteen cul-de-sacs are accessed *only* by this street, it makes it extremely difficult for the residents of those cul-de-sacs, especially on street sweeping day when street parking is not allowed in the cul-de-sacs. Parking in driveways is often not possible due to the extremely short driveways that cannot accommodate two cars parked side-by-side. These residents have been **3**

PC-C9 Continued

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parking on Almond Avenue for all residual parking, especially when it is street-sweeping day. Cutting the width of the street in half would not allow for any parking at all, making it totally

unacceptable for those residents. Alternating street-sweeping days does not help, as street parking along Almond Avenue would still be prohibited. *What do these residents do?* This also creates a safety hazard for bicyclists and pedestrians. **3 cont.**

Property Values:
Then there is the impact on property values -- many residents will overnight lose $100,000 in value if the street width is cut in half. Already a rippling effect of this project is being felt, as the closer you go to the freeway, the longer the homes-for-sale are on the market. In this document, it states that homes closer to the freeway will have increased property values. Not here! *Why wasn't any of this discussed or even mentioned?* **4**

Gas Lines:
In addition, I am concerned about the possibility of relocating two separate gas lines (14" and 16") from the south side of the 405 freeway to the north side through College Park East. The EIR does not state this, but we have been told it is a strong possibility. It is my understanding that relocation of these gas lines may be exempt from environmental review. *Why was this not in the EIR? What kind of construction would be required to relocate these lines? Would they run along Almond Avenue or on the freeway side of the wall? If Almond Avenue, how much of Almond Avenue would be torn up? For how long? How would this construction be staged? How do the residents access their homes?* None of that is mentioned in the DEIR/DEIS. **5**

In addition, there is a 36" or 48" gas line on the north side of Lampson Avenue (it is the main line from San Diego to Santa Barbara). Lampson Avenue is a major arterial street that runs the complete north perimeter of CPE. Where Lampson turns to the south-east, at the end of our tract, Lampson runs right along the side of the 405 freeway. *What is the impact of having three such lines running approximately 75 feet from each other? What would be the impact to the larger line during construction activities of relocating the smaller lines?* During some recent construction activity where a driveway was relocated on the north side of Lampson, gas company employees were present to observe the excavation to be ensure the integrity of the gas line. At the time, city employees were told that an incident on that line, because of its size, would take out or level a square mile. This is highly significant! And, it needs to be discussed! *Why was it not discussed?* **6**

SCE utilities:
Currently, SCE has an easement for their utilities on the south side of Almond Avenue within the landscaping planter area. It is my understanding that if the wall is moved, that these may end up on the north side of Almond Avenue. All utilities are undergrounded in CPE. *Would these also be undergrounded?* They should be. *What kind of construction would be required to relocate/underground these overhead electrical lines? How long would it take to do this? How would this construction be staged? How do the residents access their homes?* Again, none of that is mentioned in the DEIR/DEIS. **7**

PC-C9 Continued

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Project ends at the county line:
By ending this project at the county line, a huge bottleneck will be created as vehicles try to

merge down two lanes to continue north up the 405. Not enough traffic goes up the 605 freeway to relieve this bottleneck. This giant "parking lot" will create noise and air pollution from all those idling engines, that due to prevailing on-shore winds, will push all this pollution over into CPE creating health hazards for our residents. *Why was this not discussed?* In addition, this bottleneck will cause vehicles to stack up west on the 22 and south on the 405 freeways, not solving or helping ANYTHING ! **8**

Seal Beach Boulevard northbound on-ramp:
Accessing the 405 freeway northbound at Seal Beach Boulevard is not for the faint of heart -- never has been and now it will get worse. The first two lanes immediately exit at Seventh Street, and the next two lanes start the 605 freeway. If you do not get over quickly, you will find yourself NOT going up the 405 freeway. Besides having to merge four lanes to the left to get on the freeway, you have to contend with vehicles merging to the right to exit at either Seventh Street or the 605. This "mixing-bowl" type of situation is not good and is particularly severe at the Seal Beach Boulevard on-ramp. (Personally, I have found the best way to access the 405 northbound, is to go north on Seal Beach Boulevard, then west on Katella to pick up the 605 south to the 405 north. A bit out of the way, but by far the safest way to miss the literal mess that exists between Seal Beach Boulevard and the county line.) *Why was none of this ever discussed? Are any remedies available to alleviate this problem?* **9**

Excess street traffic:
Lampson Avenue is already a by-pass for the 405. The traffic on this street will only increase as vehicles try to bypass the mess between Valley View Street and the county line. The traffic will only increase on Seal Beach Boulevard also. The EIR states that a widened 405 will relieve traffic on side streets. Not at this end of the project. *Why was this not discussed? What kind of mitigation is available for this situation?* **10**

Toll Lanes:

Freeways should be FREE !
It seems to me that the politicians have found another way to pick our pockets! Toll lanes will only serve the people who can afford to use them and require car pools to be at least three people per vehicle which will cause more use of the general purpose lanes. This alone defeats the whole purpose of this "improvement project." This congestion management creates different classes of drivers: those who can afford them and those who can't. It will particularly hit those on fixed incomes, especially the senior citizens of Seal Beach, Orange and LA Counties. **11**

Toll Rates:
The toll rates will be changing all the time, even hourly, depending on the amount of use, as a way to control congestion (less use, decrease the rates; to crowded, increase the rates). It seems these rates will rely on and perpetuate congestion, as the rates will be set so that the toll lanes will flow freely. This in turn creates more congestion in the general purpose lanes. *Is this an* **12**

PC-C9 Continued

Page 4 July 12, 2012

improvement? The financial reports on the 73 freeway are not good -- because the projected traffic did not materialize, fewer tolls are being collected than planned for, and they are having problems making their bond payments. *Just how pie-in-the-sky are the income projections for this project? And if it doesn't materialize, what then?* 12 cont.

Business districts:
The points of entry and exit for these toll lanes will completely bypass the business districts of many corridor cities, thereby cutting in the revenue of the local businesses and the sales tax revenue for the cities. It will bypass Seal Beach. *Has the financial impact on corridor businesses and cities been determined?* 13

Suggestions:

End the project at Valley View Street
If this project were to end at Valley View Street instead of the county line, a greater distance for merging would make it so much easier. With Alternatives 2 or 3, merging down two lanes at the county line creates one big mess. If one lane is taken away at Valley View, then merging down one lane at the county line would not be so treacherous.

Center line movement:
If the center line were re-aligned, the Almond Avenue sound wall would not have to be relocated. There's a significant cost savings there.

Shoulders:
If a four foot inside shoulder on the south side of the freeway is acceptable, *why not on the north side of the freeway?* The sound wall would then not need to be relocated.

Freeway surface:
The use of rubberized asphalt on the 405 between Valley View Street and the LA County line would minimize noise. This is significant for the residents in CPE. 14

As stated at the beginning of this letter, I believe this document to be inadequate and should be re-done to evaluate all the impacts to College Park East, as they are very significant. I have also listed what I consider to be the deficiencies in this report and ask for a response to them. **Bottom line: this project will still not solve or even ameliorate our massive traffic problems and the projected tolls will not come to pass. What then?????** 15

Sincerely,

Patricia E. Campbell

Patricia E. Campbell
College Park East Neighborhood Assoc.
Former Mayor, Councilmenber
City of Seal Beach

hs

PC-C10

I-405 Improvement Project
Public Hearing

Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☑ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): LUTHER CANDLER
Organization: Laborers Local 652
Address(Optional):
Phone Number: 213 216 2333
Email address: Hhrjcandler@yahoo.com

Comments: I 405 IMPROVEMENT PROJECT IS A LONG OVERDUE UPGRADE NEEDED TO RELIEVE TRAFFIC CONGESTION, AND WILL SHORTEN DRIVE TIMES EXTENDED BY THE TRAFFIC CONGESTION AND REDUCE TRAFFIC ACCIDENTS. I HAVE EXPERIENCED THE TRAFFIC CONGESTION MANY DAYS ON MY DAILY COMMUTE TO AND FROM WORK I WELCOME THE I-405 IMPROVEMENT PROJECT A HAPPIER FREEWAY DRIVE MEANS LESS STRESS!!! 1

(Space for comments continued on reverse)

Caltrans OCTA

PC-C11

Smita Deshpande, Branch Chief,
Caltrans-District 12, "Attn: 405 DEIR-DEIS Comment Period"
2201 Dupont Drive, Suite 200
Irvine, CA, 92612

Subject: State Route 405 (I-405; San Diego Freeway) between SR-73 and I-605 and Draft EIR/EIS

I am concerned about the impacts the State Route 405 improvement project will have on our community. I am especially concerned about Alternative 3 which will widen the San Diego Freeway in the City of Costa Mesa and convert an existing car pool lane to a toll lane.

Alternative 3 would require that the Fairview/I 405 interchange be demolished and rebuilt, even though it was just rebuilt three years ago. Residences and public parks near the I- 405 will be adversely affected both during construction and upon completion of the project. Problems include air pollution, noise, and degradation of the visual quality of our neighborhoods. Ramp closures at Harbor, Fairview, and South Coast will not only inconvenience residents, but impair access to the many businesses which contribute to our local and regional economy. 1

In addition, Your Plans constitute a ~~You are~~ violation of my Constitutional Rights & the quiet enjoyment of my Real Property. Strongly oppose. 2

Please include these comments in the public/administrative record for this project and the project EIR/EIS. Thank you for the opportunity to comment.

Yours truly,

LINDA CANNELLI
(Name)

3230 & 3233 Michigan Ave CMCA
(Address) (City)

X Please keep me informed about future hearings and future steps in the review process for the I- 405 project.

PC-C12

From: Brian Cannizzaro [BrianCannizzaro@primarycolor.com]
Sent: Monday, June 25, 2012 5:28 PM
To: Parsons, 405.dedcomments
Subject: 405 Expansion concern

To Whom It May Concern,

I am writing to express my opposition to the proposed expansion of the 405 freeway through Seal Beach. I am adamantly opposed to any construction that would require the relocation of the sound wall that runs through College Park East. 1

My main concern is about how dangerous the air quality would become and the noise pollution caused by demolition and reconstruction of the wall. Not only would we suffer from increased air pollution and noise pollution during construction, we would also have permanent issues from both issues after the construction since the freeway would be closer to our home. I have 2 children who play outside and ride their bikes often, and they would be exposed to this poor air quality. 2

Also, moving this sound wall closer to our homes would significantly lower our home values. Encroaching upon our neighborhood would also be dangerous to the countless walkers, runners and bike riders that use Almond Avenue daily as an exercise route. Movement of the sound wall would eliminate parking and reduce the width of the street, making it dangerous for pedestrians and cyclists to share the road with cars.

Encroaching on College Park East along Almond Avenue would be extremely damaging to our residents' economic status, health, safety and quality of life. Please do not allow any construction that would require the relocation of the Almond Avenue sound wall. 3

Sincerely,
Brian Cannizzaro
3541 Primrose Circle
Seal Beach, CA 90740

--
Brian Cannizzaro | Account Manager | PRIMARY COLOR ORANGE COUNTY
http://www.primarycolor.com | T 949 660 7080

PC-C13

From: Brian and Mimi [brianandmimi@verizon.net]
Sent: Thursday, June 21, 2012 1:49 PM
To: Parsons, 405.dedcomments
Subject: 405 Improvement Project

To Whom It May Concern,

I am writing to express my opposition to the proposed expansion of the 405 freeway through Seal Beach. I am adamantly opposed to any construction that would require the relocation of the sound wall that runs through College Park East. 1

Moving this sound wall closer to our homes would significantly lower our home values. Encroaching upon our neighborhood would also be dangerous to the countless walkers, runners and bike riders that use Almond Avenue daily as an exercise route. Movement of the sound wall would eliminate parking and reduce the width of the street, making it dangerous for pedestrians and cyclists to share the road with cars. 2

I also have concerns about dangerous air quality and noise pollution caused by demolition and reconstruction of the wall. Not only would we suffer from increased air pollution and noise pollution during construction, we would also have permanent issues from traffic that would be closer to our home.

Encroaching on College Park East along Almond Avenue would be extremely damaging to our residents' economic status, health, safety and quality of life. Please do not allow any construction that would require the relocation of the Almond Avenue sound wall. 3

Sincerely,
Marianne Cannizzaro
3541 Primrose Circle
Seal beach, CA 90740

PC-C14

I-405 Improvement Project
Public Hearing

Comment Sheet

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- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Adam Contreras
Organization:
Address(Optional):
Phone Number:
Email address:

Comments: Great way to improve traffic 1

(Space for comments continued on reverse)

PC-C15

I-405 Improvement Project
Public Hearing

Comment Sheet

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- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Jose N. Cardenas
Organization: Labor Local 652
Address(Optional): 2057 S. Sycamore Santa Ana
Phone Number: (714) 292-9215 Email address:

Comments: La autopista 405 de la 73 a la autopista 605 esta mas transitada de el país el trafico esta aumentando y solo empeorando 1

(Space for comments continued on reverse)

Caltrans OCTA

PC-C15 Translation

Comment:

The segment of the 405 Freeway from the 73 to the 605 Freeway is the most congested one in the country and the traffic is increasing and only worsening.

PC-C16

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Luis Cardenas
Organization: Local 652 Labors
Address(Optional): 2057 S. Sycamore
Phone Number: (714) 341-5225 Email address:

Comments: I Think it should be wider so that people can get through traffic faster, and get to work on time. It will also avoid less traffic accidents, and provide more steady work for construction laborers. 1

(Space for comments continued on reverse)

Caltrans OCTA

PC-C17

From: diana carey [DLCAREY2@VERIZON.NET]
Sent: Monday, June 18, 2012 8:38 PM
To: Parsons, 405.dedcomments
Subject: I-405 Alternatives

Dear Parsons;

I am **not** in favor of Alternative 3 under any circumstances. Bypassing most of our business districts is unacceptable and will have and adverse impact on sales tax revenues. 1

Alternative 2 is the best option given the need to reconstruct all 17 bridges. I do not feel a 30 minute travel time, in 2040, for all lanes during peak time is unreasonable, and it is certainly more democratic. 2

Finally, all necessary steps must be taken to mitigate sound and maintain the air quality in all neighborhoods and businesses next to the freeway. 3

Thank you for designing the options within the right-of-way, and for working with us to mitigate construction issues.

Diana Carey

PC-C18

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Penilla Carlos	
Organization: Cement Mason	
Address(Optional): 515 Porter St Santa Ana CA 92701	
Phone Number: 714 317 9915	Email address: Penilla@yahoo.com

Comments: Likes to see the Roads wondened. Yes to tolls. 1

(Space for comments continued on reverse)

PC-C19

-----Original Message-----
From: Jim Carr [mailto:jim carr@ca.rr.com]
Sent: Monday, June 04, 2012 8:31 PM
To: Christina Byrne
Subject: Freeway Speed Limit Signs

Christina:

If you are not the correct person for this suggestion, please redirect to the proper channel. Thanks.

I have been noticing lately that I seldom see speed limit signs on freeways. I believe parts of the problem are freeway widths, large vehicles and low lighting at night.

Perhaps it would be helpful, especially when doing widening projects, to consider installing some signs at the center median. These could be mounted on lamp posts or over crossings to supplement those on the right shoulder. 1

This would be especially useful in areas where speed limit changes from 65 for whatever reason including construction. I have seen patches in L.A. county where the limit changes every few miles but this can only be seen if you are in the right-hand lanes.

Of course, much of the time there is so much traffic that 65 or 55 or even 25 seems impossible.

Thanks

--Jim Carr
Costa Mesa

PC-C20

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): MANUEL JOHN CARRILLO III
Organization:
Address(Optional):
Phone Number: 562) 458-9978
Email address: johnobeygod@yahoo.com

Comments: BETTER ROADS FOR SAFER DRIVING AND FASTER COMMUTING. 1

(Space for comments continued on reverse)

Caltrans OCTA

PC-C21

From: Gary Carson [garyc44@gmail.com]
Sent: Tuesday, June 19, 2012 5:08 PM
To: Parsons, 405.dedcomments
Cc: letters@ocregister.com
Subject: 405 construction sounds / anti-pollution walls

I have been a resident of Westminster since 1968 and thus lived here when the first set of walls were built along the 405 freeway. These walls were an extremely old design and are not really sound / anti-pollution walls. The walls that were built in conjunction with the 22 freeway project are truly sound / anti-pollution wall in today's standards. I am requesting that, as part of the 405 project, the old walls be replaced with new walls comparable to the 22 freeway walls. 1

You owe it to the residents / tax payers that live near the 405 to replace the existing walls with walls that meet today's standards for noise, air pollution, and visual / height.

Yours truly,

Gary Carson
15281 Vermont St.
Westminster

PC-C22

July 1, 2012

To: Supervisor John Moorlach

From: The Carson Family

Re: 405 Freeway Project

Dear Supervisor John Moorlach,

I have never written or e-mailed a letter to a government agency, so I am hoping that my letter will be read and my concerns will be taken seriously.

Our family has lived in our home since 1972 and nothing like what is taking place, right now, has been a threat to our lives. That threat is to our health, safety and makes us prisoners in our own homes. The reason I say prisoners in our own home is due to: **1**

1) The freeway being moved closer to homes will have an adverse affect on our lives. The increased NOISE LEVEL and increased AIR POLLUTION does not allow us to live healthy lives. The noise level now does not allow us to sleep with our windows open nor visit with family and friends in the backyard without yelling! The pollution will increase breathing problems, asthma attacks, lung disease and general health problems, be it physical or mental. **2**

2) Moving the Almond Sound Wall presents a serious safety issue. If our area is fortunate there will only be enough room for one car to travel in or out on Almond. The inability to exit via Almond in case of an emergency evacuation is of grave concern MY question to you is how would my family and others get out if a major event took place? We would die. Look at Banyan Ave. We are locked in and with a skinny strip exit we would be prisoners in our own homes. Check the history on the flood in the 1980's when this area was flooded. Children could not be bussed back home. My husband had to fight his way to pick me up from work in order to pick up our children and still we could not enter CPE due to the roads being blocked. I am appalled that CAL TRANS would want to put us into that type of danger again by moving the Almond Sound Wall. Moving the wall would make it impossible to turn around, park or get out of CPE!! The safety of our children is of GREAT concern. Not only safety is a big issue but the value of our homes will plummet. who wants to live in the middle of construction for the next 40 years? If you know of anyone, I have a house for sale. **3**

3) Additional lanes will cause more gridlock and the toll road will not alleviate those gridlocks. In fact look in the L.A.TIMES dated July 1, 2012. The reporter wrote about O.C. Toll Ways will stop taking cash. The toll is a looser in making money and is trying to squeeze more dollars out of drivers. This article was written by Mike Reicher. It is irresponsible of OCTA and CAL TRANS to add more lanes than needed. Lanes that will cause many accidents, deaths, gridlocks, road rage, anger, hypertension and depression. QUESTION: have you tried to merge onto the 405 going north from Seal Beach Blvd. and continuing in the 405 north, since the start of construction and up to NOW? Well, quadruple the odds of making a safe transition on to a freeway and hitting a gridlock. NO TOLL Roads **4**

PC-C22 Continued

please. There will be excess traffic on Lampson and surrounding surface streets due to construction and gridlocks. We will not be able to utilize the freeway that goes to nowhere nor utilize the surface streets around our home. **4 cont.**

4) The Alternative that I vote for is #4. Leave the ALMOND WALL as is. The wall is structurally strong and there would be no added demolition and reconstruction. NO DOLLARS spent. Replace the trees and ground cover that has been ripped up. Trees are important for replenishing fresh clean air and are sound buffers. **5**

5) Suggestions would be to end the 405 freeway improvement project and use the existing 7 lanes. Use rubberized asphalt on the 405 between Valley View and the L.A. County line to minimize noise. Last but not least, with a center line movement, a 4 foot shoulder and 405 realignment, the Almond Sound Wall will not be moved into College Park East. **6**

Thanking you in advance for reading this letter.

Sincerely,

Gilbert Carson

Carol Carson

Mr. Gilbert Carson and Mrs. Carol Carson

cc: Mr. Smita Deshpande, Branch Chief- CalTrans, Governor Jerry Brown, State Senator Tom Harman, Assemblyman Jim Silva andCongressman Dana Rohrabacher

PC-C22 Continued

les Times LA

NION

LETTERS

GLENN KOENIG Los Angeles Times

OPERATORS OF Orange County's toll road network are eliminating cash payments to save money.

Taking a toll

Re "O.C. tollways to stop taking cash," July 1

So let me make sure I understand. If you have a product for which you are losing customers, and you want to increase revenue, you should raise prices and make it less convenient to use?

That appears to be the strategy of the Transportation Corridor Agencies as it raises prices 5% to 10% and eliminates the use of cash on the tollways, requiring all users to have a FasTrak or other account.

Who is the business strategy genius they're getting their advice from?

JIM MEDINA
Long Beach

FYI
Can this persons question be answered? } 7

PC-C23

From: Henrietta Carter [henriettacarter1@verizon.net]
Sent: Monday, July 16, 2012 9:31 AM
To: Parsons, 405.dedcomments
Cc: rha@rossmoor-rha.org
Subject: Fwd: RHA Responds to OCTA I405 Improvement Project

My home is already inundated with black freeway fallout and traffic noise due to my proximity to the 22/405/605 interchange. i also have minors in the house who attend schools near the freeway, and am a senior citizen; we would all be adversely affected by increases in air pollution.

I would really appreciate anything that can be done to mitigate any increase in traffic on the surface streets (Seal Beach Boulevard) and congestion on these freeways, as proposed by the Rossmoor Homeowners Association. } 1

Begin forwarded message:

From: Rossmoor Homeowners Association <rha@rossmoor-rha.org>
Date: July 15, 2012 6:45:21 PM PDT
To: henriettacarter1@verizon.net
Subject: RHA Responds to OCTA I405 Improvement Project
Reply-To: rha@rossmoor-rha.org

IMPORTANT INFORMATION FOR ROSSMOOR RESIDENTS & BUSINESSES

The following response to the OCTA was prepared by the RHA Traffic Committee.

Rossmoor Homeowners Association Comments and Recommendations on the EIS for the Proposed 405 Freeway Expansion

If OCTA's expansion project for the 405 goes forward, the RHA is deeply troubled by the potential for traffic congestion to occur on the northbound 405 at the Los Angeles County interface, which would cause a direct and heavy impact on the air quality inside Rossmoor. There appears to be the potential for hundreds of idling cars and trucks congested on the freeway adjacent to Rossmoor in the late afternoon and early morning, two key periods of the day that could affect residents.

The expanded 405 proposed by OCTA would have two more lanes inside Orange County than would exist in Los Angeles County, with the decrease in capacity occurring within 100 feet or less of our residential neighborhoods. Moreover, the proposed route lies within 500 feet of Hopkinson Elementary School, a sensitive receptor that was not addressed in the EIR. Section 3.2.6, the air quality analysis for the project, makes no mention of Hopkinson. The EIR identifies other sensitive receptors along the route, but neglects one of west Orange County's largest and most highly regarded schools. } 2

The configuration of Rossmoor has the 405 literally wrapping around the southern tip of

PC-C23 Continued

the community, exposing residents to one of the greatest impacts anywhere in the project. And yet, Rossmoor was only superficially analyzed in the air quality supplemental.

We believe the air quality impact analysis was inadequate in considering hotspots with elevated levels of particulates, ozone, and other pollutants that could affect the health and quality of life in Rossmoor.

The OCTA air quality analysis examines, for example, carbon monoxide levels at various points along the proposed project, but not near Rossmoor. Similarly, the air toxics analysis did not adequately assess the potential for impacts on Rossmoor, particularly if congestion occurs at the county line.

Rossmoor is a community of both young children and elderly adults, the two most sensitive age groups to air pollution. We are asking that OCTA reexamine the air quality, traffic and noise impacts of the project on Rossmoor, especially its schools, parks and homes, and undertake a thorough and complete consideration of the most effective ways to mitigate those impacts to a level of insignificance.

The RHA would like OCTA to analyze whether reducing northbound lanes sequentially a mile or two before the county line would help mitigate the potential for congestion, air quality impacts and the possibility of motorists using surface streets in Los Alamitos to navigate around the chokepoint. Rather than losing two lanes at the county interface, we would like OCTA to consider squeezing down capacity miles from the county line. If and when Los Angeles County increases the capacity of the 405 in Long Beach, then the additional lanes of traffic could be opened at the county line.

We are also asking that OCTA conduct a better outreach effort in Rossmoor to elicit input and carry out real dialogue about the project.

2 cont.

***

(Note: The deadline for comments is July 17th. If you wish to voice your concerns, you may email the OCTA at 405.dedcomments.parsons@parsons.com. By law they are required to respond to all comments submitted by the July 17th deadline.)

PC-C24

From: Marita Caruso [carmmarita@aol.com]
Sent: Monday, July 16, 2012 10:37 PM
To: Parsons, 405.dedcomments; Marita Caruso
Subject: I-405 Improvement project

To Caltrans

The only option that has any merit is the alternative 1 which is funded. Alternatives 2 and 3 must be redesigned if either one is a viable alternative. I strongly request that only Alternative 1 be considered.
It has been proven that the toll lanes do not ease congestion for the public. I personally watched the 73 toll lanes that have never had enough traffic to justify its being toll only. Toll lanes are not an option for the larger population of commuters. They continue to be underutilized and take away general purpose lanes.

1

Marita Caruso
4409 Birchwood Ave.
Seal Beach 90740

PC-C25

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Richard Castaneda
Organization:
Address(Optional):
Phone Number: (714) 574 9444
Email address:

Comments: 405 Fruwy ~~needs~~ should be expanded because there is ~~mag~~ major traffic issues EVERYday i go to work i would be convienient for many PEOPLE if this improvement went through 1

(Space for comments continued on reverse)

PC-C26

I-405 Improvement Project
Public Hearing
Comment Sheet

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Name (First and Last): Rafael M Castillo
Organization: Labor Local 652
Address(Optional): 13724 Little Rock LN Perris, CA 92570
Phone Number: 909 835 5427
Email address:

Comments: Empleo en el comercio de construccion este en lo mas hajo de todos los tiempos 1

(Space for comments continued on reverse)

PC-C26 Translation

Comment:

Employment in the construction industry is at its lowest point ever.

PC-C27

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): CARLOS CATALAN
Organization: Labor Local 652
Address(Optional): 2263 Pomona ave. apt. A Costa mesa, CA 92627
Phone Number: 949) 698-2015
Email address:

Comments: if they are not working they can't help keep the economy going. 1

(Space for comments continued on reverse)

Caltrans OCTA

PC-C28

I-405 Improvement Project
Public Hearing

Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

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- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): ANDRES J. CELESTINO	
Organization: Labor Local 652	
Address(Optional):	
Phone Number:	Email address:

Comments: WE ARE AGREE WITH THAT GREAT PROJECT; BECAUSE WE NEED THE NEW JOBS FOR ALL THE UNION PEOPLE AND GET OPPORTUNITIES FOR E-VERYONE TO GET A JOB. 1

(Space for comments continued on reverse)

PC-C29

I-405 Improvement Project
Public Hearing

Comment Sheet

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- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Andre Chagollan	
Organization: Iron workers	
Address(Optional):	
Phone Number:	Email address:

Comments: Alt 3 will save me and my family Time and money I suppor Alt 3 1

(Space for comments continued on reverse)

PC-C30

From: Chapel, Christine [CChapel@newportbeachca.gov]
Sent: Saturday, July 14, 2012 4:51 PM
To: Moorlach, John; Adams, Audra; Bates, Pat; Campbell, Bill; dhansen@surfcity-hb.org; CFikes@surfcity-hb.org; Nguyen, Janet; fvcrandall@yahoo.com; lorri@lorrigalloway.com; pglaab@cityoflagunaniguel.org; mpulido@santa-ana.org; pherzog@lakeforestca.gov; jamante@tustinca.org; Wendy Knowles; fvproud@fountainvalley.org; citycouncil@cityoforange.org; mayor@garden-grove.org
Subject: no to toll roads on the 405

Greetings!

Please do not put toll roads on the 405!!!! It is not fair to the people who can't afford to pay the toll. We pay enough for our cars and gasoline without having to pay extra to use the freeway. My husband commutes to work Monday through Friday on the 405. In this economy, we cannot afford to pay up to $9 each way to use a toll road. I agree that there is a need to relieve traffic congestion. I believe we could use more lanes on the 405. The proposed solution to add 2 lanes works for me! Please include an exit for South Coast Plaza, though. } 1

Thank you for your attention!

Christine Chapel
Costa Mesa Resident

PC-C31

I-405 Improvement Project
Public Hearing

Comment Sheet

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- [x] Monday, June 4, 2012 – Orange Coast Community College
- [ ] Thursday, June 7, 2012 – Rush Park Auditorium
- [ ] Wednesday, June 6, 2012 – Westminster Community Center
- [ ] Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Roberto Chavez
Organization: Union 652
Address(Optional):
Phone Number: (714)638-6158
Email address:

Comments: better roads, open another Lane on the I 405 } 1

(Space for comments continued on reverse)

PC-C32

I-405 Improvement Project
Public Hearing
Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- [x] Monday, June 4, 2012 – Orange Coast Community College
- [x] Wednesday, June 6, 2012 – Westminster Community Center
- [x] Thursday, June 7, 2012 – Rush Park Auditorium
- [x] Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last):	Rodolfo Chavez
Organization:	Local 652 Labors
Address(Optional):	1104 S Wood ST Santa Ana CA 92704
Phone Number: (714)944-8607	Email address:

Comments: Mucho Trabajo y Nesesitamos Mas Trabajo, Para los que es tan si trabajar 1

(Space for comments continued on reverse)

PC-C32 Translation

Comment:

There is a lot of traffic and we need more jobs for the people that are unemployed.

PC-C33

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Chris Cheek	
Organization: Plumbers local 78	
Address(Optional): 23805 Arlington Avenue Apt. #15 Torrance, CA 90501	
Phone Number: (310) 528 8520	Email address: cheeker03@gmail.com

Comments: This improvement would greatly increase ~~[illegible]~~ the quality of life for many people. By cutting out traffic time people would be able to spend more time with their families. 1

(Space for comments continued on reverse)

PC-C34

From: Karole [bryceland@verizon.net]
Sent: Wednesday, June 20, 2012 1:44 PM
To: Parsons, 405.dedcomments
Subject: College Park East Sound Wall/fwy widening

To whom it may concern:

I live in College Park East in Seal Beach and am terribly worried and concerned about the proposed moving of the sound wall. Why on earth would you infringe on a neighborhood just to widen a freeway that is going to bottleneck anyway at the county line? We accept that we live near a freeway and the subsequent noise but now you want to move it closer to us, reducing our property values further, reducing our quality of life with more air and noise pollution and basically eliminating a vital street that so many use for recreation, as well as much needed parking?
It isn't right or fair and I think you know this. 1

I love my home and neighborhood. It absolutely depresses me to think that it is in jeopardy with years of construction ahead and, the greatest insult to injury of all, moving a sound wall and freeway closer to my home.

Please don't do this...please don't move the sound wall. Please use a different alternative and leave our neighborhood alone. I beg of you.

Respectfully,
Karole Chesser
4764 Candleberry Ave
Seal Beach 90740

Peace to you

PC-C35

From: steve@thechessergroup.com
Sent: Tuesday, June 26, 2012 3:43 PM
To: Parsons, 405.dedcomments
Subject: Comments: I-405 Improvement Project Draft EIR

To Whom it may Concern,

Thank you for the opportunity to comment regarding the Draft Environmental Impact Report (EIR) for the I-405 Improvement Project. I live in the community of College Park East, where we and our neighbors will suffer disproportionate impact if the sound wall adjacent to Almond Avenue is removed and then rebuilt with a 10 feet encroachment into our neighborhood. 1

Page 8 of the OCTA Powerpoint presentation states that the project is "Respectful of Adjacent Properties" and features "Sound Walls to Reduce Noise Levels". In fact, removal of our sound wall is anticipated on page 2-16 of the Draft EIR, when it states *new or reconstructed soundwalls and retaining walls would be constructed. Replacement walls would be constructed in areas where sections of existing walls must be modified to accommodate the proposed project.* Removal of our soundwall for any length of time will bring severely diminished quality of life for the residents of College Park East, caused by vastly increased traffic and construction noise (which already is bothersome with the sound wall in place), reduced air quality, and diminished safety to the neighborhood. This action, which potentially could take as long as 54 months,is not Respectful of Adjacent Properties. 2

On page 3.1.4-29, it states *Community disruption during project construction as a result of construction activities would be temporary and mitigated by implementing a traffic staging plan.* However, traffic staging plans would not mitigate the negative impacts brought about by the removal of our sound wall for as long as 54 months. 3

I urge that, whichever alternative is chosen, a design exemption is granted which allows the extant sound wall to remain in place. It simply is not fair that our neighborhood should bear such a disproportionate impact from this public works project. Thank you for considering my views. 4

Sincerely,

Steven B. Chesser
Managing Partner
The Chesser Group
4764 Candleberry Avenue
Seal Beach, CA 90740
562/889-3544 cell
steve@thechessergroup.com
www.thechessergroup.com

PC-C36

From: Donna Chinn [donna.chinn@gmail.com]
Sent: Tuesday, July 17, 2012 2:36 PM
To: Parsons, 405.dedcomments
Cc: gary miller; scrumby@sealbeachca.gov
Subject: 405 DEIR-EIS comment period

Dear Ms. Smita Deshpande,
As a resident of College Park East in Seal Beach, I stand to be directly affected by the proposed project to widen the 405 freeway. Although the project is being presented as an "improvement project" for traffic flow in Orange County, please recognize that the "side effects" to nearby residential areas would be negative. CalTrans cannot continue to focus solely on increased traffic volume and flow, but must give more consideration to quality of life issues for the surrounding residents. 1

My major concerns are:
(1) environmental impact on College Park East. Additional traffic volume would raise noise levels, exhaust fumes & particulate matter, which would further diminish the air quality directly in my neighborhood. At the June 7th public hearing in Rossmoor, we citizens were told that the increased noise and emissions would be negligible. If indeed this would be true, ANY increase in noise or air pollution would be detrimental. All residents of the greater Los Angeles basin already suffer diminished air quality. In addition, if the sound/particulate levels are measured at a height of 5 feet as described, these readings would not accurately apply to a second story house, which I have. 2

(2)lack of coordination with LA county, absence of formal plan & timeline for extending 405 in LA county would lead to more traffic congestion for northbound traffic at the convergence of the 405, 605 & 22 freeways near my home. 3

(3) widening the 405 would require removing and reconstructing the sound wall at the south end of College Park East. If and how this would happen has not yet been clearly explained. Again, I am concerned about safety, security, noise, and air quality during a potential rebuilding phase. PLEASE KEEP THE SOUND WALL INTACT. If it must be moved, build new wall BEFORE removing the original wall. 4

(4) insufficient funding at present and high likelihood of future cost increases. 5

(5) likely loss of accessed $ value of my home due to environmental impacts and heavier traffic nearby. 6

(6) project fatigue - Following the west county connectors project, I am tired of all the construction and detours near my home! 7

Although my preference is for No Build, I realize that this project is highly likely to proceed. I urge you to choose the alternative with the LOWEST impact, meaning #1.
I am COMPLETELY opposed to the toll lanes described in alternative #3, for reasons outlined above and because the transponders required for potential 405 tolls could not be used in other nearby areas, e.g. 91, 73 or 110 freeways. 8

Sincerely,
Donna Chinn
3920 Wisteria St.
Seal Beach CA 90740

donna.chinn@gmail.com

PC-C37

To: Smita Rishpande
Caltrans District 12
2201 Dupont Dr. Suite 206
Irvine, Ca. 92612

Ms. Josie Christiansen
6842 Sowell Ave.
Westminster, CA 92683-4924

July 7, 2012

My plea is Please, Please do not move "Sound wall closer to our homes. You are killing us, our neighborhoods, remember our "American Dreams" - a place to be our own - It was our home. — 1

You are supposed to care for citizens, not send them away. Who would want to buy our homes with "Sound wall" in their backyard? As it is we have put up with a mall, a gigantic advertising light sign, a stress that exists because Cal trans does not keep the area between the "existing sound wall & our homes clean & free of mess. 2

This is a crime moving sound wall so close to our homes. Don't you see that? Do you want a freeway sound wall this close to your home? 3

This mess is rude, unfair and heartless.

Our neighborhoods have dealt

PC-C37 Continued

2

with a lot of stuff such as big Mall, a big gigantic advertising sign whose light keeps our backyards lite up at night.

We are human beings after all! Many of our neighbors have died of cancer. (No study has been done) but after breathing fumes of fuel, & before when we had the green green fields of beans a dusk farm that was destroyed upon the freeway we are becoming part of the cement we had small planes spraying poison to kill bugs on green fields. — Our neighbors have suffered much and now you want to make us into cement. This is too much power on you. Enough salt has already been added to our injuries.

What will happen with widening of I-405? I'll tell you - more & more cars will fill it up again.

The first option would be enough stay within the freeway existing footprint.

Hear the pleas of the people do not move Sound wall closer to our home. - Thank you, Josie Christiansen 3 cont.

PC-C38

From: Shirley Chung [shirleyhc_2000@yahoo.com]
Sent: Tuesday, July 17, 2012 12:15 PM
To: Parsons, 405.dedcomments

To Whom It May Concern:

I am writing in response to a concern regarding increased pollution in the Rossmoor community due to freeway expansion. As a resident, parent, and physician, I feel that more research is needed before plowing through with proposed plans with complete disregard for people who make Rossmoor their home and place for education. According to information provided by our homeowners association, the Orange County 405 freeway lane expansion with reduced lanes in Los Angeles County wraps right around the houses and schools of Rossmoor. I travel freeways everyday and whenever a reduction of lanes occurs, huge traffic jams ensue as drivers try to merge. Traffic jams bring car exhaust, truck exhaust, air and noise pollution, and heat. In addition, as we have seen with recent freeway construction in our area, motorists cut through Los Alamitos, speeding through the surface streets in order to bypass gridlock--adding more pollution, traffic, and increased accidents within our community. Because the lane reduction would occur within 100 feet of homes and within 500 feet of an elementary school, I feel that the proposed plan needs to be further researched and perhaps revised in order to prevent potential health problems for adults, seniors, and children in our area. 1

It has come to my attention that the OCTA air quality analysis did not adequately evaluate the impact in Rossmoor. I would like to see more research with regard to the environmental and health impact of the freeway proposal. Also, an alternative to lane reduction at the county line would be to sequentially reduce northbound lanes several miles before the county line to minimize traffic around Rossmoor, and thus, minimize air and noise pollution. 2

Thank you for your consideration in this matter and I look forward to your response.

Sincerely,

Shirley Chung

PC-C39

RECEIVED
CEO OFFICE

JUL 16 2012

July 1, 2012

OCTA Board Member
550 S.Main St
PO BOX 14184 Orange CA 92863

TEL: (714) 560 6282

Subject: I-405 widening impacting the College Park East Community in the City Seal Beach (Between the SR -73 and I-605)

Dear Board Member:

I am a resident of the City of Seal Beach College Park East Community. **I am asking you to vote for Alternative 1** for the I-405 Freeway Improvement project. This alternative will have the most limited community and environmental impacts compared to any other alternative. My community believes this alternative is the best choice because: 1

1. Alternative 1 does not encroach 10 feet into Almond St. which has an existing soundwall that protects the community. If this wall is torn down and a new wall is built for widening the I-405, it will make Almond a very narrow and probably a one way street. In case you were not aware, Almond Street is a dedicated Tsunami escape route and the only community access route out from the College Park Community. Almond Street needs to be wide and two ways configuration is needed in order to serve as an escape route due to floods and/or Tsunamis and to have bikeways 2

2. Alternatives 2 and 3 will encroach 10 feet into Almond St and will also impact to existing parks at Astor Street and at Orleander Street. Like many parks in our community, children play and senior citizens walk along Almond Street every day. Mothers and their children walk these parks every day and walk along Almond St. An alternative that encroaches into our community will create expose families and children to more vehicle exhaust which causes **respiratory problems, lung disease and/or lung cancer**. The closer the freeway is closer to our community, the more exposed to vehicle exhaust and harmful toxics. 3

3. Funding is only available for Alternative 1.
Alternatives 2 and 3 have a funding gap which will require OCTA to issue bonds and take more of the County's tax dollars. The community and residents do not favor this irresponsible tax-waste scenario. 4

4-Both alternatives 2 and 3 are proposing 10 lanes in each direction in Orange County .These lanes configuration that is being proposed by OCTA makes no sense. This creates a classic bottleneck scenario considering the fact that the I-405 in Los Angeles County contains only 6 lanes 5

5.-The MTA Los Angeles and Caltrans do not have the capital funds to widen the I-405 freeway in Los Angeles County and will not have it until at least 50 years. 6

Sincerely,

D Clark

PC-C40

Smita Deshpande, Branch Chief,
Caltrans-District 12, "Attn: 405 DEIR-DEIS Comment Period"
2201 Dupont Drive, Suite 200
Irvine, CA, 92612

Subject: State Route 405 (I-405; San Diego Freeway) between SR-73 and I-605 and Draft EIR/EIS

I am concerned about the impacts the State Route 405 improvement project will have on our community. I am especially concerned about Alternative 3 which will widen the San Diego Freeway in the City of Costa Mesa and convert an existing car pool lane to a toll lane.

Alternative 3 would require that the Fairview/I 405 interchange be demolished and rebuilt, even though it was just rebuilt three years ago. Residences and public parks near the I- 405 will be adversely affected both during construction and upon completion of the project. Problems include air pollution, noise, and degradation of the visual quality of our neighborhoods. Ramp closures at Harbor, Fairview, and South Coast will not only inconvenience residents, but impair access to the many businesses which contribute to our local and regional economy. 1

In addition,

Please include these comments in the public/administrative record for this project and the project EIR/EIS. Thank you for the opportunity to comment.

Yours truly,

Kimberly Claytor
(Name)

2184-C Miner St., Costa Mesa 92627
(Address) (City)

✓ Please keep me informed about future hearings and future steps in the review process for the I- 405 project.

PC-C41

From: juniorcomp@aol.com
Sent: Friday, July 20, 2012 11:50 AM
To: Parsons, 405.dedcomments; JAmante@tustinca.org; PatBates@ocgov.com; Bill.Campbell@ocgov.com; citycouncil@cityoforange.org; FVProud@FountainValley.org; mayor@garden-grove.org; CityManager@anaheim.net; council@cityoflagunaniguel.org; dhansen@surfcity-hb.org; wknowles@octa.net; district2@ocgov.com; audra.adams@ocgov.com; Janet.Nguyen@ocgov.com; mpulido@santa-ana.org; ewade@octa.net; lweinert@octa.net
Subject: State Route 405 (I-405, San Diego Freeway) between SR-73 and I-605 and Draft EIR/EIS

Subject: State Route 405 (I-405, San Diego Freeway) between SR-73 and I-605 and Draft EIR/EIS

I am concerned about the impacts the State Route 405 improvement project will have on my life and my community. I am especially concerned about Alternative 3 which will widen the San Diego Freeway in the City of Costa Mesa and convert an existing car pool lane to a toll lane.

I use the car pool lane often but seldom use toll roads because of the additional cost. Also, from what I understand, the toll road will not be open to me, or my community, coming from Harbor where I normal enter the freeway, or from the Fairview entrance, either. 1

I do not believe that Alternative 3 is in the best interest of our whole community.

Sincerely,
Laura Collier
Costa Mesa Resident

PC-C42

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Gilodoro L Comnos	
Organization: Labor Local 652	
Address (Optional): 2124 W 11 St Santa Ana Cal. 92703	
Phone Number: 2147 5419484	Email address: Eliolupercio@hotmail.com

Comments:

It will also help our infrastructure of the bridges and streets 1

(Space for comments continued on reverse)

PC-C43

July 2, 2012

Ms. Smita Deshpande

CalTrans District 12

2201 Dupont Dr Suite 200

Irvine, CA 92612

RE: 405 DEIR/DEIS

Ms. Deshpande:

My wife and I are residents of Seal Beach CA in the College Park East neighborhood. We are requesting that Alternative #1 will be chosen. Our neighborhood will be significantly damaged if the sound wall is moved further into the neighborhood. This is the area between Valley View and Seal Beach Blvd.

Alternative #1 still allows for an additional lane in both directions through the Seal Beach area without hurting our neighborhood.

I just attended a meeting with representatives from OCTA in attendance to discuss the alternatives. The meeting was a standing room only event. The group was unanimous in the desire not to move the sound wall further. 1

Please choose alternative #1 !!!!!!!

Sincerely

Daniel J Conley

Daniel J. Conley

3660 Marigold St

Seal Beach, CA 90740

PC-C44

From: Kenneth Coolidge [kcoolidge@ocbusinessbank.com]
Sent: Tuesday, July 17, 2012 6:46 PM
To: Parsons, 405.dedcomments
Cc: kencoolidge@gmail.com

Dear 405 Improvement,

We purchased our home in August 2000. We have significantly improved our home.

We are supportive of the project that was approved in Measure M2 Project K: 1 General Purpose Lane in each Direction from Euclid to I 605. But only if the College Park East Wall is not touched. This Wall must not be torn down and later rebuilt.

We call it the King Kong Wall for a reason. It is College Park East's protection. And all the residents along Almond would be severely disadvantaged if the Wall was moved even one millimeter.

Measure M2 Project K never complemented moving the King Kong Wall. As a matter of fact, it never even included Proposed Alternatives 2 & 3.

The tear down of the Wall from Primrose to Aster will be a disaster for all the residents along Almond and the surrounding area. Any tear down and the time before the work is completed and the wall rebuild will be in excess of a year. And as we all know, these projects are never completed on time. The disruption, noise, dust, safety concerns and the overall degradation of College Park East is just not something that the community should have to suffer through. This does not even begin to address the concerns regarding the impact on property values along Almond and College Park East overall. 1

DO NOT TOUCH THE WALL.

Kenneth & Martha Coolidge
4417 Birchwood Ave.
Seal Beach, CA 90740

PC-C45

From: mary coromelas [coromelas@yahoo.com]
Sent: Thursday, July 12, 2012 8:52 AM
To: Parsons, 405.dedcomments
Subject: Seal Beach & 405 Fwy

To Whom It May Concern,

I writing to you hoping that as a leader of our community you may take the time to act on our behalf, and all residents of Seal Beach and Los Alamitos, California. My parents bought their home in Seal Beach along the 405 freeway in 1975 and have seen many changes in the landscape since. Most noticeable was a 18' sound wall built between their home on Almond Street and the freeway only a couple of years after their move. The wall created not only relief from the sound, but also a beautiful street along the freeway that allows for parking access for people and pets to walk or jog and security from the freeway itself, since my parents home was burglarized on three separate occasions. Today we find ourselves facing the destruction or our wall, the reduction of Almond street by 10 feet and a tollroad/bottleneck proposal by OCTA that is quite frankly disastrous to us. 1

When we voted for Measure M in 2006 never once was the word toll roads part of this measure. Freeway was mentioned over 150 times to entice us to vote in favor of Measure M. But today we see OCTA advocating Alternative #3 to the 405 freeway, a tollway that never should have been considered at a 10 million planning cost according to OCTA. We the people are losing trust in our political leaders because of deeds as this. And actions by the OCTA to push to uproot a community in Alternative #3 is just a small dagger of untruthfulness in us, but still a dagger. My mother today is widowed and lives on Social Security. She takes great pride in her home and is constantly working in her garden. She struggles to pay her property taxes and just manages to get by. DO NOT let Alternatives #2 or #3 become reality only Alternative #1 is acceptable. Today with the threat to her home she struggles to sleep and can't vision a day when her home will be devalued and dangerous to live in. Until a new wall is built, dangerous to garden in because of a small street with the cars traveling directly beside her home, no parking for the residents in her small circle of a street and the disillusionment of our politicians. 2

I'm sure many people have written you and other leaders with their views and are probably more creative and insightful on what should be done. I realize my letter you you is based more on emotion, but that is the reason for my letter, because quite frankly it's become emotional.

Please advocate the OCTA to adopt Alternative #1 for the 405 freeway.

Thank you,
Peter Coromelas

PC-C46

I-405 Improvement Project
Public Hearing
Comment Sheet

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- [ ] Wednesday, June 6, 2012 – Westminster Community Center
- [ ] Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): DAvid Cortes	
Organization: None	
Address(Optional):	
Phone Number: 323 312 7644	Email address: CorteDAvid26@YAHoo

Comments: Please We need to improvement on the 405 lots of TRAfic 1

(Space for comments continued on reverse)

Caltrans OCTA

PC-C47

From: S Cortesy [scort61@gmail.com]
Sent: Tuesday, July 17, 2012 11:35 PM
To: Parsons, 405.dedcomments
Subject: Proposed Expansion to the I405

To the OCTA -

Please accept this letter as a statement of my opposition to the expansion of the I-405.

My concerns are many - stemming both from a personal level since I live in Costa Mesa and also from a business standpoint since I own and operate my own business of 20 years, the past 11 of which have been in Costa Mesa. I fear that the expansion would cause a great inconvenience to both my family and my business.

While I understand the need to move traffic along I feel that if I had to choose I would choose either option 1 or 2. Option 3, in my opinion, would prove to be disastrous to my business since most of my clients and prospects travel from the Los Angeles area and use the 405 once they enter Orange County. These clients/prospects exit either Bristol, Harbor or Fairview. Option 3 would not provide easy access to my business for these clients from Los Angeles. 1

My understanding is that the City of Costa Mesa is not backing the expansion and I wholeheartedly stand behind the city.

I vote against option #3 and, if forced to choose would select option #1.

Thank you for allowing us to state our opinions and we certainly hope that they are considered with great seriousness.

Sincerely,
Stephen V. Cortesy
Costa Mesa, CA

PC-C48

I-405 Improvement Project
Public Hearing
Comment Sheet

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- [ ] Wednesday, June 6, 2012 – Westminster Community Center
- [ ] Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Eduardo Covarrubias
Organization:
Address(Optional):
Phone Number: (949) 571-5314
Email address:

Comments: I think it would be a great thing to Improve the freeway, because that way, now cars people won't have to deal with all the traffic. Please make the road Bigger. It will make things Better!!! 1

(Space for comments continued on reverse)

PC-C49

I-405 Improvement Project
Public Hearing
Comment Sheet

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- [ ] Wednesday, June 6, 2012 – Westminster Community Center
- [ ] Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): WALLACE LEE COWELL, M.D
Organization:
Address(Optional): 3571 OLEANDER ST SEAL BEACH CA 90740
Phone Number: 562-598-5481
Email address:

Comments: DO NOT MOVE THE SOUND WALL! OPTION I ADDING ONE H.O. LANE ONLY IS THE ONLY ACCEPTABLE PLAN 1

(Space for comments continued on reverse)

PC-C50

June 18, 2012

To Whom This May Concern,

I'm writing in opposition to the proposed move of the 405 wall in Seal Beach. We are current residents on Primrose Circle and are located closest to the wall. The noise now is constant and will be much worse if the wall is moved. The noise however is not our biggest concern. 1

Our main concern is for our 3 small children all under the age of 6. The exhaust and emissions will become unbearable and the long term effects on them will be harmful. If you were to come and clean our backyard with a hose you would see that 24 hours later everything from furniture to kids play toys become covered in soot. This has to do with the air quality around our home. I'm all for trying to ease traffic in Southern California but not at the expense of my children's health and well being. The smaller broken down parts of this soot are extremely bad for our children because they can then penetrate the lungs, and even enter the bloodstream. This can have harmful effects on the lungs and heart. The particles can cause or aggravate asthma and breathing difficulties. We already have a 5 year old that has asthma issues. 2

We do intend to fight this wall as far as necessary whether in local meetings or in a court room.

Best Regards,

Brian Cronin

3531 Primrose Circle

Seal Beach, CA 90740

310 936 6392

PC-C51

From: Richard Crowe [rcrowe@burkleusa.com]
Sent: Thursday, June 21, 2012 11:15 AM
To: Parsons, 405.dedcomments
Subject: 405 Freeway Project in Seal Beach

I am opposed to the widening project of the 405 freeway . The project includes removing the sound wall north of the 405 freeway to gain as much as 10 feet of additional space which will have tremendous adverse effects on the living conditions in College Park East. Almond avenue will be narrowed which doesn't make sense to me. Also our home values will decline considerably before and after the construction due to noise, grime from the additional traffic etc.
Since we are half way through the Connector construction between Valley View and the 605 freeway this additional 4 year project places another construction burden on already weary residents. It makes more sense to me to stop the widening effort at the 405/22 Interchange as the narrowing of the freeway is already planned at the LA/Orange County Line. 1

Respectfully
Richard Crowe
4509 Ironwood Avenue
Seal Beach Ca. 90740

PC-C52

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Jose Cruz-Soltero
Organization: Plumber Local 582
Address(Optional):
Phone Number: 714-336-0341
Email address: JCPiec81@Gmail.com

Comments: Keep improving. } 1

(Space for comments continued on reverse)

PC-C53

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☑ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Jason Cuevas
Organization: Laborers 652
Address(Optional): [redacted]
Phone Number: (714) 552-6206
Email address: J1animator@gmail.com

Comments: Widening the I-405 would be a good move seeing as how infamous that freeway is for traffic congestion. It would cut driving time for those commuting further distances for work. } 1

(Space for comments continued on reverse)

RESPONSE TO PUBLIC COMMENTS (PC)-C

Response to Comment Letter PC-C1

Comment PC-C1-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

With respect to a potential bottleneck at the Los Angeles county line, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Comment PC-C1-2

As discussed in Section 3.2.6 of the Draft EIR/EIS, the build alternatives would not have any substantial effects on air quality within the project area. MSATs have the greatest potential to affect the health of residents located adjacent to the project. Although the various alternatives would place travel lanes closer to some residences, it is anticipated that MSAT exposure, including DPM, would be less than existing conditions. MSAT emissions are likely lower than existing levels in the design year as a result of EPA's and California's control programs that are projected to further reduce MSAT emissions. Please see Common Responses – Air Quality and Health Risks.

Comment PC-C1-3

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Response to Comment Letter PC-C2

Comment PC-C2-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-C3

Comment PC-C3-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-C4

Comment PC-C4-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-C5

Comment PC-C5-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-C6

Comment PC-C6-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Selection.

Alternatives with both LRT and BRT are included in the Draft EIR/EIS in Section 2.2.7, Alternatives Considered but Eliminated from Consideration. LRT was considered in four such alternatives, and BRT was considered in two such alternatives. For a graphic summary of those alternatives, see Figure 2-39 of the Draft EIR/EIS. BRT and LRT in the project corridor would not be feasible or reasonable without extensions and connections north and south of the project limits. Please also see Common Response – Elimination of LRT and BRT Alternatives.

Response to Comment Letter PC-C7

Comment PC-C7-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Responses – Preferred Alternative Selection and Opposition to Tolling.

Response to Comment Letter PC-C8

Comment PC-C8-1

Please see Response to Comment PC-C7-1.

Response to Comment Letter PC-C9

Comment PC-C9-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Insufficient Environmental Document/Mitigation Measures.

Comment PC-C9-2

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Comment PC-C9-3

Please see Response to Comment PC-C9-2.

Comment PC-C9-4

The I-405 Improvement Project may have an effect on property values, but it is not likely to be a major change because I-405 is an existing facility within Orange County. In addition, Caltrans has found no literature, studies, or evidence that property values decrease because of freeway widening near a home. Please see Common Response – Property Values.

Comment PC-C9-5

The relocation option (Option 1) that retains the gas/petroleum lines on the south side of I-405 within Navy jurisdiction is the preferred option and will be pursued. Please see Common Response – Relocation of Gas Lines.

Comment PC-C9-6

Please see Common Response – Relocation of Gas Lines.

Comment PC-C9-7

Please see Response to Comment PC-C9-2 and Common Response – Relocation of Gas Lines.

Comment PC-C9-8

With respect to a potential bottleneck at the Los Angeles county line, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

As discussed in Section 3.2.6 of the Draft EIR/EIS, the build alternatives would not have any substantial effects on air quality within the project area. MSATs have the greatest potential to affect the health of residents located adjacent to the project. Although the various alternatives would place travel lanes closer to some residences, it is anticipated that MSAT exposure, including DPM, would be less than existing conditions. MSAT emissions are likely lower than existing levels in the design year as a result of EPA's and California's control programs that are projected to further reduce MSAT emissions. Please see Common Responses – Air Quality and Health Risks.

As discussed in Section 3.2.7 of the Draft EIR/EIS, the build alternatives would not have any substantial effects from noise within the project area. Please see Common Response – Noise/Noise Analysis.

Comment PC-C9-9

Under the No Build Alternative, vehicles entering I-405 northbound from Seal Beach Boulevard must merge one lane left to access I-605 and one more lane left to continue on I-405 northbound. Under all of the build alternatives, one lane change plus a lane merge downstream of the SR-22 westbound off-ramp would be required to reach I-605 and two additional lane changes to reach I-405.

Comment PC-C9-10

Generally, the additional capacity on I-405 will accommodate more traffic and therefore encourage motorists avoiding congestion on I-405 and diverting to local streets under the no-build condition to utilize I-405. With respect to a potential bottleneck at the Los Angeles county

line, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Comment PC-C9-11

With respect to the purpose of the toll component of the Express Lanes, the Draft EIR/EIS demonstrates that the purpose is to provide funding for implementation of the Express Lanes (see Draft EIR/EIS, Table 1-10) and to increase vehicle throughput and speeds in the corridor and reduce delay (see Draft EIR/EIS Tables 3.1.6-6, 3.1.6-7, and 3.1.6-8). The toll component provides motorists an option for a reliable trip time in exchange for payment of a toll.

Comment PC-C9-12

The speed and throughput values shown in the Draft EIR/EIS in Tables 3.1.6-6 and 3.1.6-14 are accurate. Slow-moving congested freeway lanes have lower and unstable throughput compared to uncongested lanes. During peak periods, the GP lanes on I-405 are forecast to be heavily congested with lower throughput (approximately 1,200 vehicles per lane per hour) than the Express Lanes, whose throughput will be managed to approximately 1,700 vehicles per lane per hour. For an explanation of how this management works, see the Draft EIR/EIS, page 2-20. The higher throughput of the Express Lanes will actually reduce traffic and congestion in the GP lanes compared to a condition under which the Express Lanes are not managed but allowed to congest and have lower throughput.

The financial problems of the SR-73 toll road located in southern Orange County are well known. All motorists pay a toll to use that road. The tolled Express Lanes proposed in Alternative 3 are only two lanes of I-405 in each direction. The remainder of the lanes on I-405 remains free. For additional information, please see Common Response – Opposition to Tolling.

Comment PC-C9-13

Please see Common Response – Impacts to Businesses.

Comment PC-C9-14

The configuration of the merge from Valley View Street to the Los Angeles county line is done in a way that optimizes the most benefit to the project, including access to the northbound I-405/ westbound SR-22 and northbound I-405/northbound I-605 connectors.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Alternative 3 provides for a Caltrans standard 10-ft-wide inside shoulder on the south side adjacent to NAVWPNSTA Seal Beach.

Rubberized asphalt is not proposed under this project. FHWA policy does not allow the use of pavement type or surface texture as a traffic noise abatement measure because it can lose its effectiveness over time. Presently, FHWA and several state transportation departments are conducting research to determine the longevity of the noise-reduction characteristics of rubberized asphalt.

Comment PC-C9-15

Please see Response to Comments PC-C9-1 through PC-C9-15. The proposed project is subject to federal, as well as State, environmental review requirements. Caltrans, as assigned by FHWA, has prepared this joint Draft EIR/EIS in compliance with CEQA and NEPA. Please see Common Response – Insufficient Environmental Document/Mitigation Measures.

Response to Comment Letter PC-C10

Comment PC-C10-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-C11

Comment PC-C11-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Response to Comment PC-B20.

Comment PC-C11-2

Any permanent and/or temporary acquisition of property would be completed in accordance with the Federal Uniform Relocation Assistance and Real Property Act. As discussed in Appendix D, the Fifth Amendment to the U.S Constitution states, “No Person shall…be deprived of life, liberty, or property, without due process of law, nor shall private property be taken for public use without just compensation.” The Uniform Act sets forth in statute the due process that must be followed in Real Property acquisitions involving federal funds. Supplementing the Uniform Act

is the Government-side single rule for all agencies to follow, set forth in 49 CFR, Part 24. "Displaced individuals families, businesses, farms, and nonprofit organizations may be eligible for relocation advisory services and payments…"

Response to Comment Letter PC-C12

Comment PC-C12-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Selection.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Comment PC-C12-2

Please see Response to Comment PC-C12-1.

The highest traffic noise level from a freeway occurs when traffic is at full capacity but flowing at the posted speed. Noise levels are reduced substantially when traffic is at stop-and-go conditions. Future traffic noise levels are predicted for the free-flowing conditions, and soundwalls are recommended to provide noise abatement for the highest possible traffic noise that can be produced by the freeway. Please see Common Response – Noise/Noise Analysis.

MSATs have the greatest potential to affect the health of residents located adjacent to the project. Although the various alternatives would place travel lanes closer to some residences, it is anticipated that MSAT exposure, including DPM, would be less than existing conditions. MSAT emissions are likely lower than existing levels in the design year as a result of EPA's and California's control programs that are projected to further reduce MSAT emissions. Please see Common Response – Health Risks.

Comment PC-C12-3

Please see Response to Comment PC-C12-1.

Response to Comment Letter PC-C13

Comment PC-C13-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Comment PC-C13-2

Please see Response to Comment PC-C12-1.

Comment PC-C13-3

Please see Response to Comment PC-C12-2.

Response to Comment Letter PC-C14

Comment PC-C14-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Respuesta a la Carta De Comentario PC-C15

Commentario PC-C15-1

Las agencias de Caltrans y Orange County Transportation Authroity les gustaría agradecerle por haber participado en el proceso ambiental para el proyecto de ampliación de la autopista de San Diego (I-405). Su comentario fue considerado durante el proceso de selección de la “Alternative Preferida”, como esta escrito en el reporte llamando en ingles “I-405 Improvement Project Final EIR/EIS.” Se le notificará en la dirección proveida en su Cometario cuando el reporte “Final EIR/EIS” va a estar disponible para revisarlo.

Response to Comment Letter PC-C15

Comment PC-C15-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred

Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-C16

Comment PC-C16-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-C17

Comment PC-C17-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Selection.

There has been no link identified that introduction of a toll Express Lane Facility leads to a reduction in business and/or reduction in sales. Please see Common Response – Business Impacts.

Comment PC-C17-2

Please see Response to Comment PC-C17-1.

Comment PC-C17-3

All reasonable and feasible noise abatement will be constructed, as described in the Final EIR/EIS and final Noise Abatement Decision Report. Air quality Measures AQ-1 through AQ-14, described in Section 3.2.6, will avoid and/or minimize all construction-related air quality effects. As described in Section 3.2.6, emissions will be reduced under all of the build alternatives compared to the future No Build Alternative, and no permanent adverse project-related air quality effects were identified.

Response to Comment Letter PC-C18

Comment PC-C18-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred

Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Selection.

Response to Comment Letter PC-C19

Comment PC-C19-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please note that lighting along the freeway is not a State requirement, with the exception for the ramp merge and diverge locations. The median lighting currently between the I-405/SR-22 to just north of the Seal Beach Boulevard interchange is a special safety feature. The design features implemented into the design of this project account for the standard design speed for freeways as mandated by Caltrans. Any deviations from the standard speed limits will be signed specially, such as during construction.

Response to Comment Letter PC-C20

Comment PC-C20-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-C21

Comment PC-C21-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Soundwalls built by this project will adhere to the most current soundwall construction standards. This includes soundwalls that are replaced in-kind; however, if results of the traffic noise impact analysis indicated that there is no need to replace the existing soundwall, then this project will not upgrade those existing soundwalls. In Westminster between McFadden and Bolsa avenues, Soundwall S141 has been proposed as an in-kind soundwall replacement to the

existing soundwall along the southbound freeway lanes parallel to Vermont Street. Additional soundwalls have also been proposed adjacent to College Park, which is also along Vermont Street.

Please also see Common Response – Noise/Noise Analysis.

Response to Comment Letter PC-C22

Comment PC-C22-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Comment PC-C22-2

Project-related construction and operational air quality and noise effects were analyzed in detail in the project Air Quality Technical Study and Noise Study Report. As described in Draft EIR/EIS Sections 3.2.6, project-related air emissions associated with the build alternatives would be less than the future No Build Alternative. Traffic noise levels for most of the project areas will increase 1 to 3 dB due to the proposed project. Please see Common Responses – Noise/Noise Analysis, Air Quality, and Health Risks.

Comment PC-C22-3

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Comment PC-C22-4

The benefits to congestion of the build alternatives are summarized in the Draft EIR/EIS in Tables 3.1.6-4 through 3.1.6-8 and Tables 3.1.6-12 through 3.1.6-14.

The financial problems of the SR-73 toll road located in southern Orange County are well known. All motorists pay a toll to use that road. The tolled Express Lanes proposed in Alternative 3 are only two lanes of I-405 in each direction. The remainder of the lanes on I-405 remains free. For additional information, see Common Response – Opposition to Tolling.

Under the No Build Alternative, vehicles entering I-405 northbound from Seal Beach Boulevard must merge one lane left to access I-605 and one more lane left to continue on I-405 northbound. Under all of the build alternatives, one lane change plus a lane merge downstream of the SR-22

westbound off-ramp would be required to reach I-605 and two additional lane changes to reach I-405.

The additional capacity and improved performance on the freeway under any of the build alternatives compared to the no-build condition will generally encourage motorists to remain on the freeway rather than divert off of it to avoid congestion.

Comment PC-C22-5

Please see Response to Comment PC-22-3 and Common Response – Preferred Alternative Selection.

Comment PC-C22-6

Alternative 3 improvements extend north of Valley View Street to transition the additional lanes south of I-405/SR-22 appropriately to the Orange/Los Angeles county lines. Rubberized asphalt is not proposed under this project. FHWA policy does not allow the use of pavement type or surface texture as a traffic noise abatement measure because it can lose its effectiveness over time. Presently, FHWA and several state transportation departments are conducting research to determine the longevity of the noise-reduction characteristics of rubberized asphalt.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Comment PC-C22-7

We acknowledge the comment regarding the SR-73 toll road. Please see Response to Comment PC-C22-4.

Response to Comment Letter PC-C23

Comment PC-C23-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

As described in Section 3.2.6, corridor emissions, including MSATs associated with the build alternatives, would be less than the future No Build Alternative. Please see Common Response – Air Quality and Health Risks.

As described in Section 3.1.6, all of the build alternatives increase capacity and reduce congestion on the mainline. The increased capacity will draw trips from the local arterials back to the freeway due to project-related congestion relief and decreased travel times.

Comment PC-C23-2

Please see Responses to Comments CG4-1 through CG4-6.

Response to Comment Letter PC-C24

Comment PC-C24-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Selection.

Response to Comment Letter PC-C25

Comment PC-C25-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Respuesta a la Carta De Comentario PC-C26

Commentario PC-C26-1

Las agencias de Caltrans y Orange County Transportation Authroity les gustaría agradecerle por haber participado en el proceso ambiental para el proyecto de ampliación de la autopista de San Diego (I-405). Su comentario fue considerado durante el proceso de selección de la “Alternative Preferida”, como esta escrito en el reporte llamando en ingles “I-405 Improvement Project Final EIR/EIS.” Se le notificará en la dirección proveida en su Cometario cuando el reporte “Final EIR/EIS” va a estar disponible para revisarlo.

Response to Comment Letter Translation PC-C26

Comment PC-C26-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred

Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-C27

Comment PC-C27-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-C28

Comment PC-C28-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-C29

Comment PC-C29-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Selection.

Response to Comment Letter PC-C30

Comment PC-C30-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Responses – Preferred Alternative Selection and Opposition to Tolling.

Response to Comment Letter PC-C31

Comment PC-C31-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Respuesta a la Carta De Comentario PC-C32

Commentario PC-C32-1

Las agencias de Caltrans y Orange County Transportation Authroity les gustaría agradecerle por haber participado en el proceso ambiental para el proyecto de ampliación de la autopista de San Diego (I-405). Su comentario fue considerado durante el proceso de selección de la "Alternative Preferida", como esta escrito en el reporte llamando en ingles "I-405 Improvement Project Final EIR/EIS." Se le notificará en la dirección proveida en su Cometario cuando el reporte "Final EIR/EIS" va a estar disponible para revisarlo.

Response to Comment Letter Translation PC-C32

Comment PC-C32-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-C33

Comment PC-C33-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-C34

Comment PC-C34-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

With respect to a potential bottleneck at the Los Angeles county line, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Response to Comment Letter PC-C35

Comment PC-C35-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Comment PC-C35-2

All reasonable and feasible noise abatement will be constructed, as described in the Final EIR/EIS and final Noise Abatement Decision Report. Air quality Measures AQ-1 through AQ-14, described in Section 3.2.6, will avoid and/or minimize all construction-related air quality effects. As described in Section 3.2.6, emissions will be reduced under all of the build alternatives compared to the future No Build Alternative, and no permanent adverse project-related air quality effects were identified. Please also see Response to Comment PC-C35-1.

Comment PC-C35-3

As described in Measure T-1, a Final TMP will be prepared prior to project construction that identifies methods to avoid and minimize construction-related traffic and circulation effects as a result of the proposed project. Please see Response to Comment PC-C35-1.

Comment PC-C35-4

Please see Response to Comment PC-C35-1.

Response to Comment Letter PC-C36

Comment PC-C36-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during selection of the Preferred

Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

The May 2012 Draft EIR/EIS, including specialized technical studies (see Appendix F for a complete list), represents a comprehensive analysis of the potential temporary and permanent environmental effects of the proposed build alternatives on the environment. Sections 3.1.4, 3.2.6, and 3.2.7, as well as the Community Impact Assessment, Air Quality Technical Study, and Noise Study Report, are a comprehensive evaluation of the many quality of life issues you mention in your comment. Additionally, Caltrans and OCTA have modified the build alternatives to further address some of the quality of life issues voiced by the corridor cities, as described in Chapter 2 of the Final EIR/EIS.

Comment PC-C36-2

As described in Section 3.2.7, traffic noise is a function of traffic type, volume, and speed. Generally, noise increases with increased speed and with higher volumes of traffic; however, at much higher volumes, travel speed decreases (i.e., stop-and-go conditions), so the worst-case noise levels are experienced when there is an optimum balance between the volume and speed (LOS C or D). For purposes of determining noise impacts, the worst-case traffic noise occurs when traffic is operating at LOS C conditions, when traffic is heavy but remains free flowing. As shown in Appendix N, noise within the general vicinity of your property located at 3920 Wisteria Street, Seal Beach, CA (R5.1 through 5.18), would generally decrease, stay the same, or increase by 2 dBA. Your property is approximately 1,600 ft and 30 houses north of the representative receptors. It is likely any project-related noise increase at your property would be 1-dBA or less, which is generally imperceptible to the human ear. All noise measurements were taken in accordance with the Caltrans Noise Protocol. Please see also Common Response – Noise/Noise Analysis.

MSATs have the greatest potential to affect the health of residents located adjacent to the project. Although the various alternatives would place travel lanes closer to some residences, it is anticipated that MSAT exposure, including DPM, would be less than existing conditions. MSAT emissions are likely lower than existing levels in the design year as a result of EPA's and California’s control programs that are projected to further reduce MSAT emissions. Please see Common Response – Air Quality and Health Risks.

There would likely be negligible increase in noise and emissions associated with the proposed project; however, compared to the exiting future condition (described throughout the Draft EIR/EIS as the future no build), the proposed project would result in decreased emissions and noise.

Comment PC-C36-3

Please see Common Response – Coordination between Caltrans Districts 7 and 12, OCTA, Los Angeles Metro, COG, and the City of Long Beach.

With respect to a potential bottleneck at the Los Angeles county line, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Comment PC-C36-4

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Comment PC-C36-5

It is common for transportation projects to have a funding shortfall in the planning phase. The project is considered a Major Project by FHWA, and a Draft FP must be submitted to FHWA prior to approval of the Final EIR/EIS. The Draft FP must identify full funding for the project.

Comment PC-C36-6

Please see Common Response – Property Values.

Comment PC-C36-7

There are no detours anticipated for Wisteria Street or within any other residential area in College Park East. Detours would be located on larger primary arterials that can better handle larger traffic volumes. College Park East is adjacent to Lampson Avenue, which is a primary arterial that parallels I-405/SR 22 and could be utilized as a construction detour for the proposed project and other future projects within the I-405 and SR-22 project area.

Comment PC-C36-8

Please see Common Response – Preferred Alternative Selection.

Response to Comment Letter PC-C37

Comment PC-C37-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Freeway widening for the build alternatives would require additional space; therefore, the existing soundwalls need to be moved outward to make room for the new lane(s). Approximately

1/2 to 2/3 of the sloped area between the ROW line (i.e., property line) and existing soundwall is required for the proposed project. Due to space limitations, the final design would be a combination of slope and retaining wall with the same 10-ft-high soundwall at the shoulder of the new lane. Future traffic noise levels in this area would be the same or approximately 1-dB higher with the proposed project in comparison to without the proposed project.

Comment PC-C37-2

Please see Response to Comment PC-C37-1.

Comment PC-C37-3

Please see Response to Comment PC-C37-1.

Response to Comment Letter PC-C38

Comment PC-C38-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Project-related construction and operational air quality effects were analyzed in detail in the project Air Quality Technical Study. As described in Section 3.2.6, project-related emissions associated with the Preferred Alternative would be less than the future No Build Alternative.

As described in Section 3.1.6, all of the build alternatives increase capacity and reduce congestion on the mainline. The increased capacity will draw trips (i.e., cut-through traffic) from the local arterials back to the freeway due to project-related congestion relief and decreased travel times.

Section 3.2.6 of the EIR/EIS also addresses exposure to MSATs, including diesel exhaust. Other MSATs addressed in the analysis included acrolein, benzene, 1,3-butidiene, formaldehyde, naphthalene, and polycyclic organic matter. The detailed analysis estimated MSAT exposure based on vehicle speeds and EMFAC2011 emission factors. The build alternatives emissions will likely be lower than present levels in the design year as a result of EPA's and California’s control programs, which are projected to further reduce MSAT emissions. As such, the community of Rossmoor would be exposed to less MSAT emissions under the proposed project. Please see Common Responses –Air Quality and Health Risks.

Comment PC-C38-2

The air quality analysis was conducted consistent with Caltrans protocols and guidance and addresses both construction and operational impacts. As discussed in Section 3.2.6 of the Draft EIR/EIS, the build alternatives would not have any substantial effects on air quality within the project area. See Common Responses – Air Quality and Health Risks.

Response to Comment Letter PC-C39

Comment PC-C39-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Selection.

Comment PC-C39-2

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Comment PC-C39-3

Please see Response to Comment PC-C39-2.

Comment PC-C39-4

It is common for transportation projects to have a funding shortfall in the planning phase. The project is considered a Major Project by FHWA, and a Draft FP must be submitted to FHWA prior to approval of the Final EIR/EIS. The Draft FP must identify full funding for the project.

Bonding against future Renewed Measure M sales tax receipts is planned for all of the build alternatives. The additional increment of cost of Alternative 3 compared to Alternative 1 would be bonded against anticipated toll revenue and not require any additional taxes.

Comment PC-C39-5

The number of lanes resulting from each build alternative varies along the corridor. In the College Park East neighborhood, Alternatives 1 and 3 would provide 9 lanes in each direction. Alternative 2 would provide 10 lanes in each direction. Figures 2-1 and 2-2 on pages 2-6 and 2-7 of the Draft EIR/EIS provide a graphic illustration of the number of lanes in each of the build alternatives along the corridor. With respect to a potential bottleneck at the Los Angeles county

line, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Comment PC-C39-6

With respect to the potential for widening of I-405 in Los Angeles County, the 2012 RTP includes Express Lanes on I-405 north of Orange County, which would presumably entail widening I-405 north of the Orange county line by at least one lane in each direction. The Express Lanes on I-405 north of the Orange county line is in the portion of the RTP that is unfunded. The Gateway Cities COG recently released a plan entitled *SR-91/I-605/I-405 Congestion Hot Spots*, which proposes alternatives that would add one or two lanes in each direction to I-405 north of the Orange county line. The project is not funded, and the next step in the project development process would be preparation of a Project Study Report, which would identify the funding necessary for the project. The timing of the Project Study Report and the funding of a project is not certain. Metro is currently studying provision of Express Lanes on I-405 from I-605 to LAX.

Response to Comment Letter PC-C40

Comment PC-C40-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Response to Comment PC-B20.

Response to Comment Letter PC-C41

Comment PC-C41-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Responses – Preferred Alternative Selection and Opposition to Tolling.

Response to Comment Letter PC-C42

Comment PC-C42-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred

Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-C43

Comment PC-C43-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Selection.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Response to Comment Letter PC-C44

Comment PC-C44-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Selection.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Response to Comment Letter PC-C45

Comment PC-C45-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Selection.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Comment PC-C45-2

Please see Response to Comment PC-C45-1 and Common Response – Measure M Funding.

Response to Comment Letter PC-C46

Comment PC-C46-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-C47

Comment PC-C47-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Your clients coming from the Los Angeles area on southbound I-405 could utilize the toll Express Lane Facility for most of their trip. If they exited the toll Express Lanes between Magnolia Street/Warner Avenue and Brookhurst Street/Talbert Avenue ingress/egress points, they would have to drive approximately 2 miles in the GP lanes to the Harbor Boulevard exit. Although your clients would not be able to exit directly from the tolled Express Lane Facility, it would offer them trip reliability and travel time savings if they choose to use the proposed toll Express Lanes.

Only Alternative 3 would require replacement of the Fairview Road Overcrossing. Caltrans/OCTA have considered design options to avoid replacement of the Fairview Road Overcrossing under Alternative 3. Please see Common Response – Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes. See also Responses to City of Costa Mesa Comments GL1-1 through GL-26.

Response to Comment Letter PC-C48

Comment PC-C48-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-C49

Comment PC-C49-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Selection.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Response to Comment Letter PC-C50

Comment PC-C50-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Comment PC-C50-2

As discussed in Section 3.2.6 of the Draft EIR/EIS, the build alternatives would not have any substantial effects on air quality within the project area. MSATs have the greatest potential to affect the health of residents located adjacent to the project. Although the various alternatives would place travel lanes closer to some residences, it is anticipated that MSAT exposure, including DPM, would be less than existing conditions. MSAT emissions are likely lower than existing levels in the design year as a result of EPA's and California's control programs that are

projected to further reduce MSAT emissions. Please see Common Responses – Air Quality and Health Risks.

Response to Comment Letter PC-C51

Comment PC-C51-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Responses – Almond Avenue Soundwall and Property Values.

Response to Comment Letter PC-C52

Comment PC-C52-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-C53

Comment PC-C53-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

PUBLIC COMMENTS (PC)-D

PC-D1

I-405 Improvement Project
Public Hearing

Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Sony Dang
Organization: Labor Union
Address(Optional): 6241 Warner #114 Huntington Beach
Phone Number: 714-260-3792
Email address:

Comments: To make more Job for everyone } 1

(Space for comments continued on reverse)

PC-D2

Richard & Suzanne Davies

4756 Hazelnut Ave.

Seal Beach, CA 90740

562-430-5593

July 11, 2012

Smita Deshpande CaltransDistrict 12;

I am concerned about the upcoming widening of the 405 between the 73 and the 605. I feel the effect of suddenly reducing the number of lanes (depending which option is selected) down to the current four (4) lanes at the Orange County/LA County border will cause a constant, consistent bottle neck type backup south from that point of monumental proportions. And, since no one has indicated any scheduled project to widen the 405 north past the border, the situation would continue for an undetermined length of time. Most likely years if not decades given the current conditions. } 1

We all, being residents of Southern California, have had to learn to live with these types of condition in our day to day lives. What makes this situation different is the close proximity of Seal Beach Leisure World, a large senior community at the very epicenter of this tremendous traffic bottle neck coming our way. } 2

PC-D2 Continued

The Leisure World community has a disproportionate number of citizens that tend to be breathing and/or mobility challenged and would suffer greatly from the added pollution generated by a constant traffic jam bottling up countless number of idling cars for countless hours. We owe our senior citizens a duty not to subject them to such a dangerous set of conditions for an unknown length of time

2 cont.

The solution that I would recommend for this problem would be to cut off the widening of the 405 at the Valley View exit of the 405 moving the inevitable bottle neck further south until the widening north of the LA/OC county line would allow for a continuous flow of traffic past this vulnerable community and not expose the frail residents to extreme amounts of airborne pollutants.

Granted this just moves the problem to someone else's backyard but that someone else would have a better chance to survive this project since they would have the potential of being younger, more mobile and in better health from the start.

My business is providing care to the elderly in this general area so I am not just speaking in the abstract. I have several clients in Leisure World with COPD as well as other ailments that this project could have a negative impact on. Please give my point's serious consideration.

3

Sincerely,

Dick & Sue Davies

Cc: Assemblyman Jim Silva State Senator Tom Harman

Congressman Dana Rohrabacher Seal Beach Mayor Michael Levitt

Council Member Dist 4 Gary Miller

PC-D3

From: scott davis [sdimperial@sbcglobal.net]
Sent: Monday, June 18, 2012 3:55 PM
To: Parsons, 405.dedcomments
Subject: Seal Beach College Park East

Gentlemen,
With all your degrees, knowledge, and experience, I'm sure you can come up with a solution so as not intrude into our neighborhood College Park East. The 10 ft. of space on Almond Ave.you are proposing to take is used daily for walking, biking, and parking of vehicles. Reasonable thinking would be to take the 10 ft. on the south side of the 405 freeway, were there is plenty of available space.

1

Regards,

Scott J. Davis
College Park East Resident

PC-D4

I-405 Improvement Project
Public Hearing

Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): PAUL DEAN
Organization: Labor Local 652
Address(Optional):
Phone Number: 714-366-5433
Email address: pauldean09@yahoo.com

Comments: 405 IS A NIGHTMARE TO DRIVE DURING COMMUTE HOURS AND THE EXTREME HEAVY TRAFFIC CONGESTION DEGRADES MOTORISTS QUALITY OF LIFE. THIS MAIN TRANSPORTATION ROUTE HAS TO BE WIDENED TO ACCOMMODATE OUR GROWING POPULATION OTHERWISE TRAFFIC WILL COME TO A STANDSTILL WITH EVER INCREASING USAGE. 1

(Space for comments continued on reverse)

Caltrans OCTA

PC-D5

From: Steve Dees [Steve@cottifoods.com]
Sent: Friday, May 25, 2012 11:56 AM
To: Parsons, 405.dedcomments

My house backs up against the Magnolia exit (north) off the 405 north bound lanes. I am currently in a "flood plain" will the status of the flood plain change with the construction of the 405? 1

PC-D6

From: Ddelaterre@aol.com
Sent: Monday, June 25, 2012 12:42 PM
To: Parsons, 405.dedcomments
Cc: miller.sb.district4@earthlink.net
Subject: (no subject)

To Whom it May Concern,

I have reviewed the plans for the proposed project for the 405 Freeway from the 73 Freeway to the 605 Freeway. I see no need for additional changes from Valley View Street to the 605 Freeway. It is already being improved.

Our home is in College Park East at the end of the tract that will have the most impact relative to this new proposed project. We are already enduring freeway construction since 2010 that will continue thru 2014. I am appalled to think that we will have to endure an additional 5 to 6 years of freeway construction. This will be a total of 8 to 9 years exposure to ongoing construction with all of its negative impacts. Noise pollution, air pollution, dirty filth on everything including our homes and automobiles. In addition those people living on Almond Avenue will be living literally next to the freeway. Also there is the matter of the lessened property values we will all endure in our neighborhood as a result of all of this. After completion if this project occurs, the noise level from the additional traffic on the freeway will be impossible to bear. 1

CalTrans in particular has done a horrible job of coordinating these projects. In the area from Valley View to the 605 all of the improvements should be done now. It is interesting to note no improvements will be done on the 405 from the 605 interchange northward on the 405. Thus the traffic will constantly back up right outside of our tract causing more problems because it will go down to 2 lanes in each direction on the 405. The current West Orange County Connectors Project should be completed with no additional freeway work done beyond Valley View with respect to the proposed 405 improvement (sic) project. 2

We will definitely be at the meeting on Tuesday. There should have been much more notice than this. It appears this is a project CalTrans is trying to sneak by our neighborhood. I am very angry about this entire proposal. It will ruin our neighborhood. 3

Diane Delaterre
4849 Dogwood Ave.
Seal Beach, CA 90740
562-431-4602
ddelaterre@aol.com

C-D7

From: DelMonico [jddelmonico@verizon.net]
Sent: Friday, June 15, 2012 10:44 AM
To: Parsons, 405.dedcomments
Subject: No moving the sound wall at the 405/605 interchange

Concerns/Comments re: the proposed expansion of the 405.

Any scenario that involves tearing down and moving the soundwall in Seal Beach along Almond avenue is unacceptable

• Any period of time without any part of the wall is unacceptable in our neighborhood. The noise would be completely intolerable not only from the construction, but from the freeway. Could you sleep with nothing between your home and the 405? How do you expect our children to?
• I am confident that the noise level while there is no wall violates any number of environmental issues in the study that were glossed only looking at the final result. The final result will certainly be bad enough for us, but the rebuild is completely intolerable.
• There is absolutely no way they can build a new wall before tearing down the old (not enough room for the workers and equipment between the two structures).
• No one knows how long the wall be down because "they haven't looked at that closely yet". That answer is completely unacceptable given how long it could potentially be down.
• There will still be a backup as you approach the 605 because LA County is not do any expansion there. THAT BACK UP WILL FURTHER BOTTLENECK OUR EXITS AND CREATES FURTHER POLLUTION IN THE HOMES & COMMUNITIES BORDERING THE 405
• Our property values will likely decrease – almost certainly during the period where the wall is being rebuilt and it is non-existent, and even afterwards because we will lose the landscaping we currently enjoy, not all of the wall will be uniform as not all of it is moving, and because the noise and pollution will be that much closer to our homes. In addition, our exits will be bottlenecked by the narrowing of lanes at the county line so getting to and from our homes will be perceived as more challenging instead of an improvement.
• Pollution will only increase in an area that already has more than its fair share of black soot on everything.
• We will lose 1 side of parking on Almond. This may not seem like a big deal at first blush, but our street sweeping does one side of a cul de sac at a time, and several of our cul de sacs have limited to almost no curb parking. What happens when the street sweeper is coming down the side of Almond that has parking – where are those cars supposed to go? Blocks away?
• We have enjoyed that wider street now for several decades and a more narrow street will affect the safety of our children, bicyclists, roller bladers, runners, walkers, dog walkers, and the elderly who prefer to use their walkers on the road instead of the bumpy sidewalk. And that list is not all inclusive as many of our residents use Almond to access our parks.
• Measure M did not approve Alternative 2 and 3, only Alternative 1.
• I lack faith that the builders will truly make rebuilding the wall a priority – what if something happens and we don't get our wall back for a long time or at all!
• Power outages for the entire neighborhood as power lines are relocated is unacceptable
• We are equally concerned for our neighbors in Fountain Valley who will lose jobs and revenue for the city when 4 of their businesses are uprooted. I know there is talk about relocating them, but so much of a business's success is dependent on it's location – it is unlikely to be a move up for them.
• We will lose trees in Almond Park if the wall is moved at all in that area. The plan right now is to not move that part, so why do you have to move the adjacent parts????
• It seems that either Alternative 2 or 3 will create more lanes of traffic outside our neighborhood by just moving the bottleneck to the LA Count/Orange County interface on the 405. The result is we'll have MORE pollution and noise in our neighborhood as the freeway clogs right at the border, and all those extra cars have nowhere to go with no other freeways expanded. The 605 northbound has never been an issue; the majority of the traffic backup is caused by the 405 north of OC, and expanding the freeway to the border not only fails to address the issue it makes the pollution worse in this area as more cars are backed up more hours of the day on the freeway. The added pollution could be significant for all of us, especially children with asthma, and elderly people with emphysema/COPD, bronchitis, or asthma.

Proposals:
• Go with Alternative 1 as approved by the voters in Measure M

1

PC-D7 Continued

• Narrow the shoulder by a few feet where necessary to avoid moving the wall at all – bridges don't have to have a 10' foot shoulder, so having small sections with smaller shoulders should be achievable without having to make changes to the soundwall.
• Start eliminating one of the General Purpose lanes early to avoid moving the wall
• Consider light rail or some other public transportation.
• Lobby the heck out of the Navy to give a few feet where needed on their side – we don't need 10 feet all the way, just occasionally
• DO WHATEVER IT TAKES NOT TO MOVE THE WALL!!!!!!!!!!

1 cont.

We do not want this freeway project to effect our beautiful neighborhood.

Regards,

Debi DelMonico

PC-D8

From: Demmon, Steve [sdemmon@lacsd.org]
Sent: Thursday, July 12, 2012 1:54 PM
To: Parsons, 405.dedcomments
Subject: 405 widening proposals.

I absolutely would add 2 general purpose lanes in each direction. Please do not add toll lanes. We taxpayers have already paid for the use of the freeway system many times over.

1

Steve Demmon
Los Angeles County Sanitation Districts
Energy Recovery Section
13130 Crossroads Pkwy. Industry, Ca. 91746
562-908-4288 X6106
sdemmon@lacsd.org

PC-D9

From: Sunset Survival & First Aid [info@sunsetsurvival.com]
Sent: Monday, July 02, 2012 8:24 PM
To: Parsons, 405.dedcomments
Subject: Proposed 405 widening - public comment

Hello,

I have been a resident of Huntington Beach since 1973 and would like to comment on the proposed widening of the 405 Freeway in Orange County.

I am in favor of Alternative 2 - adding two general purpose lanes in each direction. Too often I see all lanes of the 405 clogged with traffic at or near a standstill while the carpool/express lane is empty or has very few cars. It seems to me that we could move a lot more cars at peak travel times by making all the lanes general purpose (including existing freeway lanes, although I know that is not part of the current proposed alternatives under consideration).

Considering the projected Orange County population and traffic increases in the coming years, the most cost-effective alternative would be to go forward with adding two lanes in each direction at this time. Going ahead with this major construction project to add only one lane each way would cause years of disruption to the communities close to the 405 Freeway with relatively minimal improvement to traffic conditions. How costly it would be, in terms of public dollars and impact upon the community, to complete a one-lane-each-way expansion project years from now, only to already be in need of another new freeway expansion project to manage the increase in traffic flow we already know will be here in the very near future. } 1

Thank you for your time.

Debbie Depin
President
SUNSET SURVIVAL & FIRST AID
div of Huntington Beach Sunset, Inc.
16835 Algonquin #142
Huntington Beach, CA 92649

email: info@sunsetsurvival.com
phone: 714-369-8096
fax: 714-625-8582
website: www.SunsetSurvival.com

PC-D10

From: Chris De Rose [chris@firsttravelca.com]
Sent: Tuesday, July 17, 2012 8:31 AM
To: Parsons, 405.dedcomments
Subject: Stop the Toll Lanes & Car Pool Lanes

Our tax money pays for freeway construction, everybody should be able to use all lanes. I vote for option 1. ***Stop*** milking the public. } 1

Chris DeRose
First Travel of California
714-974-7400 x 210

PC-D11

From: Shelley DeRose [coho105@socal.rr.com]
Sent: Tuesday, July 17, 2012 1:12 PM
To: Parsons, 405.dedcomments
Subject: OPTION 1

Importance: High

I would vote for number 1…ABSOLUTELY !!!!! } 1

PC-D12

From: Lou Desandro [loudesandro@yahoo.com]
Sent: Tuesday, July 17, 2012 10:17 AM
To: Parsons, 405.dedcomments
Subject: 405 Freeway widening- Alternative 3

I would like to voice my opposition to the 405 Freeway widening proposal Alternative 3. From every perspective, this proposal makes no sense. In recent years, projects in Costa Mesa to modify the Harbor Blvd-405 interchange and the Fairview Ave-405 bridge have been completed and the improvement at those locations has been outstanding. It is impossible for me to imagine that these new interchanges and 14 freeway lanes through our city on the 405 at these locations are not enough. I and most residents of Costa Mesa just aren't buying it. One can speculate about Federal Highway funds, the creation of jobs, toll revenue, and who really gets served by the 73. Whatever forces are driving this project, I feel that the residents of Costa Mesa are being used and that this proposal is an insult to our city. } 1

Lou DeSandro
1031 Cheyenne St
Costa Mesa

PC-D13

To OCTA July 13.2012
Regarding the 405 Improvement Project

For your consideration, my comments are based on driving the 405 freeway almost daily between Seal Beach Blvd and Irvine over the past 35 years.
I remember when we worked at Douglas Aircraft on Lakewood and the 405 was gradually being extended into our area of Orange County. I drove from Garden Grove to Irvine for 21 years. At first the trip took 25 minutes. When I retired it took about 40 minutes by carpooling.

Yes the traffic has gotten heavier as Orange County has grown. And I am familiar with the Fast Trak lanes along the 91 because my daughter lives in Perris. I remember many of my co-workers in Irvine being relieved that their commute from the newer housing areas in Riverside County would be helped by the toll lanes.

But the toll lanes proposed are not to expedite commuter traffic. As retirees my spouse and I use the carpool lanes regularly and they are not generally crowded. Since we live off Seal Beach Blvd, we won't be able to access the proposed toll lanes and we will lose the carpool lane unless we are going a long distance. We generally exit at Beach Blvd or Euclid or Fairview or Bristol. We like the intermittent carpool access on the 22 freeway and think this type of access keeps the traffic flowing more smoothly. **1**

The HOV connector project has cost a lot. Why should the taxpayers have to contribute to a toll system that will reap the benefits of the extensive HOV project? I've heard that our lanes between Seal Beach and Valley View are the heaviest traveled stretch of highway in the US. But that is because there are 2 freeways joined together, the 22 and 405. I think the toll proposal is a thinly veiled attempt to cash in on these well traveled lanes. It is not a "needed" toll road. **2**

PC-D13 Continued

I support adding one additional general purpose lane in each direction. As the population grows, another carpool lane can be added taking away one general purpose lane. And in 15 years or so we can add another general purpose lane.

I'm not an engineer. OCTA seems to do a good job with highway and bridge building here in Orange County. But I don't think this is a needed project. Increasing freeway capacity is a good purpose, but creating toll lanes does not appeal to the local users of the 405 and 22 freeways. **2 Cont.**

Sincerely,

Martha Destra

PC-D14

I-405 Improvement Project
Public Hearing
Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Helio Diaz
Organization: Labor Local 652
Address(Optional): 12871 Dungan Ln Garden Grove CA 92840
Phone Number:
Email address:

Comments: The 405 Freeway from 73 to the 605 Freeway is The busiest in the Nation. } 1

(Space for comments continued on reverse)

PC-D15

I-405 Improvement Project
Public Hearing
Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- ☑ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): JARRED DIAZ
Organization: LOCAL UNION 582 PLUMBERS
Address(Optional):
Phone Number: 714-472-1831
Email address: jdiaz5oca@gmail.com

Comments: Improve traffic flow. } 1

(Space for comments continued on reverse)

PC-D16

I-405 Improvement Project
Public Hearing
Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- [x] Monday, June 4, 2012 – Orange Coast Community College
- [ ] Thursday, June 7, 2012 – Rush Park Auditorium
- [ ] Wednesday, June 6, 2012 – Westminster Community Center
- [ ] Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Jeff Diaz

Organization: Union 582 plumbers

Address(Optional):

Phone Number: 562-43-3346

Email address: utrostartscrew@yahoo.com

Comments: Improve traffic flow 1

(Space for comments continued on reverse)

Caltrans

OCTA

PC-D17

From: Rob Dickson [rldickson_ca@yahoo.com]
Sent: Tuesday, July 17, 2012 4:01 PM
To: Parsons, 405.dedcomments
Subject: Comments - Draft I-405 Improvement Project EIR/EIS

I am opposed to Alternative 3, as it is wasteful, not supported by any of the cities along its route, harmful to Costa Mesa, and completely unnecessary. The history of toll projects in Orange County should be a clear indication that a toll lane on the I-405 will also fail. Measure M was not intended for toll lanes, and Alternative 3 has the most negative environmental, cultural and economic impact on Costa Mesa. 1

I support and incorporate by reference the comments of the City of Costa Mesa, dated July 16, 2012, and available here: http://www.costamesaca.gov/Modules/ShowDocument.aspx?documentid=6912 2

Thank you,

Robert Dickson
Costa Mesa
714-878-2610

PC-D18

I-405 Improvement Project
Public Hearing
Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☑ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Andrew Dominguez	
Organization: Local 582	
Address(Optional): 917 S Oakmont Orange Ca.	
Phone Number: 714-771-6897	Email address:

Comments: Improve Traffic Control. 1

(Space for comments continued on reverse)

PC-D19

From: Graeme Patrick Dore [dore.gp.1@gmail.com]
Sent: Wednesday, July 11, 2012 12:29 AM
To: Parsons, 405.dedcomments
Subject: public comment

Hello,

I wish to comment on the 405 proposed expansion.

I am in favour of options 2 and 3.

I do not know where else the traffic will go if lanes are not added. Idling and slow-moving traffic caused by a lack of capacity has serious implications for the environment and for community health. The environmental costs of the additional greenhouse gas emissions caused by vehicles lingering in gridlock are serious. In addition, there are numerous other toxins needlessly produced by idling and slow-moving traffic such as Nitrogen oxide and sulphurs. These fumes detrimentally impinge upon the populations neighbouring the congested freeways.

I am hopeful you will proceed with options 2 or 3 as soon as practicable. I would also like to see in the future some thought given to one or more reversible lanes to be deployed during peak travel times as well as a raised, reversible express lane to provide additional capacity. 1

I can understand the concerns of neighbouring communities but the 405 freeway is a vital link. One wonders why those who are now voicing concerns about the expansion of the 405 would have chosen to live in close proximity to what is perhaps the most iconic and surely one the largest freeways in the world.

Best,

Patrick Dore

PC-D20

From: Amy Dosier [amydosier@hotmail.com]
Sent: Monday, June 18, 2012 8:51 AM
To: Parsons, 405.dedcomments
Subject: 405 S. bound @ Euclid St.

Good Morning.

Every week day morning I enter onto the 405 South bound entrance of the 405 Freeway at Euclid St. in Fountain Valley. Over the last week the ramp meter has been turned on. It had not been on prior to that. This is causing traffic problems. The cars waiting to enter the 405 freeway were backed up to Ward St. Cars turning left onto Euclid could not get onto Euclid and cars that didn't realize that they needed to get in line at Ward Street to be in line for the freeway entrance line were blocking traffic as they "begged" to get in....as the waiting cars to get on the freeway were blocking the left hand turn lane for 2 streets. It took several light cycles to get onto the on ramp. 1

Possible solutions might include increasing the ramp meter speed or turning the ramp meter off like it was before. A traffic engineer should be sent to study the problem from 7:45-8:15a on a weekday.

Thank you for listening. I hope this problem can be resolved.

Amy Dosier

PC-D21

From: Doyle, Laura O [Laura.O.Doyle@boeing.com]
Sent: Thursday, June 21, 2012 1:17 PM
To: Parsons, 405.dedcomments
Subject: Re: NO BUILD!!!!

Additional comment: it is unclear why a decision is being made at this juncture instead of waiting for completion of the current construction and assessment at that time as to whether additional measures are in order. 1

Thanks.

From: Parsons, 405.dedcomments [mailto:405.dedcomments.Parsons@parsons.com]
Sent: Thursday, June 21, 2012 01:07 PM
To: Doyle, Laura O
Subject: RE: NO BUILD!!!!

Thank you for submitting your formal comment on the Draft Environmental Impact Report/Statement (EIR/S) for the I-405 Improvement Project. Please note, that a response to your comment will be included in the Final EIR/S.

From: Doyle, Laura O [mailto:Laura.O.Doyle@boeing.com]
Sent: Tuesday, June 19, 2012 2:29 PM
To: Parsons, 405.dedcomments
Subject: NO BUILD!!!!

Comments:

We in the local 405/605/22 area have been dealing with the mess of the 405/605 transition. This has resulted in noise, dirt, congestion and dangerous conditions as the relining of the lanes on the 405 is crooked. In addition to the noise associated with the construction, we have also lost mature trees and foliage to accommodate the construction that absorbed some – but not all – of the traffic noise, including from big rigs and other noisy vehicles. The din from freeway traffic has increased significantly Now you are proposing a continued disruption that will no doubt involve taking homes along the freeway and impinging further upon those of us who did NOT buy the property abutting the freeway because we did not want to deal with the noise, visual intrusion and dirt. 2

MY VOTE? NO BUILD!

PC-D22

From: alan1967@verizon.net
Sent: Thursday, July 12, 2012 9:26 PM
To: Parsons, 405.dedcomments
Subject: Comments on Proposed 405 Freeway Improvement Project

As a concerned citizen and a homeowner living within 1 mile of the 405 freeway, I have the following comments on the proposed improvements:

1. Given the current congestion and projected increased traffic volume, the "no build" option is not a viable alternative, as there would be major degradation of air quality, mobility, and quality of life. 1

2. Any of the build options will be costly and disruptive. Therefore, we should adopt an option that gives us the most additional capacity per dollar spent. This appears to be Option 2 or 3, both of which add two lanes instead of one lane. 2

3. The toll lane (Option 3) should be built only if high occupancy vehicles are allowed to use it without charge. 3

4. Regardless of which option (1, 2 or 3) is built, the existing sound wall on the north side of the freeway in Seal Beach should not be moved further into the College Park East neighborhood. Instead, the freeway should be expanded to the south by asking the Federal government to donate a strip of land along the northern edge of the Naval Weapons Station. This land is currently vacant and a shift of the freeway in this direction will have no adverse impacts. In exchange for the land donation, the OCTA would pay the cost of relocating the existing Base perimeter fence and security systems. 4

Thank you for your consideration of these comments.

---Alan P. Dubin---
12021 Chaucer Rd
Los Alamitos, CA 90720

PC-D23

From: Judy Duffy [jud.duffy@verizon.net]
Sent: Monday, June 25, 2012 9:31 AM
To: Parsons, 405.dedcomments
Subject: #405/#605 & #73

Importance: High

My name is Judith Duffy, we live in Westminster off Bolsa Chica/Westminster. Our life has been in turmoil for a few years and especially the last year
with the freeway construction. Our area is in the "detour" area as well as the "access" area. We cannot determine when we can use the freeway,
if we can use Bolsa Chica/Valley View, if Westminster is full of traffic being detoured from Seal Beach or ???????

Signs are cut & pasted, posted upside down/or unreadable - some look like 8" X 10" unreadable or understandable when/if you are stopped, certainly not while driving.
It is like a card game.
The road is open/closed - I leave driving one way, unable to return the same way...There was a closure with a small sign at Westminster/Bolsa Chica...
drove out, turned onto Bolsa Chica to find the road closed ...it just continues. The freeway exit for Bolsa Chica has changed 3 times as your continue
diverting, adding - who knows what/when or where...NO MORE!

Now the governmen/Caltrans is contemplating widening and merging - more of this directly impacting us AGAIN - or STILL! The area you are utilizing is
also directly in our path - affecting our shopping, entry to freeway, doctor, shopping - it is just crazy...STOP! Just STOP! 1
We have businesses that are needed in our community that will be impacted - we are being impacted!
It's time to let us "enjoy" what has been done - which may take years to appreciate considering the stress and inconvenience we have already endured!

We want to drive down the street and enter onto the freeway or on the street to the grocery store, fast food, doctor, college, shopping...
this "merge"/"widening" is just a nightmare to our local economy and our lives. Our entire street and many around are seniors - having
lived here more than 30 years...We would like to be able to take back our streets - let us live our lives with some sanity - we would like
the have some confidence in leaving our home and knowing where and how we can go for the our needs and not loose any more commercial businesses.

YOU, Caltrans, need to stop - just stop...we have given time, patience and are thoroughly exhausted - leave us alone - we can survive
without another widening, painting, directing...we would appreciate the end - let us live our life without all the turmoil, dirt, confusion...

Judith Duffy
jud.duffy@verizon.net
Westminster, CA 92683

RESPONSE TO PUBLIC COMMENTS (PC)-D

Response to Comment Letter PC-D1

Comment PC-D1-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-D2

Comment PC-D2-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

With respect to a potential bottleneck at the Los Angeles County line, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Comment PC-D2-2

All reasonable and feasible noise abatement will be constructed, as described in the Final EIR/EIS and final Noise Abatement Decision Report. Air quality Measures AQ-1 through AQ-14, described in Section 3.2.6, will avoid and/or minimize all construction-related air quality effects. As described in Section 3.2.6, emissions will be reduced under all of the build alternatives compared to the future No Build Alternative, and no permanent adverse project-related air quality effects were identified. Please see Common Responses – Air Quality and Health Risks.

Comment PC-D2-3

Caltrans and OCTA have developed design options to the build alternatives, as discussed in Chapter 2 of the Final EIR/EIS, to avoid many of the community concerns/impacts identified during the Draft EIR/EIS public comment period; however, your recommended alternative does not meet the purpose and need of the project as described in Chapter 1 of the Final EIR/EIS. Please also see Response to Comment PC-D2-2.

Please see Common Response – Impacts to Businesses.

Response to Comment Letter PC-D3

Comment PC-D3-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Responses – Almond Avenue Soundwall.

Response to Comment Letter PC-D4

Comment PC-D4-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-D5

Comment PC-D5-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

The I-405 Improvement Project will not be applying for a Conditional Letter of Map Revision from FEMA to change the Special Hazard Zone Designation.

Response to Comment Letter PC-D6

Comment PC-D6-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Caltrans and OCTA appreciate your personal sacrifices during construction of the SR-22 WCC Project. Caltrans and OCTA are responsible for providing a world-class transportation system in

Orange County. The project corridor is one of the busiest stretches of freeway in the nation and, in 2009 (existing condition), there were 4 million hours of delay within the project area alone. This is expected to increase to 22 and 90 million hours of delay in 2020 and 2040, respectively. Every year that projects are delayed results in substantial additional delay and diversion of traffic from the freeway onto the local streets. Because of the magnitude of resources that have been spent in the project area in the last decade, it is reasonable to anticipate a brief respite subsequent to construction of the proposed project; however, the project area will always be high on the list for receipt of transportation funds based on the projected levels of delay within the project area.

The No Build Alternative results in greater congestion, resulting in further degraded air quality and MSAT emissions. Construction of any of the build alternatives would reduce congestion both on the mainline and on local streets and improve air quality.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3.

Caltrans has found no literature, studies, or evidence that property values decreased because the freeway was widened near homes. It should also be noted that your property is located approximately 1,000 ft (i.e., 12 rows of houses) north of where worst-case sound levels were predicted to increase up to 2 dBA directly adjacent to I-405, compared with the future No Build Alternative. Sound levels at your property would likely increase less than 1-dBA, which is imperceptible to the human ear. Soundwalls will be constructed throughout the project area, as described in the Final Noise Abatement Decision Report.

Please see Common Responses – Preferred Alternative Identification, Almond Avenue Soundwall, Air Quality, Health Risks, Property Values, and Noise/Noise Analysis.

Comment PC-D6-2

Bridges and overcrossings within the WCC Project area would not be affected. Without continuing the additional lanes north of Valley View Street, a new bottleneck would be created that would degrade freeway operations south of Valley View Street.

Comment PC-D6-3

As described in Chapter 5 of the Final EIR/EIS, public notice for this project included mail notification, public outreach to community groups, businesses, and the cities, as well as notification via newspaper advertisements (i.e., English, Spanish, and Vietnamese), e-mail notifications, and various local media (i.e., television and print stories). Public notice for the project has exceeded all legal requirements.

Response to Comment Letter PC-D7

Comment PC-D7-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Responses to Comments PC-A17-1 through PC-A17-12.

Response to Comment Letter PC-D8

Comment PC-D8-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Responses – Preferred Alternative Identification and Opposition to Tolling.

Response to Comment Letter PC-D9

Comment PC-D9-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Responses – Preferred Alternative Identification and Opposition to Tolling.

Response to Comment Letter PC-D10

Comment PC-D10-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Responses – Preferred Alternative Identification and Opposition to Tolling.

Response to Comment Letter PC-D11

Comment PC-D11-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. As described in Chapter 2 of the Final EIR/EIS, Alternative 3 was selected as the Preferred Alternative. Please also see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-D12

Comment PC-D12-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternative 3 would require replacement of the Fairview Road Overcrossing. Caltrans/OCTA have considered design options to avoid replacement of the Fairview Road Overcrossing under Alternative 3; however, it should be noted that the project corridor is one of the busiest stretches of freeway in the nation and, in 2009 (existing condition), there were 4 million hours of delay within the project area alone. This is expected to increase to 22 and 90 million hours of delay in 2020 and 2040 under the No Build Alternative, respectively. Although the proposed project would substantially reduce hours of delay in 2020 and 2040, there would still be a substantial increase in hours of delay from the existing condition. Future improvements will be necessary within the corridor to maintain/reduce the hours of delay beyond 2040.

Please see Common Responses – Preferred Alternative Identification and Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes.

Response to Comment Letter PC-D13

Comment PC-D13-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

We appreciate the concerns expressed about limited access to the Express Lanes in Alternative 3 and continuous access to the HOV lanes on SR-22. Under Alternatives 1 and 2, continuous access would be provided to the HOV lanes on I-405 within the project limits. Limited access to the Express Lanes in Alternative 3 is necessary to manage the Express Lanes to the target volume described on page 2-20 of the Draft EIR/EIS and to limit toll evasion.

Please see Common Responses – Opposition to Tolling for an explanation of the change in HOV eligibility. Please also see Common Response – Identification of Preferred Alternative.

Comment PC-D13-2

We acknowledge the opposition to the proposed tolled Express Lanes in Alternative 3. Please also see Common Response – Opposition to Tolling. With respect to the purpose of the toll component of the Express Lanes, the Draft EIR/EIS demonstrates that the purpose is to provide funding for implementation of the Express Lanes (see Draft EIR/EIS, Table 1-10) and to increase vehicle throughput and speeds in the corridor and reduce delay (see Draft EIR/EIS, Tables 3.1.6-6 through 3.1.6-8).

Response to Comment Letter PC-D14

Comment PC-D14-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-D15

Comment PC-D15-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-D16

Comment PC-D16-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-D17

Comment PC-D17-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Based on the analysis provided in Chapters 3 and 4 of the Final EIR/EIS, no project-related environmental effects were identified that would substantially differentiate the build alternatives other than the operation and implementation of the toll component of Alternative 3. Please see Common Responses – Preferred Alternative Identification, Opposition to Tolling, and Measure M Funding.

Comment PC-D17-2

Please see Responses to Comments GL1-1 through GL1-26.

Response to Comment Letter PC-D18

Comment PC-D18-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-D19

Comment PC-D19-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

We appreciate your concerns for improvement in the corridor. Based on the traffic data, there is not a strong directional split of traffic on I-405 in the project area. Consequently, reversible lanes have not been included in the project. The Draft EIR/EIS (see page 2-39) includes many alternatives in Section 2.2.7, Alternatives Considered but Eliminated from Further Consideration, that provide elevated lanes and transit facilities.

Response to Comment Letter PC-D20

Comment PC-D20-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

We appreciate your concern. All of the build alternatives include a new entrance ramp from eastbound Euclid Street to I-405 southbound. This ramp will reduce the queuing on Ellis Street that occurs nearly every morning as described in the comment.

Response to Comment Letter PC-D21

Comment PC-D21-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

The planning and design phases for large transportation projects take many years. The WCC Project will not be completed until 2015. Waiting until then would push construction of the I-405 Improvement Project from 2015 to approximately 2020, resulting in the traffic conditions within the corridor described for the 2020 No Build Alternative.

Comment PC-D21-2

Project-related construction and operational air quality and noise effects were analyzed in detail in the project Air Quality Technical Study and Noise Study Report. As described in Sections 3.2.6 and 3.2.7, project-related emission and noise levels associated with the Preferred Alternative would be less than the future No Build Alternative.

As described in Section 3.1.4.2, based on preliminary engineering, no acquisitions of homes are anticipated. All reasonable and feasible noise abatement will be constructed, as described in Section 3.2.7 of the Final EIR/EIS and final Noise Abatement Decision Report. Please see Common Response – Noise/Noise Analysis.

Response to Comment Letter PC-D22

Comment PC-D22-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Comment PC-D22-2

Caltrans and OCTA acknowledge your preferences among the alternatives.

Comment PC-D22-3

HOVs meeting the occupancy requirement for the Express Lane in Alternative 3 would use the Express Lanes free. For a discussion of the need to raise the occupancy requirement to three persons per vehicle, please see Common Response – Opposition to Tolling.

Comment PC-D22-4

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Responses – Almond Avenue Soundwall and Shifting Improvements away from Residential Properties onto NAVWPNSTA Seal Beach Property.

Response to Comment Letter PC-D23

Comment PC-D23-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Caltrans and OCTA appreciate your personal sacrifices during construction of the SR-22 WCC Project. Caltrans and OCTA are responsible for providing a world-class transportation system in Orange County. The project corridor is one of the busiest stretches of freeway in the nation and, in 2009 (existing condition), there were 4 million hours of delay within the project area alone. This is expected to increase to 22 and 90 million hours of delay in 2020 and 2040, respectively. Every year that projects are delayed results in substantial additional delay and diversion of traffic from the freeway onto the local streets. Because of the magnitude of resources that have been spent in the project area in the last decade, it is reasonable to anticipate a brief respite subsequent

to construction of the proposed project; however, the project area will always be high on the list for receipt of transportation funds based on the projected levels of delay within the project area. The No Build Alternative results in greater congestion, resulting in further degraded air quality and MSAT emissions. Construction of any of the build alternatives would reduce congestion both on the mainline and on local streets and improve air quality.

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PUBLIC COMMENTS (PC)-E

PC-E1

From: Oliver Early [earlyoliver@gmail.com]
Sent: Sunday, July 01, 2012 6:07 PM
To: Parsons, 405.dedcomments
Subject: I405 no on alternative 3

I vote against Alternative 3 for the I 405 Improvement Project. This suggested plan is too expensive and ill-conceived. 1
Thank you.
Sincerely,
Oliver Early
Costa Mesa resident and homeowner

Sent from my iPad

PC-E2

From: J.N. Ebner [bamus.batis@yahoo.com]
Sent: Tuesday, June 19, 2012 11:46 AM
To: Parsons, 405.dedcomments
Subject: Grrrrrr....

12-19-12

Just received this "extension" for comments email *today*. Only two days late.

It seems to me that this is simply another indication of the lameness of the way the whole 405 freeway widening project is being handled, as it affects the long - suffering, taxpaying, driving public.

The latest I've heard is the closure of ALL of the Wilshire on and off - ramps, for horrors! Over one year! Of course, no alternate suggestions were offered, or ... free cases of Excedrin.

While I rarelly use the Wilshire on and/or off ramps, I can easily imagine the nightmare this will be for those who do. And for those who use the next nearest on and off ramps, *and* all of us who will be trying to drive past all of this confusion and mess. 1

Betcha if you had put out this problem to the general public at least one year ago, the engineer - types out there would have come up with some clever and useful ideas that would *not* involve such a nightmare as eliminating on and off - ramps to Wilshire for over one year.

What next? UGH.

Disgusted Taxpayer

PC-E3

From: Eric Elliott [eelliott2002@yahoo.com]
Sent: Tuesday, June 19, 2012 11:06 AM
To: Parsons, 405.dedcomments
Subject: This project should have never been done! It was not needed and only cost tax payers money and extreme hardship.

My name is Eric and I live on Acacia Ave where the 22 and 405 intersect. I went to the first meeting with my neighbors about the project and we all voiced our concerns.
First of all we were concerned with cost and were told that it won't cost us anything because tax dollars were not being used. That we found later to be Bullshit! It cost us plenty. The work did not have to be done and in today's economy wasting money should not be on the list of things to do. We also pointed out areas that desperately needed work and they were ignored because they were needed and cost less. 1
Second, we felt it was not needed and you guys insisted it was because so many people were using the carpool lane. You also claimed that the bridge on Valley View was in a state of disrepair. Both items are again bullshit! First of all, hardly anyone uses the carpool lane in that area and the bridge has been standing just fine longer than most of the buildings in the area! It showed no signs of weakness or anything wrong. 2
Third, we were concerned with the length of time it would take since we also knew that we were not going to win a stop-order. (I personally attempted to get a stop order twice and I heard that others attempted it as well because we did not want to project done. All failed unfortunately). When told the length of time it would take most of us were appalled. We could have done it ourselves in half the time if we wanted it done. 3
Fast forward to today: The Valley View bridge looks like it might be done, but something tells me we are about to get slammed again with a real mess just like before. It's also clear from looking at the freeway that this project is far from complete. there were also plans to widen the bridge on Valley View, but that did not happen. If this were a democracy we would have gotten to vote on the project, but unfortunately we do not live in a democracy so all the meetings and such were shams.
So with that said I just want to say thanks for making life unbearable, not doing the work that needed to be done (example - repaving Valley View between Tiffany and Orangewood), not improving anything and wasting our tax dollars. I hope the bridge collapses and a big sinkhole appears on Valley View in the area!! 4

~Eric

PC-E4

I-405 Improvement Project
Public Hearing
Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Jose A Fernandez	
Organization:	
Address(Optional): 1121 S. Halladay, Santa Ana, CA. 92701	
Phone Number: 714-497-9775	Email address:

Comments: We need Better Transportation Form for the toll express. 1

(Space for comments continued on reverse)

PC-E5

From: Ron Epperson [redacted]
Sent: Thursday, May 31, 2012 8:12 PM
To: Parsons, 405.dedcomments
Cc: Ron Epperson (home)
Subject: Comments on I-405 improvements near I-405/SR-73 interchange (Plan 3)

Smita Deshpande:

With respect to the I-405 Improvement Project, Build Alternative 3, and more specifically the interconnection between the I-405 and SR-73, I would like to make the following comment.

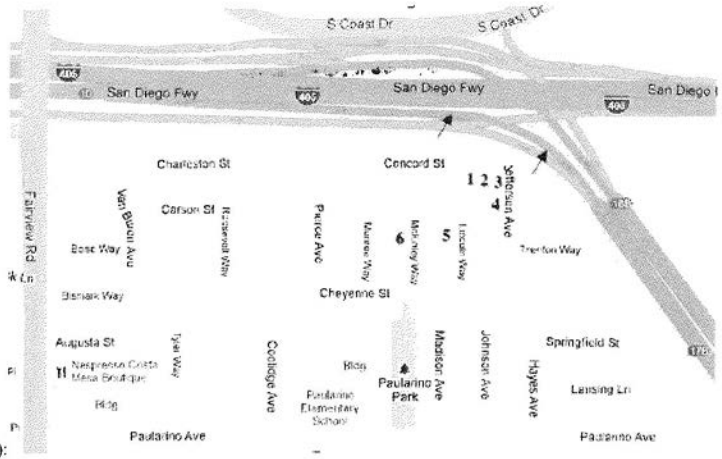
I live in the area adjacent to the 405/73 interconnect, where Build Alternative 3 would double the number of lanes connecting traffic from the 405 to the 73. Currently the lanes which connect these two freeways are physically higher than the sound walls that are adjacent to the tract in which I live. This results in a great deal of freeway noise for the people who live in my tract. I would like to request that some form of sound screen or modified sound wall be included in these new I-405/SR-73 connections so the sound levels that we are subjected to can be reduced. 1

I have attached a map showing the area most affected by the current configuration (and which would worsen if the number of lanes were to be doubled), along with some photos showing the traffic we have to deal with every day (and night). This traffic creates the freeway noise that we have to live with.

You can see in photos 5 and 6 that a sound wall has been built along the edge of the I-405/SR-73 interconnect, but on the north (other) side of the freeway. This protects the homes on the north side of the 405 freeway from this freeway noise. All I am asking is that the same level of protection from freeway noise be provided to those who live in my tract, which is on the south side of the 405 freeway. 2

MAP SHOWING AREA OF CONCERN (photo sites marked with

PC-E5 Continued



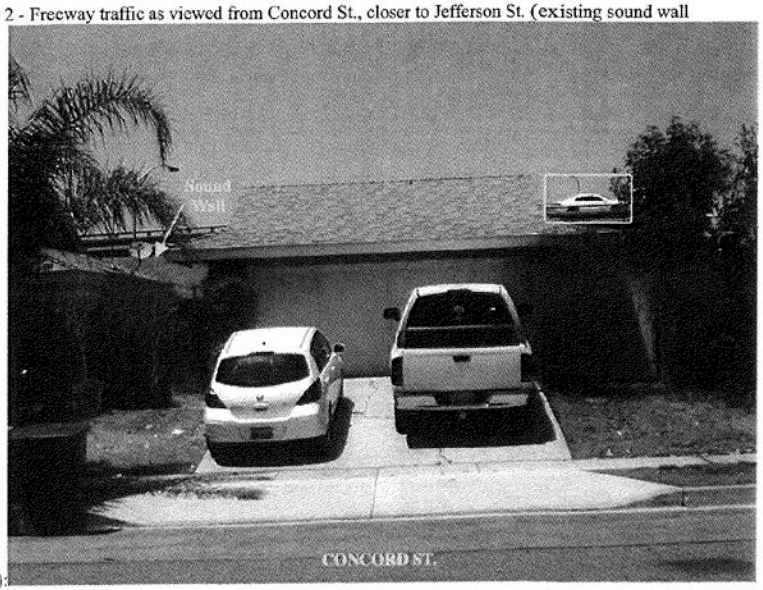
numbers):

Photo 1 - Freeway traffic as viewed from Concord St. (existing sound wall

noted):

PC-E5 Continued

Photo 2 - Freeway traffic as viewed from Concord St., closer to Jefferson St. (existing sound wall



noted):

Photo 3 - Freeway traffic as seen from Concord St. and Jefferson St. (existing sound wall noted):

PC-E5 Continued

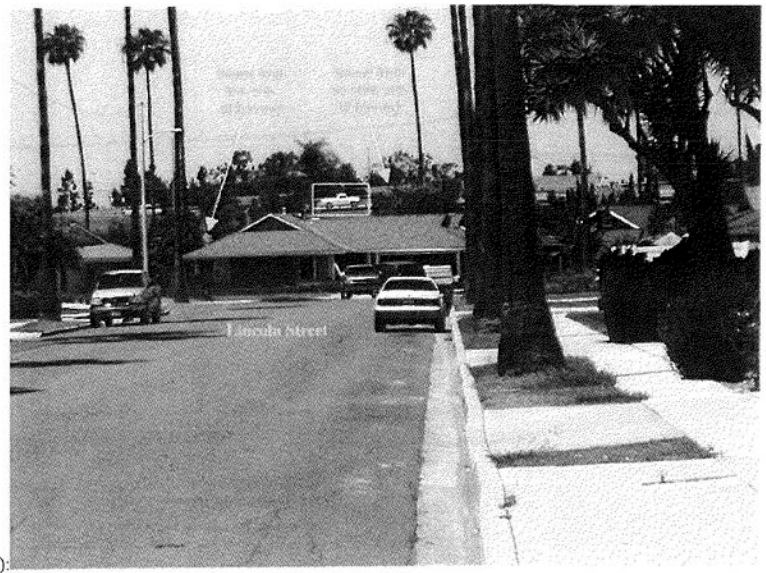
Photo 4 - Freeway traffic as viewed from Jefferson St. near Concord St. (existing sound wall

PC-E5 Continued

noted):

Photo 5 - Freeway traffic as viewed from Lincoln St. (existing sound wall on both sides of freeway

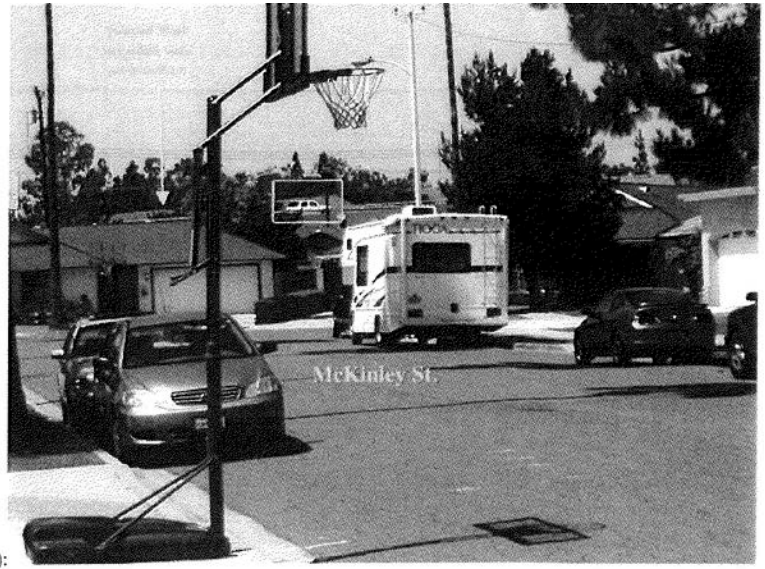
PC-E5 Continued



noted):

Photo 6 - Freeway traffic as viewed from McKinley St. (existing sound wall on other side of freeway

PC-E5 Continued



noted):

Thank you for considering this matter.

Ron Epperson

PC-E6

From: Angie Epstein [aepstein1@socal.rr.com]
Sent: Sunday, July 15, 2012 11:42 PM
To: Parsons, 405.dedcomments
Subject: 405 fwry plans

Dear Sir or Madam,
We live in the Rossmoor community and are deeply concerned about the proposed increase in lanes to this freeway. We purchased our home in Rossmoor 11 years ago and prior to doing so, researched the best schools, neighborhoods and central location. We chose Rossmoor even though there were higher taxes and the homes were so expensive. We saved and saved to be able to purchase our home.
I DRIVE THE 405 FREEWAY EVERY DAY FROM SOUTH ORANGE COUNTY UP TO SEAL BEACH BLVD AND THERE IS NOT A LOT OF TRAFFIC! THERE ARE SUFFICIENT LANES. THE EXCEPTION WOULD BE IF THERE WERE AN ACCIDENT OR ALL THE CONSTRUCTION!!
We are EXTREMELY concerned as to the impact adding lanes to the fwry will have as far as pollution, air contaminants and so I agree with Rossmoor residents the following: 1

Rossmoor is a community of both young children and elderly adults, the two most sensitive age groups to air pollution. We are asking that OCTA reexamine the air quality, traffic and noise impacts of the project on Rossmoor, especially its schools, parks and homes, and undertake a thorough and complete consideration of the most effective ways to mitigate those impacts to a level of insignificance.

I would like OCTA to analyze whether reducing northbound lanes sequentially a mile or two before the county line would help mitigate the potential for congestion, air quality impacts and the possibility of motorists using surface streets in Los Alamitos to navigate around the chokepoint. Rather than losing two lanes at the county interface, we would like OCTA to consider squeezing down capacity miles from the county line. If and when Los Angeles County increases the capacity of the 405 in Long Beach, then the additional lanes of traffic could be opened at the county line. 2

I am also asking that OCTA conduct a better outreach effort in Rossmoor to elicit input and carry out real dialogue about the project.

***

In addition..... I have heard that there are intensions to make the 405 a toll road. This is totally obsurd and out of the question. We have paid for that freeway with our tax dollars and it is NOT the right of our government to charge us to use our own freeway. This is not privately owned land that the developer has decided to put a freeway on. I WILL MAKE SURE THAT THERE IS NEWS MEDIA CONTACTED AND THAT EVERY SINGLE RESIDENT ALONG THE STRETCH OF HIGHWAY WILL BE NOTIFIED OF THE INTENT AND 3

PC-E6 Continued

THAT OUR VOICES BE HEARD. I will use every single ounce of energy to fight this unethical use of the taxpayer's freeway!
I would greatly appreciate this paragraph being forwarded to appropriate personnel. 3 Cont.

Sincerely,

Angie Epstein
3262 Oak Knoll Drive
Rossmoor, CA 90720
aepstein1@socal.rr.com

PC-E7

From: Danciu, Camelia [Cammy]
Sent: Thursday, July 05, 2012 1:09 PM
To: Newcomb, Pamela
Subject: FW: I 405 project

From D2 - fyi

-----Original Message-----
From: Currie Betty [mailto:bca90740@gmail.com]
Sent: Wednesday, July 04, 2012 3:29 PM
To: 2, District
Subject: I 405 project

Supervisor John Moorlach,
My husband and I live in Leisure World Seal Beach and effected by the OCTA freeway expansion of the I 405, 22 and 605 freeways.

After reading the three options for improving these freeways we think the best option is Alternative One. This option adds one general-purpose lane in each direction, the R\reason being, the current freeway footprint will accommodate this expansion. The other two Alternatives are much more costly will cause many problems for the surrounding neighborhoods. 1

Thank you,
Betty and William Erickson

PC-E8

I-405 Improvement Project
Public Hearing

Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- [x] Monday, June 4, 2012 – Orange Coast Community College
- [ ] Wednesday, June 6, 2012 – Westminster Community Center
- [ ] Thursday, June 7, 2012 – Rush Park Auditorium
- [ ] Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): ERNEST ESCANTO
Organization: U.A 582
Address(Optional):
Phone Number: 562 472 9478
Email address: Conchernie@Hotmail.Com

Comments:
It's All good 1

(Space for comments continued on reverse)

PC-E9

July 1, 2012

OCTA Board Member
550 S.Main St
PO BOX 14184 Orange CA 92863 TEL: (714) 560 6282

Subject: I-405 widening impacting the College Park East Community in the City Seal Beach (Between the SR -73 and I-605)

Dear Board Member:

I am a resident of the City of Seal Beach College Park East Community. **I am asking you to vote for Alternative 1** for the I-405 Freeway Improvement project. This alternative will have the most limited community and environmental impacts compared to any other alternative. The community believes this alternative is the most best choice because: 1

1. Alternative 1 does not encroach 10 feet into Almond St. which has an existing soundwall that protects the community. If this wall is torn down and a new wall is built for widening the I-405, it will make Almond a one way street. In case you were not aware, Almond Street is a dedicated Tsunami escape route and the only community access route out from the College Park Community. Almond Street needs to be wide and two way configuration is needed in order to serve as an escape route due to floods and/or Tsunamis. 2

2. Alternatives 2 and 3 will encroach 10 feet into Almond St and will also impact to existing parks at Astor Street and at Orleander Street. Like many of parks in our community, children play and senior citizens walk along Almond Street every day. Mothers and their children walk use these parks every day and walk along Almond St. An alternative that encroaches into our community will create expose families and children to more vehicle exhaust which causes **respiratory problems, lung disease and/or lung cancer**. The closer the freeway is closer to our community, the more exposed to vehicle exhaust and harmful toxics. 3

3. Funding is only available for Alternative 1.
Alternatives 2 and 3 have a funding gap which will require OCTA to issue bonds and take more of the County's tax dollars. The community and residents do not favor this irresponsible tax-waste scenario. 4

Sincerely,
Raymond + Patricia Esperti

PC-E10

I-405 Improvement Project
Public Hearing

Comment Sheet

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- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Jose Angel Beranca Espino
Organization: Labor Local 652
Address(Optional): 10611 Patricia Dr anaheim Ca 92804
Phone Number:
Email address:

Comments: empleo en el comercio de construccion esta en lo mas bajo estados los tiempos 1

(Space for comments continued on reverse)

PC-E10 Translation

Comment:

Employment in the construction industry is at its lowest point ever. 1

PC-E11

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Austin Etchesoyer
Organization:
Address(Optional):
Phone Number: 949.205-0143 Email address: Tr3S3iS@Gmail.com

Comments: If the project was finished Quicker than later, It will Benefit me by allowing me to get home from work faster, & to Reduce the amount of time I Spend in traffic, To & from School. 1

(Space for comments continued on reverse)

Caltrans OCTA

PC-E12

July 8, 2012

Ms. Smita Deshpande
Branch Chief
Caltrans District 12
2201 Dupont Dr., Suite 200
Irvine, CA 92612

RE : Moving of Almond Avenue soundwall and 405 freeway expansion project in Orange County.

Ms. Deshpande,

I am currently a resident of Seal Beach, California and am extremly concerned about the impact of proposed changes to the 405 freeway in Orange County. I have attended a briefing provided by CalTrans and understand that voters have expressley authorized changes to improve the flow of traffic on the 405 freeway in Orange County under Measure M. I am supportive of improvements to the freeway system, but several of the proposals that have been shown to the community will cause tramatic changes to my family. I live approximately 100 yards from the Almond Avenue soundwall in Seal Beach which is being considered for removal and relocation closer to the homes on Almond Avenue. Although I am not the closest home on my culdesac (there are seven houses on my street that are closer and numerous homes along the Almond Avenue corridor), I live close enough to the wall that on a good day I could throw a baseball from my front yard and hit the wall. 1

If the Almond Avenue sound wall is removed the immediate noise impact of it being torn down will expose my family to the noise and pollution of the 405 freeway which will be horrible. 2 In addition, the increase in noise and air pollution during this entire process will effect my asthma and could have long term health effects on my children and pet. I do not believe it is realistic to expect my kids and dog to be locked up inside the house during the entire length of this process. I have been told that work would also be done at night to avoid some of this inconvience to the neighborhood. That might seem like a better alternative, however, if those making the decision on this project believe most people can sleep while having a wall torn down, rebuilt, and freeway construction taking place just slightly more than 100 yards from your bedroom I disagree. If they do not believe that situation is not difficult, please let them know they have an open invite to spend a few rent free days at my residence during the process if they approve tearing down the Almond Avenue wall. 3

In addition, the proposed freeway improvements are not being matched in Los Angeles County and our neighborhood sits at the juncture where the increased lanes in Orange County will meet the unchanged lanes in Los Angeles County. In effect, giving those of us in Seal Beach increased congestion on our off-ramps and a sideline view (and ear) of the pending bottle neck which has already been identified in potential impact studies. 4

PC-E12 Continued

The increased traffic disruption from the Orange County/Los Angeles County bottle neck in conjunction with the moving of the Almond Avenue sound wall closer to homes are too great a burden for one community to carry. There are numerous other issues with options that require moving the sound wall, such as the reduction in land to local parks, cost exceeding what was authorized by voters in Measure M, changes in parking patterns and disruption of bussiness in neighboring Fountain Valley. As such, I am requesting your commitment that Option 1, be the only option approved for improving the 405 in Orange County. 5

Please provide me with a response that addresses your position to this expansion approved under measure M.

Sincerely,

Darrell Evans

Darrell Evans

3560 Iris Circle
Seal Beach, CA 90740

Cc: Governor Jerry Brown
Congressman Dana Rohrabacher
Supervisor John Moorlach
State Senator Tom Harman
Assemblyman Jim Silva

RESPONSE TO PUBLIC COMMENTS (PC)-E

Response to Comment Letter PC-E1

Comment PC-E1-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-E2

Comment PC-E2-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

It appears that this comment pertains to the I-405 Sepulveda Pass Improvements Project because Wilshire Boulevard is not within the I-405 Improvement Project limits. Please direct your comment to Metro Community Relations (6060 Center Drive, 2nd floor, Los Angeles, CA 90045-2952, 213-922-3665).

Response to Comment Letter PC-E3

Comment PC-E3-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Valley View Street is part of the SR-22 WCC Project and includes HOV connectors at SR-22/I-405 and I-405/I-605. The Valley View Street Bridge will only be constructed once, under the SR-22 WCC Project. None of the bridges constructed/ improved as part of the SR-22 WCC Project (i.e., Valley View Street and Seal Beach Boulevard) will have to be reconstructed/improved as part of the I-405 Improvement Project.

It appears that your comment pertains to the WCC Project. Please direct your comment to the OCTA Community Relations Office (550 South Main Street, Orange, CA, 714-560-5376).

Comment PC-E3-2

Please see Response to Comment PC-E3-1.

Comment PC-E3-3

Please see Response to Comment PC-E3-1.

Comment PC-E3-4

Please see Response to Comment PC-E3-1.

Response to Comment Letter PC-E4

Comment PC-E4-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-E5

Comment PC-E5-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Under Alternative 3, two new lanes would be added to the existing six lanes connecting I-405 and SR-73. The two new lanes would be on a new bridge that would link the centers of the two freeways. The elevation of that bridge at its highest point would be lower than the existing bridge carrying the northbound SR-73 over I-405. However, the new bridge would be longer than the existing bridge, extending farther to the west before touching down in the median of I-405. The noise evaluation presented in the Draft EIR/EIS in Section 3.2.7, Noise, assumed the proposed direct connector and noise abatement was considered.

Caltrans/OCTA have considered a design option for Alternative 3 that would eliminate new lanes south of Euclid Street, except for extension of the southbound auxiliary lane approaching the Harbor Boulevard exit ramp north to Euclid Street. The direct connector between the medians of I-405 and SR-73 would not be constructed. If Alternative 3 is selected as the Preferred Alternative and the design option is implemented, no additional lanes would be constructed on SR-73, and there would be no improvements to the I-450/SR-73 interchange.

Please also see Common Response – Replacement of Fairview Road Overcrossing/ Truncation of Tolled Express Lanes.

The Noise Study was prepared in accordance with FHWA's 23 CFR 772 regulations and Caltrans' Traffic Noise Analysis Protocol (Protocol). Only Alternative 3 would require construction of the SR-73/I-405 connector. It is true that the connector structure can be seen from some areas. Traffic noise impact analysis was conducted with this configuration. A comparison between existing and future predicted noise conditions is provided in Appendix N (N1; pgs G-53 and G-54). The locations of the receptors nearest to the location identified in your comment (R1.37 through R1.47) are shown in Figure 2 in Appendix N (N5). The maximum predicted future noise level is 64 dBA at R1.47. Noise levels at all receptor locations (R1.37 through R1.47) do not approach (within 1 dB) or exceed the NAC (67 dBA). Consistent with 23 CFR 772 and the Protocol, no new soundwalls or modification of existing soundwalls are recommended.

Comment PC-E5-2

Please see Response to Comment PC-E5-1.

Response to Comment Letter PC-E6

Comment PC-E6-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

As described in Section 3.1.6, the I-405 corridor can be traveled in 13 to 25 minutes in the northbound direction and 17 to 37 minutes in the southbound direction during the peak hours. The existing travel times are consistent with your observations; however, in 2040 corridor travel times are forecasted to increase to 101 to 133 minutes in the northbound direction and 95 to 163 minutes in the southbound direction under the No Build Alternative during the peak hours. The proposed project is necessary to accommodate future demand and reduce congestion.

Comment PC-E6-2

Please see Responses to Comments in community groups CG4-4 through CG4-6.

Comment PC-E6-3

As discussed throughout Chapter 2 of the Draft EIR/EIS, only Alternative 3 would include a tolled Express Lane facility. SOVs could choose to pay to use the tolled Express Lane facility. HOVs meeting occupancy and other specified vehicles, such as zero emission vehicles,

motorcycles, vehicles with disabled license plates, and disabled veterans, could use the Express Lane facility for free or reduced toll. Please see Common Responses – Preferred Alternative Identification and Opposition to Tolling.

Response to Comment Letter PC-E7

Comment PC-E7-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-E8

Comment PC-E8-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-E9

Comment PC-E9-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Comment PC-E9-2

Alternative 1 would avoid the Almond Avenue soundwall, and Alternatives 2 and 3 would require relocation of the wall up to 10 and 3 ft to the north, respectively. Alternatives 2 and 3 would likely include parking restrictions along Almond Avenue to maintain the City street standards for two-way travel. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Comment PC-E9-3

Alternatives 2 and 3 would require relocation of the wall up to 10 and 3 ft to the north along Almond Avenue, respectively. As discussed in Section 3.1.1.4 of the Draft EIR/EIS, none of the build alternatives would affect either Aster Park or Almond/Shapell Park. As discussed in Section 3.2.6 of the Draft EIR/EIS, the build alternatives would not have any substantial effects on air quality within the project area. Please see Common Responses – Almond Avenue Soundwall, Air Quality, and Health Risks.

Comment PC-E9-4

Alternative 1 is fully funded from Measure M2. Alternative 3 is fully funded from a combination of Measure M and bonds against anticipated toll revenue. At this time, Alternative 2 is currently the only alternative that is not considered fully funded. If Alternative 2 is selected as the Preferred Alternative, Caltrans/OCTA will seek additional federal, State, and local funding sources to make up the shortfall. Please see Common Response – Measure M Funding.

Respuesta a la Carta De Comentario PC-E10

Commentario PC-E10-1

Las agencias de Caltrans y Orange County Transportation Authroity les gustaría agradecerle por haber participado en el proceso ambiental para el proyecto de ampliación de la autopista de San Diego (I-405). Su comentario fue considerado durante el proceso de selección de la “Alternative Preferida”, como esta escrito en el reporte llamando en ingles “I-405 Improvement Project Final EIR/EIS.” Se le notificará en la dirección proveida en su Cometario cuando el reporte “Final EIR/EIS” va a estar disponible para revisarlo.

Response to Comment Letter Translation PC-E10

Comment PC-E10-1 Translation

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-E11

Comment PC-E11-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-E12

Comment PC-E12-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Comment PC-E12-2

Based on the project Noise Study, the maximum predicted increase in noise between the existing condition and the future build condition for all representative receptor locations along Almond Avenue is 3 dBA; however, noise levels represented by most of the representative receptor locations would experience no change or decreased noise levels under all of the future build conditions. With implementation of Measures NOI-2 and NOI-3, temporary construction noise impacts would be minimized. Please see Common Response – Almond Avenue Soundwall.

Comment PC-E12-3

As discussed in Section 3.2.6 of the Draft EIR/EIS, the build alternatives would not have any substantial effects on air quality within the project area. Please see Common Responses – Almond Avenue Soundwall, Air Quality, and Health Risks.

Comment PC-E12-4

With respect to a potential bottleneck at the Los Angeles county line, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Comment PC-E12-5

Please see Common Response – Preferred Alternative Identification and Responses to Comments PC-E12-1 through PC-E12-4 above.

PUBLIC COMMENTS (PC)-F

PC-F1

From: Desiree Faase [mailto:desireefaase@yahoo.com]
Sent: Tuesday, July 17, 2012 9:28 AM
To: Elizabeth Wade
Subject: 405 fwy

HI Elizabeth,
I am a resident at 1226 londonderry st. and the amount of chaos this fwy construction is gonna cause for only one added lane in both directions is ridiculous.
Not to mention loosing my on and off ramp on fairview! I drive to los angeles daily, and having a fwy on ramp so close to my home was one of the main reasons I bought my home on londonderry!
I saved my entire life to be able to buy a home for myself, and now you are planning on destroying my peaceful community.
This is an awful thought that you are considering taking down the fairview exit!!!!!
THis DOES NOT do anything possitive for our community!!! You are RUINING our livelihood for one added lane of a fwy!!!!!
I stand STRONGLY against all this construction and madness. One lane will do nothing in bettering traffic.
Every year more and more cars are on the fwy...
Think of more advanced options like more railways down the center of fwy's so people will not rely on cars so much!!!!!!! And have the options to take railway metro trams to and from work.
Please think of alternative options that will be more long lasting for the years to come!!!
I am firmly against this!!! 1

Desiree Faase
Design Director

LOCK & LOVE
19440 Dominguez Hill Dr. * Rancho Dominguez * Ca. * 90220
P: 424.213.5139
c: 310.463.9868

PC-F2

From: Desiree Faase [mailto:desireefaase@yahoo.com]
Sent: Wednesday, June 06, 2012 8:42 AM
To: Christina Byrne
Subject: OCTA costa mesa fwy alternative 3

HI Christina,
I am writing to you, because I just bought my house last year at 1226 londonderry st., in costa mesa.
This alternative 3 options for octa is NOT OK with me...
I have saved my entire life for a home, and now that I purchased one, you are looking to widen the freeway!!!
This is not ok.
There is no need. THe traffic on the freeway by fairview is never packed. THe flow of traffic is always moving in that area.
Also, the fairview exit is one of the reasons I purchased this home! I work in long beach and los angeles, so the ease of me jumping on and off the fwy so close to my home was a huge factor in my purchase!!!
I will fight against this alternative option 3 as I am highly against it!!!!!!! 1

Desiree Faase
Design Director
LOCK & LOVE
19440 Dominguez Hill Dr. * Rancho Dominguez * Ca. * 90220
P: 424.213.5139
c: 310.463.9868

PC-F3

I-405 Improvement Project
Public Hearing
Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Carlos P Falcon
Organization: Local 652 Labors
Address(Optional): 530 S Vanness
Phone Number: 714 836 7962
Email address:

Comments: This Improvement of the 405 Will help with the Congestion of traffic. It Will also save time from point A to point B. It will also help traffic from the streets. It Will also help the long needed Infrastructure that Calif. needs With Bridge repair and retro fitting our bridges. It Can help many, Many, things. It would also Create jobs and revenue for the City and County 1

(Space for comments continued on reverse)

PC-F4

I-405 Improvement Project
Public Hearing
Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

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- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☒ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Eduardo Farias
Organization: Local 78
Address(Optional): 14512 Longworth Ave
Phone Number: (562) 279-6030
Email address:

Comments: Great !! It will Be awesome 1

(Space for comments continued on reverse)

PC-F5

From: Lorna [lorna.skip@gte.net]
Sent: Tuesday, June 19, 2012 1:06 PM
To: Parsons, 405.dedcomments
Subject: Freeway widening

Importance: High

Dear CalTrans,

Planning does NOT seem to be your forte. What is up with widening the 405 FWY right AFTER you've done all of the construction going on NOW???!!! It will require you to rebuild bridges that you've JUST finished rebuilding or are Almost started to tear down & rebuild for the CURRENT project. The current plan you have for the Seal Beach Blvd. Bridge is DANGEROUS & NOW you want to have to do it over again in the near future???? Why don't you WAIT & rebuild the bridge ONCE??? No where in the e-mail CalTrans has sent out has it explained HOW MANY HOMES WOULD BE LOST IN WIDENING THE 405 FWY IN SEAL BEACH & ROSSMOOR???? Or would the should area be lost??? It would be very unsafe to lose the shoulder area in such a broad freeway. 1

Frustratedly,
Lorna Farnum
Rossmoor Resident

PC-F6

John & Wilma Feeney
1154 Dorset Lane
Costa Mesa, CA 92626-2861

July 15, 2012

Ms. Smita Deshpande, Branch Chief
CalTrans – District 12
2201 Dupont Drive, Suite 200
Irvine, CA 92612

Dear Ms. Deshpande,

We live approximately one and one-half blocks from the I-405 Freeway in the north end of Costa Mesa. We are adamantly opposed to Alternative #3 for the expansion of that freeway. 1

We remember several years ago when the additional lanes were added to the I-405. It was on going noise with pile drivers, back up beepers and other loud construction noise. When we and others drove on Fairview Avenue near the I-405 Freeway, there were dust clouds on a regular basis. We have friends who live closer to the I-405 Freeway who tell us they are constantly cleaning up rubber dust in their house that they have concluded is coming from the I-405 Freeway. 2

It has become quite obvious that the proposed Toll Lanes on the I-405 Freeway are primarily to bail out the financially troubled SR 73 Toll Road. A toll road that goes all the way from South Orange County to the I-605 Freeway would put more vehicles on the SR 73 Toll Road; hence more toll dollars for the SR 73. That's a great deal for the "swells", but not for the average Orange County citizen. 3

This whole situation smells of corruption!

Sincerely,

John Feeney
Ernie Feeney

John & Wilma "Ernie" Feeney

PC-F7

Smita Deshpande, Branch Chief,
Caltrans-District 12, "Attn: 405 DEIR-DEIS Comment Period"
2201 Dupont Drive, Suite 200
Irvine, CA, 92612

Subject: State Route 405 (I-405; San Diego Freeway) between SR-73 and I-605 and Draft EIR/EIS

I am concerned about the impacts the State Route 405 improvement project will have on our community. I am especially concerned about Alternative 3 which will widen the San Diego Freeway in the City of Costa Mesa and convert an existing car pool lane to a toll lane.

Alternative 3 would require that the Fairview/I 405 interchange be demolished and rebuilt, even though it was just rebuilt three years ago. Residences and public parks near the I- 405 will be adversely affected both during construction and upon completion of the project. Problems include air pollution, noise, and degradation of the visual quality of our neighborhoods. Ramp closures at Harbor, Fairview, and South Coast will not only inconvenience residents, but impair access to the many businesses which contribute to our local and regional economy. 1

In addition,

Please include these comments in the public/administrative record for this project and the project EIR/EIS. Thank you for the opportunity to comment.

Yours truly,

John Feeney
(Name)

1154 Dorset Lane, Costa Mesa, CA 92626
(Address) (City)

X Please keep me informed about future hearings and future steps in the review process for the I- 405 project.

PC-F8

Smita Deshpande, Branch Chief,
Caltrans-District 12, "Attn: 405 DEIR-DEIS Comment Period"
2201 Dupont Drive, Suite 200
Irvine, CA, 92612

Subject: State Route 405 (I-405; San Diego Freeway) between SR-73 and I-605 and Draft EIR/EIS

I am concerned about the impacts the State Route 405 improvement project will have on our community. I am especially concerned about Alternative 3 which will widen the San Diego Freeway in the City of Costa Mesa and convert an existing car pool lane to a toll lane.

Alternative 3 would require that the Fairview/I 405 interchange be demolished and rebuilt, even though it was just rebuilt three years ago. Residences and public parks near the I- 405 will be adversely affected both during construction and upon completion of the project. Problems include air pollution, noise, and degradation of the visual quality of our neighborhoods. Ramp closures at Harbor, Fairview, and South Coast will not only inconvenience residents, but impair access to the many businesses which contribute to our local and regional economy. 1

In addition,

Please include these comments in the public/administrative record for this project and the project EIR/EIS. Thank you for the opportunity to comment.

Yours truly,

Wilma E. Feeney
(Name)

1154 Dorset Lane, Costa Mesa, CA 92626
(Address) (City)

X Please keep me informed about future hearings and future steps in the review process for the I- 405 project.

PC-F9

From: dhfeldman@aol.com
Sent: Saturday, June 09, 2012 2:45 PM
To: Parsons, 405.dedcomments

This widening project is a disaster in every way. It impacts millions of people and just moves any bottleneck and slow down to one location at the county line. 1
Against against
David Feldman

PC-F10

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Gilbert B Felix
Organization: Laborers
Address(Optional):
Phone Number:
Email address:

Comments: This project would create Jobs and revenue for the city and country. 1

(Space for comments continued on reverse)

PC-F11

I-405 Improvement Project
Public Hearing
Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

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- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☒ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Frank W Fernandez	
Organization: LOCAL 78	
Address(Optional): 10470 Canyon Vista RD. Moreno Valley, CA	
Phone Number: 909-229-2379	Email address: ILAYPIDE1@YAHOO.com

Comments: Let's Keep the I-405 flowing!! 1

(Space for comments continued on reverse)

PC-F12

From: Liam Ferris [mailto:lpferris@gmail.com]
Sent: Tuesday, June 19, 2012 10:02 AM
To: Will Kempton - OCTA; Christina Byrne
Subject: Re: I-405 Project Comment Period Extended

Good morning, Will:

Can you please clarify? Is this a new project, different than the current West County Connectors project taking place today? Why is this not part of the West County Connectors project, and how can you expect people in the neighborhoods next to the 405/22/605 to deal with another four years of construction after the WCC project is done? 1

Thanks,
Liam

PC-F13

From: Liam Ferris [lpferris@gmail.com]
Sent: Tuesday, June 19, 2012 10:17 AM
To: Parsons, 405.dedcomments; Liam Ferris
Subject: Public comment on I-405

As a resident of the 92845 area code, and with a house that backs up directly to the area where the WCC Connector Project is currently happening, I am strongly against any additional construction in the area.

The WCC Project has been highly unpleasant, but we have been tolerant as we know it will only go on a couple more years. I work from home, and the constant pile driving has been a huge detriment to a number of my client-facing conference calls. In addition, I have a two year old son whose nap times have frequently been compromised by the pile driving and other construction noise both during the day and at night. 1

The other issue is that the neighborhood is constantly bombarded by dust from the construction. My cars are constantly dirty, as are my outdoor furniture, play areas, and anything else outside. I can't imagine that breathing in all this dust can be good for anyone's health either.

With all that said, I will reiterate that I am strongly against any continued construction past the conclusion date of the WCC Project.

Sincerely,
Liam Ferris
5332 Christal Ave
Garden Grove, CA 92845

PC-F14

From: Louise [louisefid@aol.com]
Sent: Saturday, June 16, 2012 9:51 AM
To: Parsons, 405.dedcomments
Subject: 405 Expansion

Good morning. I am writing this email to highly oppose OCTA's Alternative 3 to widen the freeway in Costa Mesa. This plan has no benefit to the citizens of Costa Mesa. When planning to spend our tax dollars remember you are here to serve the many not the few. Our Fairview bridge was just recently completed and we do not want to see it destroyed nor the new Harbor bridgework/exit. HOT lanes serve no purpose when taking away the car pool lane. The sound walls, construction noise, pollution & Alternative 3 is not acceptable. 1

Thank you

Louise Fiduccia
Costa Mesa Resident
(714) 454-7360 Cell

PC-F15

From: Louise [mailto:louisefid@aol.com]
Sent: Wednesday, June 20, 2012 3:23 PM
To: wlobdell@ci.costamesa.ca.us; Wendy Knowles; Laurena Weinert; Laura Scheper; Customer Relations; Bekele Demissie; letters@ocregister.com
Subject: 405 Freeway Expansion

Hello,

I strongly oppose option 3 of the 405 Freeway Expansion plan.

I am a resident of Costa Mesa for over 25 years. I strongly oppose Option 3 of the 405 Freeway expansion thru Costa Mesa.
Adding general purpose lanes for the use of everyone is one thing or an additional car pool lane for all to use.

Adding lanes with taxpayer money to serve the few is just not right. Our taxpayer money is to serve the many, not the few. 1

It seems to me that OCTA is not looking out for the best interest of residents.

Thank you,

Louise Fiduccia
Costa Mesa Resident
(714) 454-7360 Cell

PC-F16

From: ROGER FIERCE [fiercetwo@msn.com]
Sent: Saturday, July 14, 2012 10:57 AM
To: Parsons, 405.dedcomments
Subject: Comments I 405 Impr. Proj

Please consider the following comments regarding the I 405 Improvement Project:

I recommend Alt 2!

Whereas all the surface street bridges overpasses to the I 405 must be widened for all alternatives, It makes no sense to only add one lane each direction under alternate 1. Therefore I urgently recommend adding the two lanes in each direction, Alt 2 or 3. No on Alt 1! 1

I am opposed to Alt 3 with the existing car pool lane and new lane dedicated to toll collecting. All through traffic north and south (ie from San Diego or up north) will not have transponders. They will therefore further congest the regular General Purpose lanes. 2

I am concerned that the $100 Million shortfall in funding for Alternate 2 will become an excuse to advocate toll revenue, driving the solution to Alternate 3. At the Westminster Town Hall, I asked what the plan was for meeting the $100 Million shortfall for Alternate 2 and the reply was an unconvincing "they will find a way" 3

As to impact on surface streets, I am disapointed that there is no southbound on-ramp from Westminster blvd traveling west. This would require cars to make U-turns at Springdale causing increased safety problems. 4

As to the Extra traffic signals for on/of ramps, It is mandatory to have sychronized signals due to their close proximity to cross streets, especially on Beach Blvd. 5

Respectfully

Roger Fierce
Westminster Resident

PC-F17

July 17, 2012

Dear Ms. Deshpande,

I ask that you along with the others in Caltrans District 12 eliminate the option of moving the freeway wall onto Almond Avenue in College Park East. Certainly there must Be some other options that could be chosen while leaving our wall in place. 1

I live five houses in from the wall and will definitely be affected. The noise level will certainly rise. Right now, I hear the cars that collide on the freeway. Before cell phones, I would call the police to inform them of an accident on the freeway when it occurred. Is it the slightest bit possible there will be less accidents with the lanes being pinched off in Orange County because Los Angeles won't be increasing the number of lanes in their county in the foreseeable future? 2

I also have no doubt of the increase in exhaust fumes, especially when traffic backs up to merge onto the reduced number of lanes going into Los Angeles County.

One spokesman offered the thought that this work would increase our property value. How could one possibly reach that conclusion? 3

Please give consideration to us the homeowners in College Park East and leave the freeway wall where it stands and plan your roadwork on the freeway side of the wall. 4

Yours truly,

Dean Fife

DEAN FIFE

PC-F18

From: Matt Filler [matt@mattfiller.com]
Sent: Friday, July 13, 2012 3:10 PM
To: Parsons, 405.dedcomments
Subject: Public Comment - Utilize a single transponder County-Wide if Option 3 is chosen

The prospect of transitway toll users having to replace or carry multiple transponders is outrageous. If the capabilities of an existing transponder are not going to serve the needs of an I-405 1

PC-F19

From: Matt Filler [matt@mattfiller.com]
Sent: Monday, July 16, 2012 11:51 PM
To: Parsons, 405.dedcomments
Subject: Public Comment - Exclude I-22/I405 in Seal Beach from Option 3

Unless/until I-22 is also made a tollway, the portion of I-405 through Seal Beach that is shared with I-22 should be excluded from any tollway and remain as paired HOV lanes. 1

The current WCC project was justified to the public and the US DOT because of the dangerous problem of I-22 and I-605 HOV traffic needing to cross 4 or more lanes of traffic in order to continue on a carpool lane. I attended a similar meeting at the onset of construction of the WCC project (at Edison Park), and one of the biggest take-aways for me was that WCC replaced a previous mitigation of this hazard consisting of median lighting, which had been done because funds were unavailable to do a proper solution to the lane-crossing problem for these HOV users, and the non-HOV traffic that they impact. 2

Changing this section of the I-405 to a tollway will re-establish this dangerous situation with 5 lanes, violating the public trust in OCTA and CALTRANs by making things better, not worse.

This also creates the unfair problem for I-22 and I-605 HOV users of having to buy and have a transponder and pay a toll to go 2 miles, or else having to cross multiple lanes of traffic twice, either to avoid the toll or because they have no transponder or they have an I-91 or I-73 or other transponder that does not work on this section of freeway for no good reason. If this impact is not mitigated as suggested in this comment, all users of I-22 and I-605, including those in LA County, should be notified of this impact, surveyed, and given a chance to comment, not just those in Seal Beach, and should be given free transponders on request. 3

HOV users will be angered at Caltrans by the above situations in addition to the challenge of crossing multiple lanes, making the probability of collisions that much higher.

I attended the Rush Park Meeting June 7, 2012, and I vote for Alternative 2. 4

Thanks,
-- *Matthew Filler*
233 Harvard Lane
Seal Beach, California 90740-2510
562-862-3411

PC-F20

From: Matt Filler [matt@mattfiller.com]
Sent: Monday, July 16, 2012 11:51 PM
To: Parsons, 405.dedcomments
Subject: Public Comment - Objection to Tollway Option 3

All California drivers and taxpayers pay for this project, and all should enjoy its benefits. Many cannot afford regular taps into their budgets for additional fees. Many of the people who would occasionally use the HOV lanes will or cannot use the tollway under this proposal. Most of the benefit will go to people coming from the more affluent I-73-served areas that need to go to LA County. I suspect that people along the route will resist buying the transponder. 1

Also, I urge a restudy of the claim that travel time with a Tollway for the main lanes would be 29 minutes, just one minute worse than the alternative 2 number. I believe that estimate is highly optimistic, and biased in favor of supporters of Alternative 3 and tollways in general. This is not an affluent area like I-73, and usage of the tollway should discount participation rates for that tollway. I-91 rates are also not as useful, as those users are mostly commuters, and can charge those tolls against their incomes. In this corridor, there are a lot more local trips. 2

Have you surveyed people in the traffic areas affected, including LA County, fully disclosing the likely costs and asking how many would join the transponder system, and for how many of their vehicles? If not, please do so before choosing Alternative 3, and revise the usage statistics based on those results. 3

The best results would be obtained if the tollway were only a tollway during peak hours, but again that just points out how unfair this is to those who live or work in the area and are impacted by the project. 4

I attended the Rush Park Meeting June 7, 2012, and I vote for Alternative 2.

Thanks,
-- *Matthew Filler*
233 Harvard Lane
Seal Beach, California 90740-2510
562-862-3411

PC-F21

From: Matt Filler [matt@mattfiller.com]
Sent: Monday, July 16, 2012 11:51 PM
To: Parsons, 405.dedcomments
Subject: Public Comment - Utilize a single transponder County-Wide if Option 3 is chosen

The prospect of transitway toll users having to replace or carry multiple transponders is outrageous. If the capabilities of an existing transponder are not going to serve the needs of an I-405, the holders of all existing transponders should be offered free exchange to the new transponder, at the expense of whatever project (I-405 Improvement) requires the upgrade or incompatibility, and all other California toll transponders should be required to offer only compatible transponders from the earliest possible date. If there is an inventory of left-over transponders, they should be offered to other states.

One alternative would be for existing types ot transponders to be allowed on the I-405 tollway, and a signalling system made available to Law Enforcement based on the instantaneous results of the transponder's scanning that would provide images of those vehicles that fail the scan to an app on the officer's computer, with views into the vehicle and software that can recognize the number of passengers, much as traffic software recognizes vehicles stopped at a traffic light. 1

Or just go on the honor system for any 3-person requirement.

Better yet, just forget about the 3-person requirement if you do a tollway. There is no need. So few people will actually want to pay tolls for this that there will never be a need for a 3-person rule under Alternarive 3.

I attended the Rush Park Meeting June 7, 2012, and I vote for Alternative 2.

Thanks,
-- *Matthew Filler*
233 Harvard Lane
Seal Beach, California 90740-2510
562-862-3411

PC-F22

From: Matt Filler [matt@mattfiller.com]
Sent: Tuesday, July 17, 2012 12:38 AM
To: Parsons, 405.dedcomments
Cc: 'Christina Byrne'
Subject: Public Comment - Sound Wall Vegetation

Summary: Vegetation (ivy, or similar) should be incorporated on both-sides of soundwalls wherever possible statewide, including this project. Elevated soundwalls should have alternative anti-reflective coating used. Sound walls need to continue beyond the last receiver. Noise reduction levels should be considered separately for 2-story houses in considering higher sound walls. 1

I have been concerned to see that on portions of I-405, including the just-completed I-405 bridge for the I-22/7th street on-ramp where it appears diagonal concrete surfacing prevents ivy in some locations, it appears that soundwalls have been constructed in such a way that no surface vegetation (ivy) can reach the wall. Also, in places ivy seems to have been removed or prevented from crossing from the rear to the front of the wall (e.g. N. side of I-405 between Studebaker and Palos Verdes). Paving often prevents growth of vegetation from the front, and in many cases the back, of the wall in some locations. Consider small openings to ground where ivy can grow. 2

On I-405 and most freeways with high soundwalls, I think the 10:1 action level in http://www.fhwa.dot.gov/environment/noise/noise_barriers/design_construction/design/design03.cfm#sec3.4.1 i s is not met for avoiding a requirement to consider a surface treatment to avoid consideration of sound absorptive material, much less the 20:1 no impact level. Reflected noise builds up in the corridor, and increases the total sound that tops the walls. An additional reflective parameter that is not considered in this standard, but that affects this corridor, is reflection from median structures (median walls, elevated HOV/tollway ramps). 3

I believe that, in addition to cost savings due to anti-grafitti properties, such vegetation should be part of all sound walls to absorb reflections on both sides of the wall (including reflections from structures beyond the wall), and also to decrease transmission through the wall. Wherever possible, additional plantings should also be included/retained behind the barrier, or if possible in front of it as on Old Ranch Pkwy. If a woody ivy is not counted as a highly cost-effective anti-reflective coating, it should be studied and included as such, particularly when it is allowed to grow on and above the top of the wall. Consideration should also be given to the type of climbing vines used - some produce just a thin covering, while some (e.g. Almond Ave) seem to be much thicker but patchy. Ideally, a complete coverage by thick vines should be most effective. 4

I also notice that in some locations, sound walls stop near the property line of the last residence (e.g. S. side of I-22 just west of the WCC project). The Federal standard is that the soundwall should continue 4x its height past the last receiver, or be curved to protect from sound refracting around the end of the wall for openings. I understand the business wants its entire front to be visible from the freeway, but consider running the wall a bit further where possible. In locations where walls are overlapped for access, the double wall should extend for 4x its height (such as the College Park West soundwall that is planned for the WCC project for emergency access in case the San Gabriel River Bridge is ever out -- I would like to see updated plans showing this wall). 5

My father was an acoustics physicist, whose specialty was shock waves. In 1966, he was on a team that ended the use of similar barriers for explosives storage and handling areas http://www.dtic.mil/cgi-bin/GetTRDoc?AD=AD0487554&Location=U2&doc=GetTRDoc.pdf , including at the Seal Beach Naval facility adjacent to this project. This study found that these barriers actually made the situation worse, by increasing ejected debris. He believed that sound walls were also a waste of taxpayer money, and that the one near our house was far less effective than the intervening trees, woody shrubs, and grass. I believe that there is research that shows that sound walls are useful, but I also believe that their effectiveness can be reduced by failing to maximize the benefits of vegetation as a supplement to the wall itself. 6

I was struck by the use of the word "tonality" in section 3.1 of the first reference above. Tonality is NOT simply frequency, it is a pattern of frequencies at various amplitudes that is perceived by the human ear as a totality of sound in a particular environment and time. Measurement of dB or dB(A) does not reflect tonality. Woody vegetation such as ivy on a sound wall can go a long way toward mitigation of the unpleasant tonal effects of highway noise on the human ear both within 7

PC-F22 Continued

and outside highway corridors, by improving the overall tonality towards a pleasing, whiter rustling noise. Consideration should be given to research projects to better identify mitigation of perceived sound.

Also, as a separate comment, in determining the height of sound walls, the presence of 2-story houses in the first, second, and third rows of houses beyond the wall should be given greater weight than other receivers, by calculating separately the impact based on the lower level of sound reduction that is applicable at the second story per the above FHWA guidelines. Sound levels at the second story are not mitigated as much as at the first story by any given wall height, and so have greater impact. They also are better mitigated by higher walls and vegetation that extends above the wall. I would suggest that a 10 dB(A) reduction might be achieved by a given increase in wall height for second story homes even when it would not be achieved at ground level. (Growing up my room had the only wall facing a freeway on the second story.) 8

I attended the Rush Park Meeting June 7, 2012, and I vote for Alternative 2.

Thanks,
-- *Matthew Filler*
233 Harvard Lane
Seal Beach, California 90740-2510
562-862-3411

PC-F23

From: Matt Filler [matt@mattfiller.com]
Sent: Tuesday, July 17, 2012 12:49 PM
To: Parsons, 405.dedcomments
Subject: RE: Public Comment - Utilize a single transponder County-Wide if Option 3 is chosen, et. al.

Sorry, this comment was sent prematurely July 13 by mistake. I have submitted 4 additional comments yesterday; one with a similar title replaces this one (see #3 below). If I need to have just one comment, please substitute the following for all previous submissions; it combines my comments into 1 submission. Otherwise please ignore this one and the first one dated July 13, and just consider the 4 submitted last night, July 16 (one was after midnight today July 17, and I have separated it into 3 comments below).

1. Exclude I-22/I405 in Seal Beach from Option 3

Unless and until I-22 is also made a tollway, the portion of I-405 through Seal Beach that is shared with I-22 should be excluded from any tollway and remain as paired HOV lanes.

The current WCC project was justified to the public and the US DOT because of the dangerous problem of I-22 and I-605 HOV traffic needing to cross 4 or more lanes of traffic in order to continue on a carpool lane. I attended a similar meeting at the onset of construction of the WCC project (at Edison Park), and one of the biggest take-aways for me was that WCC replaced a previous mitigation of this hazard consisting of median lighting, which had been done because funds were unavailable to do a proper solution to the lane-crossing problem for these HOV users, and the non-HOV traffic that they impact.

Changing this section of the I-405 to a tollway will re-establish this dangerous situation with 5 lanes, violating the public trust in OCTA and CALTRANs by making things better, not worse.

This also creates the unfair problem for I-22 and I-605 HOV users of having to buy and have a transponder and pay a toll to go 2 miles, or else having to cross multiple lanes of traffic twice, either to avoid the toll or because they have no transponder or they have an I-91 or I-73 or other transponder that does not work on this section of freeway for no good reason. If this impact is not mitigated as suggested in this comment, all users of I-22 and I-605, including those in LA County, should be notified of this impact, surveyed, and given a chance to comment, not just those in Seal Beach, and should be given free transponders on request.

HOV users will be angered at Caltrans by the above situations in addition to the challenge of crossing multiple lanes, making the probability of collisions that much higher.

1

2. Objections to Tollway Option 3

All California drivers and taxpayers pay for this project, and all should enjoy its benefits. Many cannot afford regular taps into their budgets for additional fees. Many of the people who would occasionally use the HOV lanes will or cannot use the tollway under this proposal. Most of the benefit will go to people coming from the more affluent I-73-served areas that need to go to LA County. I suspect that people along the route will resist buying the transponder.

Also, I urge a restudy of the claim that travel time with a Tollway for the main lanes would be 29 minutes, just one minute worse than the alternative 2 number. I believe that estimate is highly optimistic, and biased in favor of supporters of Alternative 3 and tollways in general. This is not an affluent area like I-73, and usage of the tollway should discount participation rates for that tollway. I-91 rates are also not as useful, as those users are mostly commuters, and can charge those tolls against their incomes. In this corridor, there are a lot more local trips.

Have you surveyed people in the traffic areas affected, including LA County, fully disclosing the likely costs and asking how many would join the transponder system, and for how many of their vehicles? If not, please do so before choosing Alternative 3, and revise the usage statistics based on those results.

The best results would be obtained if the tollway were only a tollway during peak hours, but again that just points out how unfair this is to those who live or work in the area and are impacted by the project.

2

PC-F23 Continued

3. Utilize a Single Transponder County-Wide if Option 3 is Chosen

The prospect of transitway toll users having to replace or carry multiple transponders is outrageous. If the capabilities of an existing transponder are not going to serve the needs of an I-405, the holders of all existing transponders should be offered free exchange to the new transponder, at the expense of whatever project (I-405 Improvement) requires the upgrade or incompatibility, and all other California toll transponders should be required to offer only compatible transponders from the earliest possible date. If there is an inventory of left-over transponders, they should be offered to other states.

One alternative would be for existing types ot transponders to be allowed on the I-405 tollway, and a signalling system made available to Law Enforcement based on the instantaneous results of the transponder's scanning that would provide images of those vehicles that fail the scan to an app on the officer's computer, with views into the vehicle and software that can recognize the number of passengers, much as traffic software recognizes vehicles stopped at a traffic light.

Or just go on the honor system for any 3-person requirement.

Better yet, just forget about the 3-person requirement if you do a tollway. There is no need. So few people will actually want to pay tolls for this that there will never be a need for a 3-person rule under Alternarive 3.

3

4. Sound Wall Vegetation

Summary: Vegetation (ivy, or similar) should be incorporated on both-sides of soundwalls wherever possible statewide, including this project. Elevated soundwalls should have alternative anti-reflective coating used. Research ivy types and effectiveness.

I have been concerned to see that on portions of I-405, including the just-completed I-405 bridge for the I-22/7th street on-ramp where it appears diagonal concrete surfacing prevents ivy in some locations, it appears that soundwalls have been constructed in such a way that no surface vegetation (ivy) can reach the wall. Also, in places ivy seems to have been removed or prevented from crossing from the rear to the front of the wall (e.g. N. side of I-405 between Studebaker and Palos Verdes). Paving often prevents growth of vegetation from the front, and in many cases the back, of the wall in some locations. Consider small openings to ground where ivy can grow.

On I-405 and most freeways with high soundwalls, I think the 10:1 action level in http://www.fhwa.dot.gov/environment/noise/noise_barriers/design_construction/design/design03.cfm#sec3.4.1 i s is not met for avoiding a requirement to consider a surface treatment to avoid consideration of sound absorptive material, much less the 20:1 no impact level. Reflected noise builds up in the corridor, and increases the total sound that tops the walls.

An additional reflective parameter that is not considered in this standard, but that affects this corridor, is reflection from median structures (median walls, elevated HOV/tollway ramps). Elevated soundwalls should have alternative anti-reflective coating used if ivy cannot reach the walls.

I believe that, in addition to cost savings due to anti-grafitti properties, such vegetation should be part of all sound walls to absorb reflections on both sides of the wall (including reflections from structures beyond the wall), and also to decrease transmission through the wall. Wherever possible, additional plantings should also be included/retained behind the barrier, or if possible in front of it as on Old Ranch Pkwy. If a woody ivy is not counted as a highly cost-effective anti-reflective coating, it should be studied and included as such, particularly when it is allowed to grow on and above the top of the wall. Consideration should also be given to the type of climbing vines used - some produce just a thin covering, while some (e.g. Almond Ave) seem to be much thicker but patchy. Ideally, a complete coverage by thick vines should be most effective.

My father was an acoustics physicist for the U.S. Navy, whose specialty was shock waves. In 1966, he was on a team that ended the use of similar barriers for explosives storage and handling areas http://www.dtic.mil/cgi-bin/GetTRDoc?AD=AD0487554&Location=U2&doc=GetTRDoc.pdf , including at the Seal Beach Naval facility adjacent to this project. This study found that these barriers actually made the situation worse, by increasing ejected debris. He believed that sound walls were also a waste of taxpayer money, and that the one near our house was far less effective than the intervening trees, woody shrubs, and grass. I believe that there is research that shows that sound

4

PC-F23 Continued

walls are useful, but I also believe that their effectiveness can be reduced by failing to maximize the benefits of vegetation as a supplement to the wall itself.

I was struck by the use of the word "tonality" in section 3.1 of the first reference above. Tonality is NOT simply frequency, it is a pattern of frequencies at various amplitudes that is perceived by the human ear as a totality of sound in a particular environment and time. Measurement of dB or dB(A) does not reflect tonality. Woody vegetation such as ivy on a sound wall can go a long way toward mitigation of the unpleasant tonal effects of highway noise on the human ear both within and outside highway corridors, by improving the overall tonality towards a pleasing, whiter rustling noise. Consideration should be given to research projects to better identify mitigation of perceived sound.

5. Sound Walls Need to Continue Beyond the Last Receiver.

I notice that in some locations in or near this project, sound walls stop near the property line of the last residence (e.g. S. side of I-22 just west of the WCC project). The Federal standard is that the soundwall should continue 4x its height past the last receiver, or be curved to protect from sound refracting around the end of the wall for openings. I understand the business wants its entire front to be visible from the freeway, but consider running the wall a bit further where possible. In locations where walls are overlapped for access, the double wall should extend for 4x its height (such as the College Park West soundwall that is planned for the WCC project for emergency access in case the San Gabriel River Bridge is ever out -- I would like to see updated plans showing this wall). 5

6. 2-Story Sound Receiver Impact

Noise reduction levels should be considered separately for 2-story houses in considering higher sound walls.

In determining the height of sound walls, the presence of 2-story houses in the first, second, and third rows of houses beyond the wall should be given greater weight than other receivers, by calculating separately the impact based on the lower level of sound reduction that is applicable at the second story per the above FHWA guidelines. Sound levels at the second story are not mitigated as much as at the first story by any given wall height, and so have greater impact. They also are better mitigated by higher walls and vegetation that extends above the wall. I would suggest that a 10 dB(A) reduction might be achieved by a given increase in wall height for second story homes even when it would not be achieved at ground level. (Growing up my room had the only wall facing a freeway on the second story.) 6

7. I attended the Rush Park Meeting June 7, 2012, and I vote for Alternative 2. 7

Thanks,
-- *Matthew Filler*
233 Harvard Lane
Seal Beach, California 90740-2510
562-862-3411

PC-F24

I-405 Improvement Project
Public Hearing

Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☑ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Dr. Thomas Fitzgerald, P.E. Thomas J. Fitzgerald
Organization: Rossmoor Homeowners Association
Address (Optional): 3121 Saint Albans Drive, ROSSMOOR CA
Phone Number: 562-596-8674
Email address: tomdfitz@gmail.com

Comments: I have thought about this quite a bit. You should
- Add two lanes in each direction;
- Make the two inside lanes on each side carpool lanes (during peak hours only) — that will be an incentive to carpool;
- Use continuous access to carpool lanes;
- DON'T USE TOLLS or any part of "OPTION 3". 1

(Space for comments continued on reverse)

Caltrans OCTA

PC-F25

July 8, 2012

OCTA Board Member
550 S. Main Street
PO Box 14184 Orange, CA 92863

Subject I-405 widening impacting the College Park East Community in the City of Seal Beach (Between the SR-73 and I-605)

Dear Mr. Moorlach,

We are residents of the City of Seal Beach College Park East Community. **We are asking you to vote for Alternative 1** for the I-405 Freeway Improvement project. This alternative will have the most limited community and environmental impacts compared to any other alternative. The community believes this alternative is the best choice because:

1. Alternative 1 does not encroach 10 feet into Almond Street which has an existing soundwall that protects the community. If this wall is torn down and new wall is built for widening the I-405, it will make Almond a one way street. In case you were not aware, Almond Street is a dedicated Tsunami escape route and the only community access route out from the College Park Community. Almond Street needs to be wide and two way configuration is needed in order to serve as an escape route due to floods and/or Tsunamis.
2. Alternatives 2 and 3 will encroach 10 feet into Almond Street and will also impact to existing parks at Astor Street and at Oleander Street. Lime many of parks in our community, children play and senior citizens walk along Almond Street every day. Mothers and their children use these parks every day and walk along Almond Street. An alternative that encroaches into our community will create expose families and children to more vehicle exhaust which causes **respiratory problems, lung disease, lung cancer and/or other forms of cancer.** The closer the freeway is to our community, the more exposed to vehicle exhaust and harmful toxics.
3. Alternatives 2 and 3 require the movement of the soundwall, replacing with a lesser quality soundwall, and moving the soundwall in 7-10 feet onto Almond Street. The community of College Park East will lose access to park on Almond Street and there will be loss of vegetation along the new soundwall. The removal of the soundwall requires the relocation of utilities to be moved closer to the homes near Almond Street. The community of College Park East is concerned that the security level of our community will decrease due to the visibility of our homes during the moving and rebuilding of a new soundwall and the concerns that our property values will have a rippling negative impact throughout the community.

1

4. Alternatives 2 and 3 will increase traffic along the 22 and 405 freeways. The additional lanes required by Alternative 2 and 3 will funnel down into gridlock as the traffic approaches the N. I-405 and N. I-605 at the LA County line. LA County has no plans to add the same in the next 10-15 years, if at all.

2

5. Funding is only available for Alternative 1.
   Alternative 2 and 3 have a funding gap which will require OCTA to issue bonds and take more of the County's tax dollars. The community and residents do not favor this irresponsible tax-waste scenario.

3

Sincerely,

Steve Fitzpatrick

Jacquelyne Fitzpatrick

PC-F26

From: jamesflanagan@gmail.com on behalf of jaf997 [jaf997@gmail.com]
Sent: Monday, July 16, 2012 9:25 AM
To: Parsons, 405.dedcomments
Subject: Rossmoor

I am concerned about the freeway's impact on Rossmoor, particularly the plan to wrap the freeway around the southern end.

As presently configured, please count me among the opposition.

Can you provide a map or link to map showing the path of the proposal?

1

James Flanagan
Rossmoor homeowner

PC-F27

6/26/2012

I am a resident of College Park East since 1968. I have been very happy with the standard of living my family and I have enjoyed here.

As you can see more of my neighbors are voting yes for your project. WE DO NOT WANT a new WALL nor DO WE WANT A TOLL ROAD.

WOULD YOU WANT your loved one to TEAR DOWN THE WALL if you lived here?

My family and I say NO to building a new WALL or TOLL ROAD.

NO, NO, NO!!

Sylvia Flores
3610 Lawrence Dr.
Seal Beach, CA.
90740

1

PC-F28

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Daniel Flores
Organization: Local 416
Address(Optional): 1864 Locust Ave #12
Phone Number: 562-489-21-59
Email address: Manchego-21@Hotmail.com

Comments: Me Gustaria Que Ampliaran el 405

1

(Space for comments continued on reverse)

Caltrans OCTA

PC-F28 Translation

Comment:

I would like you to widen the 405 freeway. 1

PC-F29

From: Elias Javier Flores [mailto:elias.flores02@yahoo.com]
Sent: Monday, July 16, 2012 10:36 AM
To: john.moorlach@ocgov.com; Audra.Adams@ocgov.com; PatBates@ocgov.com; Bill.Campbell@ocgov.com; dhansen@surfcity-hb.org; CFikes@surfcity-hb.org; Janet.Nguyen@ocgov.com; fvcrandall@yahoo.com; lorri@lorrigalloway.com; pglaab@cityoflagunaniguel.org; mpulido@santa-ana.org; pherzog@lakeforestca.gov; jamante@tustinca.org; Wendy Knowles; fvproud@fountainvalley.org; citycouncil@cityoforange.org; mayor@garden-grove.org
Subject: 405 toll lanes

Don't do it. The 405 is already a parking lot. Better yet, give up your salaries and combine them and make the 405 bigger for all user. 1

Elias Flores

PC-F30

I-405 Improvement Project
Public Hearing

Comment Sheet

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- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): ERIC FLORES.
Organization: Local 582
Address(Optional): 7801 Santa Barbara Ave Stanton, CA 90680
Phone Number: (714) 872-7361
Email address: centralflores@yahoo.com

Comments:

(Space for comments continued on reverse)

PC-F31

I-405 Improvement Project
Public Hearing
Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

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- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Roberto Flores	
Organization: Labor Local 652	
Address(Optional): 1746 E. lomita Av. orange CA.	
Phone Number: 714 499 7358	Email address:

Comments: In many cases construction workers have been unemployed anywhere from 8 months to a year and a half This effect has caused them to lose there home. 1

(Space for comments continued on reverse)

Caltrans

OCTA

PC-F32

July 17, 2012

CalTrans,

I am a Fountain Valley resident whose driving will be impacted as well, by the decision that is currently being considered regarding our traffic, on the *405*, in this Orange County area centered with Fountain Valley.

Proposals printed in news, sound similar to the current construction in LA; the Wilshire intersection with the *405*.

I would suggest that you consider the bottle necking that will be created in a big expansion project, taking place in a relatively small section of freeway. The more lanes that are built will possibly create traffic chaos before and after the new section, leaving the project useless- in the proposed area, in all 3 of your alternatives, compared to leaving it as is. 1

Thanks for considering this input.

Sincerely,

Christopher Fonseca

Chris

PC-F33

RECEIVED

JUL 16 2012

OCTA
CLERK OF THE BOARD

July 9, 2012

To: LARRY CRANDELL, CITY MEMBER, 2ND DISTRICT

Subject: I-405 Improvement Project

DO NOT MOVE THE ALMOND AVENUE SAFETY/SOUNDWALL!!!!!!!!!

The freeway closer to CPE will:

(1). INCREASE NOISE.

(2). INCREASE AIR POLLUTION -- HARMING THOSE WITH ASTHMA AND COPD.

(3). MOVE THE UNDERGROUND UTILITIES CLOSER TO THE HOMES NEAR ALMOND AVENUE -- POTENTIAL HAZZARD.

(4). ADDING TWO(2) LANES TO THE NORTHBOUND I-405 WILL CAUSE A MASSIVE TRAFFIC JAM INTO LA COUNTY BECAUSE LA COUNTY HAS NO PLANS OF ADDING MORE LANES IN THE FUTURE. 1

(5). ADDITIONAL NOISE AND AIR POLLUTION CAUSED BY THE "PARKING LOT" BETWEEN THE 22 AND THE 605.

(6). TOLL EXPRESS LANES HAVE NOT BEEN SUCCESSFUL BECAUSE THEY ARE TOO EXPENSIVE.

DO NOT MOVE THE ALMOND AVENUE SAFETY/SOUNDWALL!!!!!!!!!

Edward M. Foster -- Property owner and VOTER
3560 Daffodil Cr. (College Park East)
Seal Beach, Ca. 90740

PC-F34

From: Glenn Frank [glennfrank@earthlink.net]
Sent: Wednesday, July 11, 2012 7:04 AM
To: Parsons, 405.dedcomments
Subject: NO on the TOLL lane for the 405

I would like to express my position AGAINST having toll lane(s) added to the 405 freeway widening project. 1

add lanes open to all!

Glenn Frank
Garden Grove, CA

PC-F35

From: Charlene Franke [cmjfranke@sbcglobal.net]
Sent: Friday, June 15, 2012 10:33 AM
To: Parsons, 405.dedcomments
Subject: 405 Project

I am strongly against alternative 3. It would only benefit people that can afford up to 1$/mile to travel on it.
The people that suffer the noise and detours of construction are the very people that benefit the least. Very poor access to the Toll and HOV lanes would make them useless to most in the 73/605 corridor. 1

It seems like Caltrans has tasted the $$$ from the existing toll roads and is now addicted to it. We voted for the 1/2 cent sales tax to build freeways and roads, not toll lanes that benefit the rich. Instead Caltrans and now OCTA insist on jamming them down our throats.

PC-F36

From: Richard Franke [rofranke@sbcglobal.net]
Sent: Friday, June 22, 2012 1:32 PM
To: Parsons, 405.dedcomments
Subject: 405 Project

I have attended two 405 Project public hearings and get the impression that Caltrans and OCTA have already made up their minds in favor of alternative three and are just going through the motions of letting the public let off steam. 1

The meetings talk about traffic in 2040, keeping that in mind lets think about what our roads will look like using the current alt. 3 thinking. Caltrans is hooked on toll revenues and will expand the same concept to other previously free freeways. Are you prepared to pay $100 each way to get to Santa Barbara or Bakersfield on top of the vehicle operation expense if you want to travel faster than a crawl during commute times? What happened to the concept that HOV will encourage people to carpool? HOT rewards single vehicle drivers with fat wallets. The fact remains that general purpose lanes will move more cars than special lanes and they are available to all taxpayers at all times without paying double. 2

OCTA has the clout to stop alt. 3 on the 405 and send a message to Caltrans...please do so.
Richard and Charlene Franke

PC-F37

From: Richard Franke [rofranke@sbcglobal.net]
Sent: Tuesday, June 05, 2012 4:25 PM
To: Parsons, 405.dedcomments
Subject: 405 Project

We attended the public hearing in Costa Mesa last evening and were repulsed at what we were hearing. Alternative 2 and 3 do not benefit people in the corridor where the work is being done. It only benefits the people on either end.

We (Taxpayers) voted to improve our highways to the tune of 1/2 % sales tax which would pay for alternative one. That would be paid for by that initiative. It is the only one that makes sense. CA is broke, CM is broke, Orange County is going downhill! Putting this on a personal basis, would you add another lane to your driveway when your bills far outweigh your assets because it may be needed in 2040? 1

Richard and Charlene Franke
3126 Sharon Lane, Costa Mesa, CA 92626

PC-F38

Smita Deshpande, Branch Chief,
Caltrans-District 12, "Attn: 405 DEIR-DEIS Comment Period"
2201 Dupont Drive, Suite 200
Irvine, CA, 92612

Subject: State Route 405 (I-405; San Diego Freeway) between SR-73 and I-605 and Draft EIR/EIS

I am concerned about the impacts the State Route 405 improvement project will have on our community. I am especially concerned about Alternative 3 which will widen the San Diego Freeway in the City of Costa Mesa and convert an existing car pool lane to a toll lane.

Alternative 3 would require that the Fairview/I 405 interchange be demolished and rebuilt, even though it was just rebuilt three years ago. Residences and public parks near the I- 405 will be adversely affected both during construction and upon completion of the project. Problems include air pollution, noise, and degradation of the visual quality of our neighborhoods. Ramp closures at Harbor, Fairview, and South Coast will not only inconvenience residents, but impair access to the many businesses which contribute to our local and regional economy. 1

In addition,

Please include these comments in the public/administrative record for this project and the project EIR/EIS. Thank you for the opportunity to comment.

Yours truly,

Pam Frankel (Pamela Frankel)
(Name)

2166 Myran Dr. C.M, Ca 92627
(Address) (City)

✓ Please keep me informed about future hearings and future steps in the review process for the I- 405 project.

PC-F39

From: Olga G Franklin [olbbbka@gmail.com]
Sent: Monday, June 04, 2012 8:55 PM
To: Parsons, 405.dedcomments
Subject: Comments on the 405 "Improvement" after the June 4th Public hearing

From:

Olga G Franklin
1686 Madagascar St
Costa Mesa CA 92626
714-726-3719
Costa Mesa Resident

Those of us who live close to the freeway already don't have the best air quality – known fact. How is adding the two elevated lanes of traffic in Costa Mesa going to improve air quality for adults and for kids? Kids who live here, kids who go to school here. Teenagers who grow up and hang out in the parks here in Costa Mesa. Employees who come and work in Costa Mesa and spend their breaks and lunches outside, breathing that same air? What are you going to do to ensure that air quality and living standard remains the same in Costa Mesa as you consider option 3?
Option 3 does not sound so good .
We Costa Meseans, just like the rest of the population pay our taxes. Among other things, these taxes go to pay for our roads: to maintain them and to build them. Which means Costa Meseans are already paying to have a carpool lane they can access at the 405 freeway in their city. Now you say we have to go to Fountain Valley in order to use the carpool lane, but wait...there is more – now you are going to charge us based on number of passengers in the vehicle (with some dubious quality control and enforcement of tracking that information anyway) in order to use this so called car pool lane. So please answer me, why do people of Costa Mesa, myself, my husband, my neighbors and friends have to pay more where as now, we don't have to?
Option 3 is not making sense to me here.

It is really well and good to say that we'll sacrifice this piece of land and impact homes of one city in order to provide easier , if you want to pay as you go, road access for more people. It is even easier said when you are making decisions that involve high level comparisons, and million dollar projections involving revenues. I get it – very exciting, more projects can be funded. You can keep building and building and building. Oh, wait – there is also future revenue that can be increased, if so desired, by upping the toll amounts on this new high speed freeway over freeway. Its' probably even better swallowed and approved when your own backyard, kitchen, swing set, bathroom and health of loved ones are not involved. So we love our cars, and GM and Ford and the rest of the companies are making oodles of money, oh and so do the oil folks, who are collecting their steady stream via the pump. Now is the time to change that and start making hard decisions. Unpleasant ones in some ways, but ones that pay back long term. Sure public transportation has its inconveniences and annoyances, our personal bubble gets burst. But really. It is time to look at solutions, with capital S. Not Band-Aids and stitches that hold things over. You are going to destroy a bridge that cost $7 mln to build at Fairview, so you can build a bigger bridge. We have this money throw away? At these times? When budgets in the state and in the city aren't coming together?
Option 3 is still not making sense here.

Consider a long term public transportation solution. This means no project with option 1, 2 or 3. This means going back to the drawing board, and truly becoming a Transportation Authority and looking at what is best for the people, the people, People, with the capital P, in the long run. Getting more people from point A to point B would be throughput. Giving more vehicles opportunity to drive the road by adding lanes is not the solution. Will you look at public transport as the solution in the 405 corridor instead?

Olga Franklin

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2
3
4

PC-F40

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): MARCO FRANISTO
Organization: IRONWORKERS LOCAL # 416
Address(Optional):
Phone Number:
Email address:

Comments: I THINK THE PROPOSED PROJECT EXPANSION WILL BE A GREAT BENEFIT FOR ALL COMMUTERS ON THE 405 FWY; TRAVEL TIME WILL BE MINIMIZED ALLOWING COMMUTERS TO GET HOME EARLIER AND SPEND QUALITY TIME W/ FAMILY

1

(Space for comments continued on reverse)

Caltrans
OCTA

PC-F41

7/17/12 **Richard T. Freeman**
3540 Goldenrod Circle
Seal Beach, Ca. 90740

SUBJECT: 405 DEIR/DEIS Comment Period

Ms. Smita Despande, Branch Chief
CalTrans District 12
2201 Dupont Dr. Suite 200
Irvine, Ca. 9262

Dear Ms. Despande:
I am writing this letter because of my concern for the proposed 405 Fwy Project. I have many fears about the proposal and the what I will call the lack of concern to for the Community by proposal implementors. 1

MY CONCERNS

- Movement of approximately 2,000 linear feet of the Almond Avenue sound wall, 8-10 feet (plus an additional 4 feet for landscaping) to the north will cause:
  - o Loss of parking along Almond Avenue -- where do cul-de-sac residents park on street sweeping day?
  - o Almond will become a substandard street; a narrower roadway will increase safety hazards to pedestrians and bicyclists. 2
  - o Possible relocation of a 14" and a separate 16" gas/petroleum lines from the south side of the freeway to the north side of the freeway, through CPE. Construction vehicles may need to access, and construction activities may be staged along Almond Avenue. How will this impact the residents and their ability to get to their homes?
    - ? Because gas/petroleum line relocation activities may be exempt from environmental review, only minimal discussion of that action is presented in the DEIR/S. 3
    - ? Overhead electrical lines could be relocated to the north side of Almond Avenue due to the high cost of undergrounding said electric lines (all utilities are undergrounded in CPE). 4

PC-F41 Continued

- o During construction, there may be times when no soundwall exists. 5
- o Decrease in property values that will have a rippling negative impact throughout the community -- the closer to the freeway the "for sale" sign, the longer the home stays on the market. 6

- LA County has no plans to add additional lanes at the county line (at least not for 10-15 years, if ever). Stopping the additional lanes at the county line will cause: 7
  - o Increased traffic gridlock as cars try to merge down one to two lanes at the county line -- how far south/west will the backup extend along both the 22 and 405 fwys?
  - o Due to prevailing on-shore winds, there will be an increase noise & pollution from idling northbound vehicles trying to merge down to go up the 405. Air quality impacts for this area are not discussed in the EIR. Why not? 8
    - ? Residents of the College Park East neighborhood will likely experience greater health risks attributable to increased vehicle emissions. 9
    - o EIR did not study this scenario.

- Getting on the northbound 405 at SB Blvd
  - o Has already become more dangerous as the first two lanes exit at Seventh Street and the next two lanes become the start of the 605 fwy; cars entering the northbound 405 fwy at SB Blvd will have to cut over 4 lanes to get into a lane that will go north on the 405. 10

- Excess traffic
  - o Will spill onto Lampson Ave, which is already being used as a bypass for the 405.
  - o Will spill onto Seal Beach Blvd, attempting to circumvent the gridlock at the Seal Beach Blvd. fwy entrances 11

- Toll express lanes
  - o Will only serve the people who can afford to use them and require car pools to be at least three people per vehicle which will cause more 12

PC-F41 Continued

use of the general purpose lanes. **This alone defeats the whole purpose of this "improvement" project.**
o Will bypass local exits for local shopping areas causing a loss of business and sales tax revenue
o Rates will change hourly depending on amount of use of the toll lanes as a means of traffic management (less use, decrease rates; too crowded, increase rates).
o Toll lanes would rely on and perpetuate congestion. The rates would be set so that the toll lanes flow free.
o The majority of the commuters would ride in the free lanes. This creates a social inequity. 12

MY QUESTIONS

!- Why not use a 4 foot inside shoulder on the north side of the freeway as this would not require moving the freeway wall? It appears that shoulder width standards have been modified many times on freeway projects when CalTrans decides it's in their best interests. What about concidering the best interests of the community rather than just a CalTrans standard which appears to have modified many times when it seemed convinent to CalTrans? 13

2-It does not appear that CalTrans has given due consideration to the traffic congestion that will occur if a much widened 405 hits the L. A. Co. line. It is quite probable during peak hours that northbound vehicles will back up, making northbound entry to the 405 fwy at Seal Beach Blvd. impossible. Why not go with the added one lane in each direction or second best stop additional northbound lanes at Valley View Avenue, which would give the vehicles a chance to more systematically merge before hitting the L.A. Co. line? 14

3-Above the MY QUESTIONS section I have listed a number of MY CONCERNS, I am specifically requesting that you comment on each of those CONCERNS listed! 15

PC-F41 Continued

In closing, I am strongly recommending that you go with the one added lane in each direction proposal. This plan would add freeway lanes as intended in PROPOSITION M and yet would not make make such an untenable impact on the community. 15 Cont.

Sincerely,

Richard T. Freeman

Richard T. Freeman

PC-F42

From: Steve F [beancounter-1@hotmail.com]
Sent: Sunday, June 24, 2012 12:29 PM
To: Parsons, 405.dedcomments
Subject: 405 OCTA Project

TO: Smita Deshpande, Branch Chief - Caltrans District 12
"Attn: 405 DEIR / DEIS Comment Period"
2201 Dupont Drive
Suite 200, Irvine, CA 92612

We live in he Halecrest near Fairview and the 405 Freeway.

I and my entire family oppose Alternative 3.

We are against tearing down and rebuilding the 405-Fairview bridge that was just built several years ago.

And quite frankly we do not believe Toll roads are beneficial to our community.

In Costa Mesa, the entire community of residents and the city government oppose this project.

Thank you.

Steve French
3058 Murray Lane
Costa Mesa, CA 92626

1

PC-F43

From: Rosemary Frenkiel [rosemaryfrenkiel@gmail.com]
Sent: Thursday, June 21, 2012 2:15 PM
To: Parsons, 405.dedcomments
Subject: Seal Beach Wall

To Whom it May Concern:

Please leave the sound wall that abuts Almond street in College Park East alone. To make Almond narrower will lead to more accidents involving cars and bicyclists and/or pedestrians. I don't understand why you cannot take the land from the West side of the 405 Fwy. It is just lying there now that the silos are no longer in use, this would be the ideal use of that land. Since the 605 on ramp is not being expanded it will only lead to a bottle neck situation. There is also recent evidence that pollution from freeways can lead to health issues for both the unborn and children. I don't understand why OCTA wants to do this. I have lived in College Park East for 25 years and I can tell you that the noise from the freeway is horrendous during rush hour, to bring it closer to our homes is beyond comprehension. What purpose would it fill? Besides creating a bottle neck situation, what benefit is so important to out weigh the health of several thousand people. Please reconsider before making this decision.

1

2

PC-F44

From: sportsmomcf2002@aol.com
Sent: Monday, June 18, 2012 9:17 PM
To: Parsons, 405.dedcomments
Subject: Leave Our Wall Alone

Please find to follow my reasons that the freeway wall should not be moved First of all, I would like recommend those making the decisions to come live periodically or tour in our neighborhood to see how the freeway has already affected our lives. I have to admit that when we first purchased that I was ignorant about the impact of the freeway wall. I fell in love with the community. It was safe, quiet and affordable. Now I have lived in CPE for 13 years and have become annoyed and concerned about the freeway wall and it's nuances, but unfortunately due to the turn of events with real estate in CA, I cannot afford to move and even more so now that the wall we be moved. The decision to move the wall will greatly affect the value of my home. Is that really fair? I can almost guarantee if those making the decision lived where we lived, they would vote to turn down moving the freeway wall, because they would not want to be in our situation.

1

If you visit our homes, you will see the soot from the exhaust of cars on the freeway. Our cars, homes, windows, anything outside requires constant cleaning because of the build of soot. The exhaust also comes into our home threw the screens. I had white carpet that had to be removed because you could see the soot build up in the corners. It was horrible looking. I have to vacuum everyday the dust and pollutants that invade our home through screens and doors. But more importantly is what we don't see, it is the exhaust that we breathe in constantly. After living in California, when I first moved from New Mexico, an article I read indicated that if you live in southern california, because of the all the traffic and pollution, those living here will have 1/4 less lung capacity than those who didn't live in California and probably worse if you live right on top of the freeway. If this gets into our homes, image what escapes into our bodies and what we breathe in day in and day out. I am concerned for my families health. I know that additional traffic will ad to the deterioation of our health. Is this really fair?

2

When you live near the freeway, you hear all the traffic noise, from loud motorcycles, down shifting of semi's,and warnings of emergency vehicles. You get the helicopters that fly over when there is traffic jams, which is every day and especially bother some at night when you try to put your children to bed. I can guarantee there is at least one accident every day at 405 and Seal Beach Blvd. We can't close our windows, because most homes do not come with air conditioning or air purifiers.

3

Why can't OCTA come up with solutions for encouraging less driving, with incentives for not driving. What about changing or increasing the age of driving,so less people on the road. Limit the types of vehicles to electric, propane and other clean sources.. What mass transit running parallel with the beach? I could probably think of a million ideas that would be better for our environment than moving the freeway 10 feet closer to a neighborhood of families.

4

Greatly appreciate your concern and cooperation. Please take the time to seriously consider what I have written. OCTA please put yourself in our shoes to truly understand what we experience.

5

Thank You for your consideration.

Theresa Fresenius

PC-F45

From: Jeannette Friedland [mailto:jlfriedland@yahoo.com]
Sent: Wednesday, June 06, 2012 11:08 AM
To: Christina Byrne
Subject: No on Alternative 3

Christina,

My husband and I are long time residents of Costa Mesa and we strongly oppose the OCTA's plans to widen the 405 freeway. This is bad for Costa Mesa and its residents. It is an unwarranted expansion with NO benefit to the residents here. 1

Jeannette Friedland
Resident of 13 years

PC-F46

From: dennis friedrich [djfriedrich1@yahoo.com]
Sent: Tuesday, July 17, 2012 9:02 AM
To: Parsons, 405.dedcomments
Subject: I-405

I want to take this opportunity to voice my strong objection to Alternative 3 for the widening of the I-405. I have listened to the presentations, both private and public, and see zero benefit to the City of Costa Mesa. Frankly, as a long-time resident of Mesa North, I feel certain that not only will Alternative 3 lower our property values, but it will also bring added noise and pollution to our neighborhood. We already have dirt on our rooftops and in our yards from the freeway as it stands now – bringing it that much closer will increase that tenfold. There is no possible way that the OCTA or CalTrans could possibly mitigate the damages that Alternative 3 and the trickle-down side-effects its implementation would cause our neighborhoods. 1

Alternative 2 will bring many of the same benefits, without causing long term and likely irreparable damage to several neighborhoods to do it.

Costa Mesa has already widened its part of the freeway, rebuilt the Fairview bridge, and even accepted the 73 freeway. Seriously, enough is enough. With all due respect, as a 28 year Costa Mesa resident, I urge the OCTA to recommend Alternative 2 to CalTrans. It's the smart thing to do. 2

Sincerely,

Dennis Friedrich

PC-F47

From: Janet Friedrich [j.friedrich@att.net]
Sent: Monday, July 16, 2012 8:39 PM
To: Parsons, 405.dedcomments
Cc: j.friedrich@att.net
Subject: I-405 Widening Project Comment

I want to take this opportunity to voice my strong objection to Alternative 3 for the widening of the I-405. I have listened to the presentations, both private and public, and see zero benefit to the City of Costa Mesa. Frankly, as a long-time resident of Mesa North, I feel certain that not only will Alternative 3 lower our property values, but it will also bring added noise and pollution to our neighborhood. We already have dirt on our rooftops and in our yards from the freeway as it stands now – bringing it that much closer will increase that tenfold. There is no possible way that the OCTA or CalTrans could possibly mitigate the damages that Alternative 3 and the trickle-down side-effects its implementation would cause our neighborhoods. 1

Alternative 2 will bring many of the same benefits, without causing long term and likely irreparable damage to several neighborhoods to do it.

Costa Mesa has already widened its part of the freeway, rebuilt the Fairview bridge, and even accepted the 73 freeway. Seriously, enough is enough. With all due respect, as a 28 year Costa Mesa resident, I urge the OCTA to recommend Alternative 2 to CalTrans. It's the right thing to do.

Sincerely,

Janet Friedrich
3009 Harding Way
Costa Mesa, CA 92626

PC-F48

From: Gil [mailto:gilf9@aol.com]
Sent: Thursday, June 07, 2012 10:29 AM
To: Christina Byrne
Subject: 405 & Costa Mesa

I have lived in Costa Mesa for 47 years. Some changes are good. Some changes are bad. Some are neutral. 1

Alternative #3 is definitely bad. The 405 is already amazingly wide as it passes Fairview. The Fairview bridge was recently under construction only to be torn down under Alternative 3. What horrible planning! I can see nothing positive coming from Alternative 3. Numbers 1 and 2 appear reasonable.

Gilbert Friese
1132 El Camino Drive
Costa Mesa

PC-F49

4541 Birchwood Avenue
Seal Beach, CA 90740

July 14, 2012

Attn: 405 DEIR/DEIS Comment Period

Ms. Smita Deshpande
Branch Chief
CalTrans District 12
2201 Dupont Drive, Suite 200
Irvine, CA 92612

Dear Ms. Deshpande:

We have lived in College Park East in Seal Beach since 1968 and raised our children here. We were here when we fought to have the sound wall built to protect us from the freeway noise and pollution. We now find that CalTrans and OCTA, is looking to expand the freeway and tear down the existing wall in our neighborhood. We are being promised that it will be replaced with like wall but we believe this is a hollow promise. The existing wall is made of solid concrete and is 18 feet high and the ones being put up now are large hollow concrete blocks. There will also be some unknown period where there is no wall while they rebuild. 1

We do not want the freeway moving closer to our homes and taking away parking along Almond Avenue and two gas lines will have to be moved in College Park. The increased noise, pollution and the related health concerns due to air quality weighs very heavily on our minds. There will still be a bottleneck at the 605 because LA County is not expanding the 405 on their side of the county line.

The funds for this project is coming from Measure M2 which the voters approved in 2006. There is no mention of "tolls", "express lanes", "hot lanes" or "transponders" in Measure M2 but a toll road is one of the alternatives being proposed. The toll road would not alleviate traffic as it would be used only by people who can afford to use them and require car pools to have at least three people per vehicle. This will cause more use of the general purpose lanes which, in turn, will cause more congestion. 2

Furthermore, the cities of Westminster, Fountain Valley and Costa Mesa are also against the toll road as it will bypass local exits for local shopping areas causing a loss of sales tax revenue. 3

The following are the Alternatives 1 - 4:
Alternative 1: Adds one General Purpose lane in each direction.
Alternative 2: Adds two General Purpose lanes in each direction.
Alternative 3: Adds one General Purpose and one Express Lane.
Alternative 4: No Project.

We are, therefore, in favor of Alternatives 1 and 4. The other alternatives are too disruptive to the homes and businesses around it. Won't you please take the time to consider the least disruptive alternative so that we can live in harmony? 4

We respectfully ask that you please consider our proposal. Thank you for your consideration.

Yours very truly,

Fred K. Fujikawa Midori Fujikawa

RESPONSE TO PUBLIC COMMENTS (PC)-F

Response to Comment Letter PC-F1

Comment PC-F1-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Only Alternative 3 would require replacement of the Fairview Road Overcrossing. Caltrans/OCTA have considered design options to avoid replacement of the Fairview Road Overcrossing under Alternative 3. Please see Common Response – Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes.

Response to Comment Letter PC-F2

Comment PC-F2-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

As described in Section 3.1.6 of the Draft EIR/EIS, the I-405 corridor can be traveled in 13 to 25 minutes in the northbound direction and 17 to 37 minutes in the southbound direction during the peak hours. The existing travel times are consistent with your observations; however, in 2040, corridor travel times are forecasted to increase to 101 to 133 minutes in the northbound direction and 95 to 163 minutes in the southbound direction under the No Build Alternative during the peak hours. The proposed project is necessary to accommodate future demand and reduce congestion.

Response to Comment Letter PC-F3

Comment PC-F3-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-F4

Comment PC-F4-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-F5

Comment PC-F5-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

The construction going on now is part of the SR-22 WCC Project and includes HOV connectors at SR-22/I-405 and I-405/I-605. Seal Beach Boulevard Bridge will only be constructed once, under the SR-22 WCC Project. None of the bridges constructed/improved as part of the SR-22 WCC Project (i.e., Valley View Street and Seal Beach Boulevard) will have to be reconstructed/ improved as part of the I-405 Improvement Project. Safety is a top priority for Caltrans, and the proposed Seal Beach Boulevard design is a safe design consistent with Caltrans design standards. Based on preliminary engineering, no full acquisitions of residential properties are anticipated (see Section 3.1.4.2 of the Final EIR/EIS). There will be no loss of shoulder area for long stretches to the right or left of I-405; however, there will be localized reductions where sign supports are existing along the median of I-405 and at bridge columns.

Response to Comment Letter PC-F6

Comment PC-F6-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Comment PC-F6-2

As discussed in Section 3.2.7, construction activities conducted during daytime hours would have a lesser impact on residential land uses than nighttime construction; however, nighttime construction is expected to be necessary to avoid unacceptable disruptions to traffic during

daytime hours. With implementation of Measures NOI-2 and NOI-4, temporary construction noise impacts would be minimized.

As discussed in Section 3.2.6, with implementation of Measures AQ-1 through AQ-14, temporary construction air quality impacts, including dust, would be minimized. It should be noted that all construction projects in the SCAQMD require compliance with Rule 403. You can report any potential air quality issues, including excessive project-related dust, to the SCAQMD at 1-800-CUT-SMOG.

Comment PC-F6-3

Only Alternative 3 includes the tolled Express Lane Facility. The tolled Express Lane Facility would be operated by OCTA, similar to the 91 Express Lanes in Orange County. The SR-73 toll road is operated by the San Joaquin Hills Transportation Corridor Agency. The toll roads will be operated independently but will provide seamless interoperability, similar to if a driver took the toll road system from SR-73 to SR-133 to SR-241, and eventually will be able to continue to the 91 Express Lanes with the future SR-241 connector.

Response to Comment Letter PC-F7

Comment PC-F7-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Response to Comment PC-B20-1.

Response to Comment Letter PC-F8

Comment PC-F8-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Response to Comment PC-B20-1.

Response to Comment Letter PC-F9

Comment PC-F9-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred

Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Response to Comment Letter PC-F10

Comment PC-F10-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-F11

Comment PC-F11-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-F12

Comment PC-F12-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

The I-405 Improvement Project, subject of the EIR/EIS, and WCC Project are separate projects. OCTA and Caltrans work very hard to coordinate with the local community to minimize project impacts to the extent possible. OCTA has a robust community outreach program during construction and strives to keep the neighboring community informed every step of the way through e-mail blasts, flyers, and public meetings. The improvements to the SR-22/I-405/I-605 interchange as part of the WCC Project compliment improvements proposed under the I-405 Improvement Project. Structures constructed under the WCC Project (Seal Beach Boulevard Bridge, Valley View Street Bridge, and the 7th Street off-ramp) will not be reconstructed during the I-405 Improvement Project. The design of both projects has been carefully coordinated to avoid throw-away costs.

Response to Comment Letter PC-F13

Comment PC-F13-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

The pile driving you reference is associated with the structure replacements at Seal Beach Boulevard, Valley View Street, and SR-22/I-405 HOV connector as part of the WCC Project. These structures would not be replaced as part of the I-405 Improvement Project. Some pile driving may be required for soundwalls or retaining walls, but the magnitude and duration would be substantially less than what you experienced during the WCC Project. See also Response to Comment PC-F5-1.

Response to Comment Letter PC-F14

Comment PC-F14-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

The purpose of the tolled Express Lane Facility is to maximize throughput while minimizing ROW acquisition. Alternatives to obtain similar levels of throughput without the tolled Express Lane Facility would require a greater ROW footprint, likely resulting in full acquisition of residential properties.

Only Alternative 3 would require replacement of the Fairview Road Overcrossing. Caltrans/OCTA have considered design options to avoid replacement of the Fairview Road Overcrossing under Alternative 3. Please see Common Responses – Preferred Alternative Identification, Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes, and Opposition to Tolling.

Response to Comment Letter PC-F15

Comment PC-F15-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Alternatives 1 and 2 would add one or two GP lanes, respectively. None of the alternatives would add an additional carpool lane; Alternative 3 would add an Express Lane, and the HOV and Express Lane would be managed jointly as a tolled Express Lane Facility.

See Response to Comment PC-F14-1 and Common Responses – Preferred Alternative Identification, Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes, Opposition to Tolling, and Measure M Funding.

Response to Comment Letter PC-F16

Comment PC-F16-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Comment PC-F16-2

Please see Response to Comment PC-F16-1. As discussed in Section 3.1.6 of the Final EIR/EIS, northbound and southbound traffic demand will increase with or without the tolled Express Lanes. The Preferred Alternative will take trips out of the GP lanes and would not lead to increased congestion.

Comment PC-F16-3

Alternative 1 is fully funded from Measure M2. Alternative 3 is fully funded from a combination of Measure M and bonds against anticipated toll revenue. At this time, Alternative 2 is currently the only alternative that is not considered fully funded. If Alternative 2 is selected as the Preferred Alternative, Caltrans/OCTA will seek additional federal, State, and local funding sources to make up the shortfall. The project is considered a Major Project by FHWA, and a Draft Financial Plan must be submitted to FHWA prior to approval of the Final EIR/EIS. The Draft Financial Plan must identify full funding for the project. Please see Common Response – Measure M Funding.

Comment PC-F16-4

Under all of the build alternatives, the elimination of the existing left-turn pocket onto southbound I-405 from westbound Westminster Boulevard and lengthening the dual left-turn pocket at the Westminster Boulevard/Springdale Street intersection is necessary for the intersection to operate at an acceptable LOS.

Comment PC-F16-5

Signals on Beach Boulevard are currently synchronized and will be adjusted subsequent to construction consistent with Caltrans policy regarding signals at ramp intersections. Signal timing will be closely evaluated during the design phase of the project.

Response to Comment Letter PC-F17

Comment PC-F17-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Alternative 1 would avoid the Almond Avenue soundwall, and Alternatives 2 and 3 would require relocation of the wall up to 10 and 3 ft to the north, respectively. Alternatives 2 and 3 would likely include parking restrictions along Almond Avenue to maintain the City street standards for two-way travel. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Responses – Preferred Alternative Identifications and Almond Avenue Soundwall.

Comment PC-F17-2

The purpose and need for the project are discussed in Chapter 1 of the EIR/EIS. It is impossible to predict whether the project would result in a decrease in accidents within the project area.

Please see Responses to Comments PC-F17-1 and PC-F9-1 and Common Responses – Air Quality, Health Risks, and Traffic Flow at the Orange County/Los Angeles County Line.

Comment PC-F17-3

There is no information within the Final EIR/EIS that suggests that construction of Alternatives 1, 2, or 3 would result in either an increase or decrease in property values. The I-405 Improvement Project may have an effect on property values, but it is not likely to be a major change because I-405 is an existing facility within Orange County. In addition, Caltrans has found no literature, studies, or evidence that property values decrease because of freeway widening near a home. Please see Common Response – Property Values.

Comment PC-F17-4

Please see Response to Comment PC-F17-1.

Response to Comment Letter PC-F18

Comment PC-F18-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

No transponder is required if either Alternative 1 or 2 is selected as the Preferred Alternative. Under Alternative 3, any transponder currently being used on any Toll Facility in California would work on the proposed tolled Express Lanes. Only those users that would like to take advantage of being a 3+ HOV to obtain free/discounted use of the proposed toll lanes would need to obtain a new transponder; however, it should be noted that the Toll Express Lane Operating Policies discussed in Section 2.2.2 of the Final EIR/EIS have not been finalized.

Response to Comment Letter PC-F19

Comment PC-F19-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Under Alternative 3, the SR-22/I-405 direct connector would be incorporated into the tolled Express Lane Facility. The SR-22 HOV lane will terminate, providing a transition area to allow those who choose to use the tolled Express Lane Facility to enter and others to exit into the SR-22 GP lanes. Access to the tolled Express Lane Facility from SR-22 will be via the SR-22/ I-405 HOV connecter currently under construction as part of the WCC Project.

Comment PC-F19-2

The lighting in the median referenced was built as part of the “Safety Lighting Project,” which mitigates for the wide freeway and the amount of weaving within the HOV area. The WCC Project will replace these same lights as part of the centerline shift. During construction of the new alignment in the median, the lights have been temporarily removed. Please consult OCTA on additional concerns regarding the current construction project.

Comment PC-F19-3

All transponders used in California will work on the proposed tolled Express Lanes. Please see Response to Comment PC-F18-1.

Comment PC-F19-4

Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-F20

Comment PC-F20-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Literature and case studies show that all income classes utilize toll facilities based on need for trip reliability and reduced travel times.

Comment PC-F20-2

Other commenters also had concern with the travel time data presented in the Draft EIR/EIS. Please see Common Response – Substantiation of Reported Corridor Travel Times for Build Alternatives.

Comment PC-F20-3

A stated preference survey was not completed as part of the Traffic and Revenue Study for the project. Stated preference studies are not reliable indicators of actual use or willingness to pay. Anticipated use of the tolled Express Lane Facility was based on modeling of willingness to pay in other similarly congested corridors where toll facilities are currently in use, such as SR-91. At this time, there are no plans to complete a stated preference survey.

Comment PC-F20-4

The proposed Express Lanes would be operated 24 hours per day as a toll facility. During off-peak hours, the time savings associated with the Express Lanes is substantially reduced.

Response to Comment Letter PC-F21

Comment PC-F21-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Transponders will be interoperable as required by California law; in short, transponders issued by any agency in California will work on the I-405 Express Lanes in Alternative 3; however, Express Lane users with transponders that do not have a self-declaration occupancy switch (by

which a motorist declares the number of occupants in the vehicle) will be charged the toll for a single-occupant vehicle.

Enforcement of the occupancy requirement for a free or reduced toll in the Express Lanes of Alternative 3 will be essential to the successful operation of the roadway to achieve the revenue results necessary to pay for the additional lane provided by the Express Lanes and to operate the facility. The Express Lanes include the existing HOV lane and will therefore be required by federal law to provide preferential toll treatment of HOVs meeting the occupancy requirement.

See Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-F22

Comment PC-F22-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Each one of the issues identified in the summary has been addressed in the following responses. Please see Responses to Comments PC-F22-2 through PC-F22-8 below.

Comment PC-F22-2

Your suggestion will be considered where feasible. OCTA/Caltrans will be developing an I-405 Aesthetic and Landscape Master Plan. The plan will be developed as part of the final design process and will address vegetation covering of walls.

Comment PC-F22-3

Where there are soundwalls on both sides of I-405, there would not be a reflected noise issue because these soundwalls are at least 400 ft apart from each other. The center divider for HOV lanes is much shorter than soundwalls; therefore, it would not create two parallel walls. That is why no absorptive materials are used on the center dividers.

Comment PC-F22-4

The acoustic benefits from ivy and other vegetation would be limited, but they could be effective in diffusing the higher frequencies associated with traffic noise.

Please see EIR/EIS Measure VIS-18, provided below:

VIS-18: Provide vine planting on soundwalls and retaining walls where feasible and appropriate. Per Highway Design Manual, Index 902.3(5), vine planting should be

included with all sound barrier projects to reduce the potential for graffiti and to soften the appearance of the wall.

Comment PC-F22-5

According to FHWA, the rule of thumb is that a barrier should be long enough such that the distance between a receiver and a barrier end is at least four times the perpendicular distance from the end receiver to the barrier along a line drawn between the receiver and the roadway; however, a detailed noise model was developed as part of the traffic noise impact analysis that indicated the necessary heights and lengths of soundwalls that would provide the required noise reduction to the end receivers.

FHWA further states that the general rule of thumb is that the ratio between overlap distance and gap width should be at least 4:1 to ensure negligible degradation of barrier performance; however, the ratio must be considered for each case using a detailed traffic noise impact analysis using the traffic noise model. Roadway elevation and configuration, as well as other topographic features of the surrounding area, can affect overlap distances.

Comment PC-F22-6

It is possible that soundwalls could cause debris to be reflected, but this is not an issue for I-405. Numerous noise measurements conducted before and after installation of soundwalls has shown substantial traffic noise reduction at residences close to freeways. A combination of trees and woody shrubs could reduce traffic noise levels, but they need to be at least 100 ft wide. In urban areas, it is not practical to devote a 100-ft buffer next to the freeways for planting trees and woody shrubs; therefore, soundwalls are used for traffic noise abatement. Detailed computer modeling is used to optimize soundwall length and height. Although trees, shrubs, and grassy areas themselves are not as effective as soundwalls in reducing noise levels, there are psychoacoustic benefits to including them in concert with soundwalls.

Comment PC-F22-7

Questions and concerns regarding the words and definitions of terms of FHWA publications should be addressed directly to FHWA. FHWA and several other state transportation departments are currently conducting studies to find pavement grinding patterns that would reduce some of the harsh tonality of tire noise and associated reflections of the other sources of traffic noise such as engine and exhaust noise.

Comment PC-F22-8

Traffic noise impacts are typically determined at receivers that are placed 5 ft above the ground elevation, unless dictated by unusual circumstances, special studies, or other requirements.

Exceptions would include placing a receiver 5 ft above a wooden deck of a house situated on a steep slope, instead of 5 ft above the ground. Similar situations might be encountered where residential living areas are built above garages, where second-story levels would be more logical receiver locations. Traffic noise impacts are evaluated at second-story elevations or at higher elevations in the case of multi-story buildings when there are exterior areas of frequent human use at the higher elevations that could benefit from noise reduction. Examples include large patios or balconies that are the primary outdoor use area in an apartment complex. Clearly, it will not be feasible or reasonable to construct a wall that protects a receiver location several stories above a freeway. Almost all of the two-story single-family houses along the study area do not have balconies or other frequent outdoor use areas at the second level. Therefore, traffic noise impacts are evaluated only at the ground level of these houses.

Response to Comment Letter PC-F23

Comment PC-F23-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Responses to Comments PC-F19-1 and PC-F19-2.

Comment PC-F23-2

Please see Responses to Comments PC-F19-1 through PC-F19-4.

Comment PC-F23-3

Please see Response to Comment PC-F21-1.

Comment PC-F23-4

Please see Responses to Comments PC-F22-1 through PC-F22-7.

Comment PC-F23-5

Please see Response to Comment PC-F22-5.

Comment PC-F23-6

Please see Response to Comment PC-F22-8.

Comment PC-F23-7

Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-F24

Comment PC-F24-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Alternative 2 would add two GP lanes in each direction; however, two HOV lanes would be underutilized and would eliminate the benefit of reduced congestion in the GP lanes. Under both Alternatives 1 and 2, the HOV lane would be restriped for continuous access. All of the build alternatives have common design features, as described in Chapter 2, Section 2.2.1, Common Design Features of the Build Alternatives, of the Draft EIR/EIS. It is not possible to not use any part of Alternative 3. If Alternative 1 or 2 is selected as the Preferred Alternative, there would be no tolled Express Lane Facility.

Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-F25

Comment PC-F25-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Responses to Comments PC-E9-2 and PC-E9-3.

Comment PC-F25-2

With respect to a potential bottleneck at the Los Angeles County line, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Comment PC-F25-3

Alternative 1 is fully funded from Measure M2. Alternative 3 is fully funded from a combination of M2 and bonds against anticipated toll revenue. At this time, Alternative 2 is currently the only alternative that is not considered fully funded. If Alternative 2 is selected as the Preferred Alternative, Caltrans/OCTA will seek additional federal, State, and local funding sources to make up the shortfall. Please see Common Response – Measure M Funding.

Response to Comment Letter PC-F26

Comment PC-F26-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

The following link will direct you to the EIR/EIS and other project-related resources and mapping: http://www.octa.net/I-405/IPO.aspx. Project layouts are provided in Appendix P of the EIR/EIS.

Response to Comment Letter PC-F27

Comment PC-F27-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Please see Response to Comment PC-F17-1 and Common Response – Almond Avenue Soundwall.

Response to Comment Letter PC-F28

Comment PC-F28-1

Las agencias de Caltrans y Orange County Transportation Authroity les gustaría agradecerle por haber participado en el proceso ambiental para el proyecto de ampliación de la autopista de San Diego (I-405). Su comentario fue considerado durante el proceso de selección de la “Alternative Preferida”, como esta escrito en el reporte llamando en ingles “I-405 Improvement Project Final EIR/EIS.” Se le notificará en la dirección proveida en su Cometario cuando el reporte “Final EIR/EIS” va a estar disponible para revisarlo.

Comment PC-F28-1 Translation

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-F29

Comment PC-F29-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-F30

Comment PC-F30-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-F31

Comment PC-F31-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-F32

Comment PC-F32-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

With respect to a potential bottleneck at the Los Angeles County line, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Response to Comment Letter PC-F33

Comment PC-F33-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred

Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Response to Comment PC-B7-1.

Response to Comment Letter PC-F34

Comment PC-F34-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-F35

Comment PC-F35-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-F36

Comment PC-F36-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Comment PC-F36-2

All of the build alternatives would reduce congestion and improve travel times; however, during congested times, the Express Lanes in Alternative 3 will move more traffic per lane than congested GP lanes. This topic is covered in the Draft EIR/EIS in Table 3.1.6-14. HOVs meeting the occupancy requirement will be able to use the Express Lanes for a free or reduced toll, so the project will encourage carpooling. Please see Common Response – Opposition to Tolling.

Response to Comment Letter PC-F37

Comment PC-F37-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Response to Comment PC-F36-2 and Common Responses – Preferred Alternative Identification, Opposition to Tolling, and Measure M Funding.

Response to Comment Letter PC-F38

Comment PC-F38-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Response to Comment PC-B20-1 and Common Responses – Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes, Air Quality, Noise, and Impacts to Businesses.

Response to Comment Letter PC-F39

Comment PC-F39-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Project-related construction and operational air quality effects were analyzed in detail in the project Air Quality Technical Study. As described in Section 3.2.6, project-related emissions associated with the build alternatives would be less than the future No Build Alternative.

Caltrans/OCTA have considered a design option for Alternative 3 that would eliminate new lanes south of Euclid Street, except for extension of the southbound auxiliary lane approaching the Harbor Boulevard exit ramp north to Euclid Street. The direct connector between the medians of I-405 and SR-73 would not be constructed under this design option. If Alternative 3 is selected as the Preferred Alternative and the design option is implemented, no elevated lanes in the City of Costa Mesa would be constructed.

Please see Common Responses – Preferred Alternative Identification, Air Quality, Health Risks, and Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes.

Comment PC-F39-2

Limited access on the tolled Express Lane Facility is required to ensure that travel speeds are maintained. Continuous and/or more access would deteriorate operations, reducing both travel times and trip reliability. Alternative 1 would be fully funded through Measure M2. Alternative 3 would be fully funded from a combination of Measure M2 and bonds against anticipated future toll revenue. At this time, Alternative 2 is currently the only alternative that is not considered fully funded. If Alternative 2 is selected as the Preferred Alternative, Caltrans/OCTA will seek additional federal, State, and local funding sources to make up the shortfall. Measure M is funded through a ½-cent sales tax in Orange County, and no additional taxes would be required to construct any of the proposed build alternatives. Please see Common Responses – Opposition to Tolling and Measure M Funding.

Comment PC-F39-3

Partial acquisition of some residential properties is required under all of the build alternatives. No full acquisition of residential properties is required under any of the build alternatives. Subsequent to identification of the Preferred Alternative, all properties affected by full or partial acquisition and/or TCEs will be provided in Appendix T of the Final EIR/EIS.

Section 2.2.2, summarizes the preliminary plans and policies regarding operations of Express Lanes under Alternative 3. If Alternative 3 is selected as the Preferred Alternative, final decisions on operating policies would be made during final design and prior to opening of the project. The type of tolling to be used in the Express Lanes is likely to be either variable or dynamic. Variable tolling provides different toll amounts by hour of the day and day of the week. Variable tolling is currently used on the SR-91 Express Lanes, with toll amounts adjusted every few months based on traffic levels by hour of the day and day of the week during the previous few months. Dynamic tolling varies toll amounts minute to minute in response to the real-time volume of traffic in the Express Lanes and levels of congestion in the GP lanes. Toll amounts are adjusted to manage the volume of traffic in the Express Lanes and avoid congestion.

As discussed in Section 2.2.7, mass transit components were considered in the I-405 MIS and were determined unfeasible.

Only Alternative 3 would require replacement of the Fairview Road Overcrossing. Caltrans/OCTA have considered design options to avoid replacement of the Fairview Road Overcrossing under Alternative 3. Please see Common Responses – Identification of Preferred

Alternative, Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes, and Opposition to Tolling.

Comment PC-F39-4

As discussed in Section 3.1.6, the Preferred Alternative maximizes throughput while generally staying within existing ROW. Please see also Response to Comment PC-F39-3 and Common Response – Elimination of LRT and BRT Alternatives.

Response to Comment Letter PC-F40

Comment PC-F40-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-F41

Comment PC-F41-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Responses – Preferred Alternative Identification.

Comment PC-F41-2

As discussed in Section 3.1.5.2 of the Final EIR/EIS, the preferred option for the location of the gas lines is on the south side of I-405 (Option 1). The gas lines would be relocated onto the NAVWPNSTA Seal Beach. Please see Common Response – Relocation of Gas Lines.

Comment PC-F41-3

Relocation of the gas lines is part of the project and is not exempt from environmental review. This is analyzed in Section 3.1.5.2 of the Final EIR/EIS. Please also see Response to Comment PC-F41-2.

Comment PC-F41-4

Only Alternatives 2 and 3 would require moving the Almond Avenue soundwall. Where feasible and cost effective, undergrounding electric lines is preferred; however, the ultimate decision will be made by OCTA, Caltrans, Local Agency, and the utility provider during final design. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under

Alternatives 2 and 3. If either Alternative 1 or Alternative 3 with the design option is selected as the Preferred Alternative, the lines will not require relocation. Please see Common Response – Almond Avenue Soundwall.

Comment PC-F41-5

Only Alternatives 2 and 3 would require relocating the soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. If Alternative 2 is selected as the Preferred Alternative, there may be times when portions of the wall are removed while it is reconstructed at its new location, up to 10 ft north of the existing location. Please see Common Response – Almond Avenue Soundwall.

Comment PC-F41-6

Please see Response to Comment PC-F17-3.

Comment PC-F41-7

Please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Comment PC-F41-8

Project-related construction and operational air quality effects were analyzed in detail in the project Air Quality Technical Study. As described in Section 3.2.6, project-related emissions associated with the build alternative would be less than the future No Build Alternative.

Please see Common Response – Air Quality.

Comment PC-F41-9

Please see Response to Comment PC-F41-8 and Common Response – Health Risks.

Comment PC-F41-10

The current conditions for entering I-405 heading north from the Seal Beach Boulevard northbound loop on-ramp is a temporary gauge and is not an advisable comparison for conditions after completion of the WCC Project and this project. The proposed configuration for the project Preferred Alternative would require one lane change from an auxiliary lane when accessing northbound I-405 from the Seal Beach Boulevard loop on-ramp. The design has improved safety conditions at this location by allowing drivers to enter an auxiliary lane that provides more time to negotiate one lane change.

Comment PC-F41-11

The additional lanes on I-405 under the build alternatives will encourage traffic currently diverting from I-405 to local streets to remain on I-405. Please see also Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Comment PC-F41-12

Data from SR-91 show that people from all income groups use those Express Lanes in eastern Orange County. There is no expectation that Express Lanes on I-405 would be substantially different. For a discussion of the reasons that it is necessary to change the occupancy requirement for free use of the Express Lanes, please see Common Response – Opposition to Tolling. For a discussion of potential impacts to reduce exposure of businesses in the corridor to freeway traffic, please also see Common Response – Opposition to Tolling. Toll rates will change periodically to maintain high speed in the Express Lanes and serve more traffic per lane than GP lanes during periods of congestion in the GP lanes, as shown in Table 3.1.6-14 of the Draft EIR/EIS. The successful operation of the Express Lanes does rely on congestion in the GP lanes. Given the restricted ROW in the corridor, providing sufficient GP lane capacity to serve demand is not feasible. Because the Express Lanes will serve more traffic per lane during congested periods than are served by a congested GP lane, users of the GP lanes benefit from the Express Lanes as it reduces the traffic per lane in the GP lanes.

Comment PC-F41-13

Please see Response to Comment PC-F17-1.

Comment PC-F41-14

With respect to a potential bottleneck at the Los Angeles County line, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

With respect to dropping additional lanes at Valley View Street, please see Common Response – Almond Avenue Soundwall.

Comment PC-F41-15

Please see Responses to Comments PC-F41-1 through PC-F41-14 and Common Responses – Preferred Alternative Identification, Almond Avenue Soundwall, Traffic Flow at the Orange County/ Los Angeles County Line, Measure M Funding, and Opposition to Tolling.

Response to Comment Letter PC-F42

Comment PC-F42-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-F43

Comment PC-F43-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Response to Comment PC-F17-1. Please also see Common Responses – Preferred Alternative Identification, Almond Avenue Soundwall, and Shifting Improvements away from Residential Properties onto NAVWPNSTA Seal Beach Property.

Comment PC-F43-2

Please see Response to Comment Letter PC-F44 and Common Responses – Traffic Flow at the Orange County/Los Angeles County Line, Air Quality, and Health Risks.

Response to Comment Letter PC-F44

Comment PC-F44-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Response to Comment PC-F17-1 and Common Response – Property Values.

Comment PC-F44-2

Project-related construction and operational air quality effects were analyzed in detail in the project Air Quality Technical Study. As described in Section 3.2.6, project-related emissions associated with the Preferred Alternative would be less than the future No Build Alternative.

Please see Common Responses – Air Quality and Health Risks.

Comment PC-F44-3

Please see Common Response – Noise/Noise Analysis.

Comment PC-F44-4

Neither Caltrans nor OCTA have the authority to change the driving age or restrict use of the facility to otherwise legal vehicles. Please see Response to Comment PC-F17-1 and Common Response –Almond Avenue Soundwall.

Comment PC-F44-5

Please see Responses to Comments PC-F44-1 through PC-F44-4.

Response to Comment Letter PC-F45

Comment PC-F45-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-F46

Comment PC-F46-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Response to Comment PC-F14-1 and Common Responses – Preferred Alternative Identification, Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes, Air Quality, Health Risks, Property Values, and Noise/Noise Analysis.

Comment PC-F46-2

Please see Response to Comment PC-F46-1.

Response to Comment Letter PC-F47

Comment PC-F47-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Response to Comment PC-F46.

Response to Comment Letter PC-F48

Comment PC-F48-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Response to Comment PC-F14-1 and Common Responses – Preferred Alternative Identification and Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes.

Response to Comment Letter PC-F49

Comment PC-F49-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Response to Comment PC-F41-5 and Common Responses – Preferred Alternative Identification, Relocation of Gas Lines, Health Risks, and Traffic Flow at the Orange County/Los Angeles County Line.

Comment PC-F49-2

All of the build alternatives reduce congestion and improve travel times in the GP lanes. Please see Common Responses – Measure M Funding and Opposition to Tolling.

Comment PC-F49-3

Alternative 3 does not bypass the Corridor Cities. Intermediate access has been added specifically to address this concern.

Comment PC-F49-4

Please see Responses to Comments PC-F49-1 through PC-F49-3.

PUBLIC COMMENTS (PC)-G

PC-G1

From: Bgal00 [bgal00@yahoo.com]
Sent: Monday, July 16, 2012 9:42 PM
To: Parsons, 405.dedcomments
Subject: 405 Fwy Expansion

Dear Ms. Smita Deshpande,

I am writing to you as a concerned citizen of Rossmoor and a resident on Martha Ann Dr. I have been made aware of a new project that includes adding up to 4 lanes to the 405 freeway right behind my house. If Long Beach/LA County are not expanding the freeway what is the benefit of the huge expansion in our backyards? 1

As it is the noise level is way too high. The sound wall behind my house is inadequate. Current issues must be addressed first before any new projects should be considered. We just received a new wall over the channel after a year without a wall. This new wall is not only a couple feet taller it is all concrete. Why didn't you replace the existing wall or build it up using concrete block rather than a metal extension? 2

One very large concern I have is I heard you may take over some of our and possibly eminent domain. Is this true and for the record I will not allow a partial take over? 3

Best Regards,

Barbara Gal
12705 Martha Ann Dr

PC-G2

From: Jerry Galbreath [jkg5150@aol.com]
Sent: Tuesday, July 17, 2012 9:10 AM
To: Parsons, 405.dedcomments
Subject: 405/22/605 Construction

I am totally opposed to the widening of the 405/22 freeway through Seal Beach. The bottle neck at the north end of the 405 entering Long Beach would be a disaster. I also concur with others that a toll road is out of the question. Why should citizens pay to drive on a highway which is already supported by my tax dollars? It does not make sense. 1

Jerry Galbreath
4424 Elder Ave.
Seal Beach, CA. 90740
e-mail: jkg5150@aol.com

PC-G3

I-405 Improvement Project
Public Hearing

Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Sergio Galicia
Organization: Labor Local 652
Address(Optional): 1105 E Wilshire Santa Ana CA 92707
Phone Number: 714-504-1398
Email address:

Comments: The 405 Freeway From the 73 to the 605 Freeway is the busiest in the Nation. and in many cases construction workers have been unemployed anywhere From 8 months to a year and a half. This in effect has caused them to lose there homes. This project would create jobs an revenue for the city and county 1

(Space for comments continued on reverse)

PC-G4

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Antonio Ganbay	
Organization: local 652 labors	
Address(Optional): 1312 Cerritos #C Anaheim CA. 92802	
Phone Number: (714) 491-0858	Email address:

Comments: El trafico esta aumentando y empeorando en freway 405, la autopista 405 es la mas congestionada. Este trabajo crearia ingresos para la ciudades cercanas a este proyecto y para el estado. 1

(Space for comments continued on reverse)

PC-G4 Translation

Comment:

The traffic is increasing and worsening in the 405 freeway, the 405 freeway is the most congested one. This job will generate income for the nearby cities and for the state. 1

PC-G5

I-405 Improvement Project
Public Hearing

Comment Sheet

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- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Alex Bamboa	
Organization: 582 Local	
Address(Optional): 11035 Gotex St, So. El Monte CA 91733	
Phone Number: (626) 315-0021	Email address:

Comments: Traffic is ~~heavy~~ heavy while in construction commute is more drastic frustrating 1

(Space for comments continued on reverse)

PC-G6

I-405 Improvement Project
Public Hearing

Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

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- ☐ Monday, June 4, 2012 – Orange Coast Community College
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- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Domingo Garcia	
Organization: Labor Local 652	
Address(Optional): P. O. Box 15932 Santa Ana Ca. 92735	
Phone Number: 714) 537-4273	Email address:

Comments: this project would create jobs and REVENUE for the city and county 1

(Space for comments continued on reverse)

PC-G7

I-405 Improvement Project
Public Hearing

Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

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- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Fred Garcia
Organization: IUPAT D.C. 36
Address(Optional):
Phone Number: 562 244 8676
Email address:

Comments: Improvement on the 405 would really Help Time wise Traveling to & from work. 1

(Space for comments continued on reverse)

PC-G8

I-405 Improvement Project
Public Hearing

Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

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- ☐ Monday, June 4, 2012 – Orange Coast Community College
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- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☑ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Carilyn Garcia-Orta
Organization:
Address(Optional): 10411 Cinco de Mayo, Fountain Valley, Ca. 92708
Phone Number: 714-964-8774
Email address: Ortafive@gmail.com

Comments: Living 1/4 mile from the 405 all of my life I think I can speak from the heart when I say that it is imparative that the 405 be widened. The Traffic is horrable and no matter when I am on the freeway there is Always an accident. The 405 Has got to be one of ORANG Counties most traveled Freeways and I just don't see why it has 1

(Space for comments continued on reverse)

PC-G8 Continued

not already been expanded,
It just makes Sence.

It will also put men + Women to work and stimulate the economy. 1

Please use another sheet if you need more space for your comments.

To submit completed comment sheets, please return to staff member, place in the comment box or mail by July 2, 2012 to:
Ms. Smita Deshpande
Branch Chief – Caltrans District 12
"Attn: 405 DEIR-DEIS Comment Period"
2201 Dupont Drive, Suite 200
Irvine, CA 92612

Responses may also be emailed to:
405.dedcomments.parsons@parsons.com

For more information on the I-405 Improvement Project, please contact:
Christina Byrne, Outreach Manager
(714) 560-5717
www.octa.net/405Improvement
www.facebook.com/405Improvement

PC-G9

I-405 Improvement Project
Public Hearing

Comment Sheet

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- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Pablo Garcia
Organization: Labor Local 652
Address(Optional): 607 E Borhard Ave Santa Ana ca 92707
Phone Number: 714.269.1277
Email address:

Comments: The 405 Freeway from the 73 to the 605 Fwy 1

(Space for comments continued on reverse)

PC-G10

I-405 Improvement Project
Public Hearing
Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

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- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Ramiro Oakes
Organization:
Address(Optional):
Phone Number: 323 646-7610
Email address:

Comments: To Help traffic. 1

(Space for comments continued on reverse)

PC-G11

I-405 Improvement Project
Public Hearing
Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

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- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Adam Garofalo
Organization: OC Resident
Address(Optional):
Phone Number: 714-244-0332
Email address: adamwgarofalo@gmail.com

Comments: The 405 always has traffic when going to the dog beach even during the week and the 405 South merging to the 55 North is always congested no matter what time of day. 1

(Space for comments continued on reverse)

PC-G12

I-405 Improvement Project
Public Hearing
Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- [x] Monday, June 4, 2012 – Orange Coast Community College
- [ ] Thursday, June 7, 2012 – Rush Park Auditorium
- [ ] Wednesday, June 6, 2012 – Westminster Community Center
- [ ] Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): MIGUEL GASTELUM

Organization:

Address(Optional):

Phone Number: (805) 602-9896

Email address: Miguelgastelum59@yahoo.com

Comments: I DRIVE THE 405 FREEWAY AND TRAFFIC IS BAD AND THIS PROJECT WILL IMPROVE THE TRAFFIC. I THINK ALTERNATIVE #3 IS THE BEST SOLUTION 1

(Space for comments continued on reverse)

PC-G13

I-405 Improvement Project
Public Hearing
Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

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- [ ] Monday, June 4, 2012 – Orange Coast Community College
- [ ] Thursday, June 7, 2012 – Rush Park Auditorium
- [ ] Wednesday, June 6, 2012 – Westminster Community Center
- [ ] Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Sergio A. Gaxiola

Organization:

Address(Optional): 9922 Royal Palm Blvd

Phone Number: (714) 537-1714 Home

Email address:

Cell (714) 401-5866

Comments: Needs more work on Freeways. Helping cars flow through. 1

(Space for comments continued on reverse)

PC-G14

From: mary lou garcia [mickeyds5@msn.com]
Sent: Tuesday, June 19, 2012 6:30 PM
To: Parsons, 405.dedcomments
Subject: wall along 405 freeway

To Whom it May Concern,
Hi my name is Mary Lou Garcia and I am a home owner in Seal Beach in College Park East my house is located on Columbine St so this wall that you
would like to take down would have an impact on me. This wall is protecting my house from any chance of an accident occuring on the freeway and not
ending up in my house. I have grandchildren who like to ride their bikes and with the street being made narrower to make more lanes for the freeway is
not making sense to me I would think that the city would take the safety of their community over a lane that would not in reality help the traffic on the
freeway, I feel if you really took the time to see the benefit of this wall for all the home owners and if this was your home how would you like someone
to come and tell you that the wall is coming down.
PLEASE LEAVE THE WALL ALONE

1

THANK YOU

MARY LOU GARCIA

PC-G15

From: Wgekler@aol.com
Sent: Friday, July 06, 2012 9:57 AM
To: Parsons, 405.dedcomments
Subject: Comments on 405 IMprovement Project

Presently, I am opposed to the 405 Improvement project. I have heard nothing that convinces me that it will result in improvments in Northboud traffic flow since the bottle neck north of the WCC project on the 405 will continue to exist. I have heard of no funding commitment to make improvements to the 405 in Los Angeles County concurrently with the 405 Improvement in Orange County. Without such improvements all I can see is even more congestion at the north end of the 405 Improvement project and additional overload on the WCC.

1

Furthermore use of toll express lanes is an unwise choice since their is no continuation of those lanes planned for the Los Angeles County segment. This will create backups on the Southbound 405 with drivers without express lane apparatus all moving to the non-express lanes.

Please do NOT commit to the 405 Improvement project until you have told the public what you plan to do to address these concerns on the connection to the Los Angeles County portion of the 405.

I note that the city of Seal Beach has expressed objections to the 405 improvement Project in the Long Beach Press Telegram today, July 6, 2012. I add my voice to their concerns.

2

Bill Gekler,
Rossmoor Resident
3252 Quail Run Road

562-431-0256

PC-G16

From: Wgekler@aol.com [mailto:Wgekler@aol.com]
Sent: Friday, August 03, 2012 2:10 PM
To: Parsons, 405.dedcomments
Subject: Support for the Seal Beach 405 Extension Solution

To Supervisor Moorlach and to Caltrans/OCTA,
I agree with Aternative 1 or the Seal Beach version of Alternative 2. I absolutely oppose Alternative 3. The taxpayers will eventually get stuck with the toll lane operation as they did on the 91 Fwy. This is just another defined benefit program except it is for the road builders and the taxpayer must pick up any shortfall.

1

The second reason for opposing alternate 3 is that it does nothing to address the restricted flow on North I-405 at the county line. It actually will make the congestion worse.

2

Frankly, I am surprised that at a time of restricted growth we are pursuing any alternative on the 73 to 605 widening of the 405. Traveling this segment yesterday in off morning and evening rush hours suggests another solution - have the working commuters change their start and finish times to allow lower volume at peak hours. I did it for 20 years in my commute from Rossmoor to the OC Airport area. It was not a deterrent to my work or my willingness to commute.

3

The I -405 is being promoted because it is a jobs generator but the alternatives other than those by Seal Beach are wasteful and bad engineering design solutions.

4

Bill Gekler
562-431-0256
In a message dated 8/3/2012 11:29:11 A.M. Pacific Daylight Time, John.Moorlach@ocgov.com writes:

> The Honorable Michael Levitt, Mayor of Seal Beach, provides his perspectives on the San Diego (I-405) proposed expansion alternatives in this week's *Seal Beach Sun* below. As his perspectives mirror mine, you may not need to send me another e-mail. Besides, we're already getting "Alternative Four" e-mails (and now we know why). If his perspective does not match yours, then you know what to do. However, if you are interested in following the good Mayor's suggestion to contact a member or two of the Orange County Transportation Authority (OCTA) Board of Directors, they are listed below:
>
> - Paul Glaab – Mayor of Laguna Niguel
> - Gregory T. Winterbottom – Public Member
> - Jerry Amante – Tustin City Councilman

PC-G16 Continued

- Patricia Bates – Orange County Supervisor, Fifth District
- Bill Campbell – Orange County Supervisor, Third District
- Carolyn V. Cavecche – Mayor of Orange
- Larry Crandall – Fountain Valley City Councilman
- William J. Dalton – Mayor of Garden Grove
- Lorri Galloway – Anaheim City Councilwoman
- Don Hansen – Mayor of Huntington Beach
- Michael Hennessey – Public Member
- Peter Herzog – Lake Forest City Councilman
- John Moorlach – Chair of the Orange County Board of Supervisors
- Shawn Nelson – Orange County Supervisor, Fourth District
- Janet Nguyen – Orange County Supervisor, First District
- Miguel A. Pulido – Mayor of Santa Ana

Sun newspapers
NEWS ALERTS

Musings from the Mayor: You need to comment on I-405 project

Opinion By Michael Levitt

Michael Levitt

Some of us are old enough to remember when the three-lane Pasadena Freeway was opened, to great fanfare. State and local officials declared it a marvel of engineering that would usher in a new life of independence. We could travel anywhere, at any time, as fast as the law would allow.

PC-G16 Continued

Many of us even remember when the San Diego Freeway didn't reach San Diego. And, then, when it finally did, officials assured us that the "new" Interstates 405 and 5 would be wide enough to accommodate all the cars that would ever drive here.

Well, so much for the myopic freeway engineers of yesteryear!

Today, those engineers, or their sons and daughters, are back, and they are once again planning changes for the I-405, this time from the 73 to the 605.

These changes will take the form of one of three alternatives. Depending upon your personal point of view, and bank account, these "improvements" can best be described as "helpful" or "downright harmful." But this time, you will have some control over what form these changes will eventually take. As long as you take the initiative

Here are the basics of the change options: Alternative One: add one general-purpose lane in each direction. The current freeway footprint will accommodate this expansion.

Alternative Two: Add two general purpose lanes. This will require pushing portions of the sound wall into College Park East, not a good thing if you happen to live where 10 feet of your street's width will suddenly disappear, along with bike paths and parking spaces.

Alternative Three. Add one regular lane, but then convert the current carpool lane into a so-called Express lane -- in reality, a toll lane that will cost the driver a-yet-undetermined amount of money to use. And then add another toll lane right next to it.

Yes, you read that correctly: the free-to-use-with-a-passenger carpool lane disappears, replaced by two toll lanes that you have already paid for with your taxes, and will have to pay for again every time you use it. (Oops, are my personal feelings showing?) By the way, this alternative also requires shoving that soundwall into College Park East.

Northbound, the Alternative Three toll lanes will end at the 605, since the county of Los Angeles has no plans to expand the 405 anytime soon. (A conservative estimate is 15 years before their freeway width will match our freeway width.)

If you typically drive solo, and never use a diamond or HOV lane, and have gotten a bigger hike in your Social Security check than I have, then you might not mind the convenience of being able to pay to use one of the toll roads when driving south.

Otherwise, your choices are limited to Alternatives One and Two.

Personally, I like Alternative Two: since they are tearing up the freeway anyway to add one lane, they might as well add two lanes at the same time, almost for the same price, relatively speaking.

PC-G16 Continued

But I don't like having the sound wall intrude into College Park East.

The city of Seal Beach, working with outside consultants, has produced some engineering options that would allow for the freeway expansion without having to move the soundwall. City staff, Councilman Miller and I presented these options to CalTrans, OCTA and some of our State legislators last week in Sacramento.

It would be an understatement to say our engineering proposals were welcomed by CalTrans less enthusiastically than a frothing pitbull at a nursery school.

Oh, well, guess I need to give this some more thought.

But if you've made up YOUR mind, here's what you can do to let "them" know how you feel.

According to OCTA, you may e-mail your choice of the three alternatives, to 405dedcomments@Parsons.com.

Or, if you feel that putting pen to paper is still the most effective way to communicate, send your comments to Smita Deshande at CalTrans District 12, 2201 Dupont Dr., #200, Irvine, CA 92612.

However, I have a problem with these two agencies being the recipients of your thoughts.

They both have vested interests in developing these freeway "improvements." CalTrans exists to build roadways; the bigger the project, the more secure the employment. Same thing with the Parsons Company. This is a highly respected international corporation—that stands to make millions from this project.

Therefore, if your opinion is to not build at all—think of it as Alternative Four, or just build the least costly Alternative One, then I suppose it is possible that a response in favor of the biggest, most expensive alternative just might make it to the top of the pile, while yours gets buried.

Therefore, I am going to send my opinions to the Directors of the OCTA Board. **County Supervisor John Moorlach** is my representative, and yours, and is probably the most honest and trustworthy elected official I know.

You may e-mail him with your opinions at: district2@ocgov.com.

Where ever and however you express yourself, don't hold back; tell 'em what you think, and why you think it.

You can even tell them you don't want any construction at all, that the current Connectors project linking the diamond lanes of the 405, 605 and 22 freeways has already pushed your patience into the red zone, and any further disruption of the freeways is going to send you over the edge.

PC-G16 Continued

Remember, these are your freeways. You've paid for them.

You have a right to your opinion about how they do or do not get developed!
Michael Levitt is the mayor of Seal Beach.

Bill Gekler
562-431-0256

PC-G17

SANDRA GENIS, PLANNING RESOURCES
1586 MYRTLEWOOD COSTA MESA, CA. 92626 PHONE/FAX (714) 754-0814

July 17, 2012

RECEIVED
JUL 17 2012
By

Smita Deshpande, Branch Chief,
Caltrans-District 12, "Attn: 405 DEIR-DEIS Comment Period"
2201 Dupont Drive, Suite 200,
Irvine, CA, 92612

Via hand delivery and e-mail to: 405.dedcomments.Parsons@parsons.com

Subject: San Diego Freeway (I-405) Improvement Project DEIS/EIR (State Clearinghouse No. 2009091001)

Thank you for the opportunity to comment on the Draft Environmental Impact Statement/ Environmental Impact Report (DEIS/EIR) for the San Diego Freeway (I-405) Improvement Project DEIS/EIR (State Clearinghouse No. 2009091001) located within Orange County. The project entails the construction of additional lanes, bridges, on-ramps and other support elements for what is currently the I-405 Freeway as it traverses the cities of Costa Mesa, Fountain Valley, Huntington Beach, Westminster, and Seal Beach.

The EIR is intended to provide environmental information to the above responsible agencies, trustee agencies, and other public agencies which may be required to grant approvals and permits. It is not clear if the DEIS/EIR is intended to serve as a program level or project level document. The DEIS/EIR completely fails to provide adequate project level information, let alone address project level impacts in an adequate manner, as discussed below. These comments focus on the project as it relates to the City of Costa Mesa, but the general deficiencies noted below permeate the fabric of the entire document. 1

Project Description

A vague or incomplete project description will render all further analyses and determinations ineffectual. As stated in *McQueen v. Board of Directors of the Mid-Peninsula Regional Open Space District* (202 Cal.App.3d 1136, 1143; 249 Cal.Rptr. 439), "An accurate project description is necessary for an intelligent evaluation of potential environmental effects of a proposed activity".

In setting aside the approval of an EIR by the City of Los Angeles for water development facilities in Inyo County, the court stated: "An accurate, stable and finite project description is the is the Sine qua non of an information and legally sufficient EIR" (*County of Inyo v. City of Los Angeles* (71 Cal.App.3d 193) [139 Cal.Rptr. 401]). A stable, complete, and accurate project description is the most basic and important factor in preparing a lawful EIR. It is the denominator of the document and, thus, of the public's and decision-maker's review. 2

Page 1 of 5

PC-G17 Continued

It is not clear if the DEIS/EIR is intended to serve as a program level or project level document. The DEIS/EIR completely fails to describe project level detail, let alone address project level impacts in an adequate manner. 2

The DEIS/EIR explains generally what is planned but is lacking in important information necessary for the lay person and decision makers to identify what would be occurring at a given location, let alone evaluate impacts at a project level. Only the barest program level information is provided in the body of the DEIS/EIR, with project plans buried in Appendix P to the DEIS/EIR. It is only by examining those plans in Appendix P, that one would become aware that the proposed Euclid on-ramp would extend over the Santa Ana River and adjacent to homes and a park in the City of Costa Mesa. 3

It is not clear where the project will occur within existing rights-of-way and where additional rights- of-way will be needed. The DEIS/EIR indicates that additional right-of-way with up to 108 partial takes will be needed, but only a few of these are identified. Thus, one cannot even be sure what homes or businesses will be affected or whether references to the edge of the right-of-way in the discussions of sound walls and other issues in the DEIS/EIR indicate current or future right-of-way or whether and where the two are the same. 4

While the DEIS/EIR indicates that sound walls will be constructed and replaced at various locations, these are not specified in the DEIS/EIR. One must review the separate Noise Study Report (NSR) in order to decipher what noise walls will be moved and what the height of the walls will be. One must search through unnumbered page after unnumbered page of the appendices to the 918 page NSR, to see the specific location and height of any sound wall and related details.

It is only on page 45 of the NSR that one learns that the existing noise wall labeled S 649 will be relocated closer to homes. It is only on pdf page 140, that one actually sees the Alternative 1 sound wall location mapped for the homes along New Hampshire and Nevada. Sound wall mapping for other alternatives is included in the ensuing eighty or so unnumbered pages. 5

The sound walls are an important part of the project and will result in impacts in their own right. Specific information regarding location and height of the sound walls must be included in the body of the DEIS/EIR, along with an analysis of the impact of specific walls. The California Environmental Quality Act (CEQA) requires environmental documents to disclose potentially significant environmental impacts of mitigation measures, which would include sound walls. (CEQA Guidelines, § 15125.6 (a)(1)(D); *Stevens v. City of Glendale* (1981) 125 Cal.App.3d 986.)

Noise

The NSR (p 45, 110, 111) indicates that residences in Costa Mesa will sustain a noise impact without Feasible Noise Abatement. While the noise study in Appendix N to the DEIS/EIR shows noise information in a table for various locations, those locations are identified only be a numerical code, without reference to any specific map number which requires the reader to sift 6

Page 2 of 5

PC-G17 Continued

through information included elsewhere in the appendices in order to have any sense of what is happening where. There is no clear explanation in laymen's terms as to what is actually going to happen where.

It appears that noise wall will only be provided at locations immediately adjacent to residences or other sensitive uses, as is currently the case. However, this creates an impact at the interface between uses, where sound emanates into sensitive areas from areas not equipped with a sound wall. For example, where the I-405 crosses the Santa Ana River at the northerly edge of Costa Mesa, there is no sound wall, although sound walls are provided at the location of the park immediately south of the river and continue on adjacent to residents. Sound from the I-405, which is elevated above the river, is projected along the riverbed, at times echoing, and is broadcast into the residential neighborhood and park. Sound walls must be provided for protection of all homes and sensitive uses, whether or not the wall itself abuts the sensitive use. 6

The $37,000 limit on cost for sound walls is perplexing. What is the basis for adopting that limit? What studies were done prior to establishing that limit? According to the DEIS/EIR, under Alternative 3, $75 million per year in tolls would be generated under that alternative. That equates to $1.5 BILLION over twenty years. How can local communities then be told that they must sustain impacts if the mitigation would cost more than $37,000? For example, a sound wall to protect the La Quinta Inn would cost over $60,000 so it is deemed infeasible. What would be the effects on the hotel? What would be the effects on the ability of the hotel to attract quality patrons? The City of Costa Mesa and other communities along Harbor Boulevard have long worked to limit illicit activities in the area. How would this be fostered by the proposed project? 7

The DEIS/EIR must examine noise and vibration during construction. During construction of ramp improvement at Harbor Boulevard and the I-405, sound and vibration emanated far into the community, and construction noise was loud enough to be annoying as far away as Fairview Park and Talbert Nature Reserve. Impacts to resources within these parks must be addressed.

Aesthetics/Visual Factors

As the I-405 traverses the City of Costa Mesa, it passes Moon Park, Gisler Park, Shiffer Park, and various residential neighborhoods, as shown in photos of existing conditions in the DEIS/EIR. In accordance with Section 15126.4(a)(1)(D) of the Guidelines for the implementation of the California Environmental Quality Act (CEQA), if a mitigation measure would cause one or more significant effects in addition to those that would be caused by the project as proposed, the effects of the mitigation measure shall be discussed but in less detail than the significant effects of the project as proposed. Thus, this section must address aesthetic impacts of any sound walls or sound barriers, including impacts to the areas identified above. 8

The DEIS/EIR includes photographs taken from various locations along the project route, but provides rendered versions at only a few locations, which are not typical of the surrounding community. However, the photograph of "South Residential Landscape Unit" is a photograph not of Costa Mesa's residential areas or parks, but a photograph primarily of the cement Santa Ana River Channel with only a tiny piece of Moon Park. The DEIS/EIR then goes on to dismiss potential aesthetic impacts on the basis of the existing, unappealing visual quality of the area (p.

Page 3 of 5

PC-G17 Continued

3.1.7-37). Rendered photographs from each of the public parks mentioned above and from truly residential areas must be provided. 8

Cumulative Impacts

Section 15355 of the Guidelines for the Implementation of CEQA defines a cumulative impact as follows:

> "Cumulative impacts" refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.
> (a) The individual effects may be changes resulting from a single project or a number of separate projects.
> (b) The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related **past, present, and reasonably foreseeable probable future projects** [emphasis added]. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time. 9

Over the years, the I-405 has been progressively widened, handling more and more traffic. It is not enough to address impacts based only on existing conditions. Impacts must address the cumulative impact that has occurred over decades resulting in a gradual degradation of the surrounding environment. This is especially critical if environmental documents for previous project increments may have under-estimated impacts due to noise, air emissions or other factors. Cal Trans is reminded that "environmental damage often occurs incrementally" (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692.

Clearly existing the sound levels at various residential locations as presented in the DEIS/EIR are not typical of ordinary residential districts, but reflect unmitigated noise from the existing I-405. It is not enough to mitigate the impact of the pending project increment. The DEIS/EIR must examine the *cumulative* impact of the I-405 over time. This must include all impacts since the enactment of CEQA and the National Environmental Policy Act (NEPA).

Growth Inducing Impacts

The EIR must examine the growth inducing impacts of the project including continued reliance on auto-oriented transportation systems. 10

Conclusion

As currently presented, the DEIS/EIR is inadequate to fulfill the purposes of NEPA or CEQA. The document must be revised and re-circulated in accordance with Guidelines Section 15088.5(a) (4) in order that the public and decision makers may be fully informed of the impacts of the proposed project. A key failing is the lack of a clear, complete project description. However, each of the issues discussed above is itself so basic that each must be addressed in 11

Page 4 of 5

PC-G17 Continued

order for the document to be considered legally adequate and to provide decision makers and the public with the information needed to evaluate the proposed project and its impacts.

Thank you for the opportunity to provide these comments. Please keep me informed regarding the progress of this project, including but not limited to any hearings or release of additional documentation.

11

Yours truly,

Sandra L. Genis

Page 5 of 5

PC-G18

From: Thomas Gibbons [Thomas_Gibbons@rsconst.com]
Sent: Tuesday, June 26, 2012 4:00 PM
To: Parsons, 405.dedcomments
Subject: 405 and Seal Beach Blvd

All the mature trees at this interchange were removed. After the interchange is completed will Caltrans be planting mature trees and what kind?

1

PC-G19

From: lanainative@yahoo.com
Sent: Monday, July 16, 2012 6:51 PM
To: Parsons, 405.dedcomments
Subject: 405 fwy and College Park East

To whom it may concern:

I am an original home owner (42 years) of College Park East and am very concerned about the long term environmental impact on moving our sound wall. Almond Avenue is the longest street in this track and is heavily used by motorists, pedestrians, etc. accessing 2 of our parks and the many cul de sacs and streets that it intersects with. Moving the wall would take away parking and the safety of all that use this busy street that has been landscaped for a very long time. Not to mention the pollution that comes from the freeway to become far worst and causing health issues. I urge you to work on finding a better solution that won't impact the residents here and look at something with a longer term solution.

1

Regards,
Gloria

PC-G20

I-405 Improvement Project
Public Hearing
Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Nathanael Gleason	
Organization:	
Address(Optional): 3020 E Yorba Linda Blvd Apt R-17 Fullerton CA, 92831	
Phone Number: (714) 833-1634	Email address: nathanhgleason@gmail.com

Comments: take the 405 fwy and there is ton's of traffic Problems... please let us help! 1

(Space for comments continued on reverse)

PC-G21

From: Frank Godino [dpdental@pacbell.net]
Sent: Tuesday, July 17, 2012 5:53 PM
To: Parsons, 405.dedcomments
Cc: Dana Point Chamber
Subject: I-405 improvement project
Attachments: Frank Godino.vcf

I was asked by my Chamber of Commerce to comment on the improvement project. I would like to go with the fourth option - nothing at the time. Last I checked we were having financial troubles that had to be rectified by across the board cuts in all departments. If in fact our 2012-2013 budget is balanced, why don't we take a breather and build up some reserves? I don't want to see another project with 3 guys supervising every one and massive overtime paid out, among other things. I'm tired of irresponsible spending in this state starting with that bonehead in Sacramento and continuing on down. Now I'm not saying I wouldn't like to spend less time in traffic, but for right now try and cool down the spending everywhere - people will manage. Now if you would like to reduce the obscene union pensions and use that money, I'd reconsider one of the other options. 1

Sincerely,

Frank Godino D.M.D.
34190 Pacific Coast Hwy.
Dana Point, CA 92629
949-493-7004

www.DrFrankGodino.com
www.DanaNiguelDental.com

PC-G22

From: mark gole [mark.gole2@gmail.com]
Sent: Tuesday, June 19, 2012 7:06 AM
To: Parsons, 405.dedcomments
Subject: Leave our wall alone

My name is Mark Gole. I live at 3551 Almond ave. Seal Beach. Without the wall we have nothing to protect us. You take 10 feet away from us and we loose our safety. I walk Almond almost every day, and I feel if that wall is moved it will cause many safety concerns. It is hard enough living this close to the freeway, and you want to bring it closer. We already have to deal with the noice, and all the work being done for the next couple years. Our children will be at risk if this change is made.It will also be a financial burden for a lot of people. You have plenty of space on the south side of the freeway to make your changes. This cannot happen, I will fight it every step of the way. 1

Sincerely,
Mark Gole

--
Thank You,
Mark Gole

PC-G23

I-405 Improvement Project
Public Hearing

Comment Sheet

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Meeting Venue (please check one of the following):

- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Simon M. Gomez Sr.
Organization: LABOR UNION 652
Address (Optional): PO Box 9531 FOUNTAIN VALL. CALF. 92728
Phone Number: (714) 474-7413
Email address:

Comments: long OVER DUE 1

(Space for comments continued on reverse)

PC-G24

I-405 Improvement Project
Public Hearing
Comment Sheet

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Meeting Venue (please check one of the following):

- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): GEORGE GONZALES
Organization: IRON WORKER
Address(Optional): 1414 Gem Wood, WHITTIER, CA. 90601
Phone Number: 626 324 6336
Email address: GGONZALES39@AOL.Com

Comments: It will improve my commute to my work job or to get materials to job sites in good reasonable time 1

(Space for comments continued on reverse)

PC-G25

I-405 Improvement Project
Public Hearing
Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Gonzales Jose G.
Organization: Plumbers & Fitters Local 582
Address(Optional): 1414 W. Central Ave. #4 Brea, CA 92821
Phone Number: 714-568-8830
Email address: joegabe73@Yahoo.Com

Comments: Help us with this traffic congestion, and generate jobs in the County! 1

(Space for comments continued on reverse)

PC-G26

I-405 Improvement Project
Public Hearing
Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

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- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Bernabe Gonzalez
Organization: C. Masons
Address(Optional):
Phone Number: 619)628-6847
Email address: bGonzalesc@ca.rr.com

Comments: more Lanes more Bridges for a Beter future and less time to work 1

(Space for comments continued on reverse)

PC-G27

I-405 Improvement Project
Public Hearing
Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Eduardo Gonzalez
Organization: ~~2425~~ Local 652 Laborers
Address(Optional): 24-25, Ramona Rd
Phone Number: 1714.345-5151
Email address:

Comments: There is a lot Traffic we need more Lanes 1

(Space for comments continued on reverse)

PC-G28

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Jimmy Gonzalez
Organization: Local 652 Labors
Address(Optional):
Phone Number: (714) 267-1201
Email address:

Comments: It should be wider so there will be less traffic. with less traffic, less people would be late for work. People wouldn't have to wake up as early to get ready and won't be as tired when they get to work. Another Reason it should be widened is to provide work for the construction workers. 1

(Space for comments continued on reverse)

PC-G29

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☒ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Juan Gonzalez
Organization: Plumbers #78
Address(Optional): 154 Monroe Ave Pomona CA 91767
Phone Number: (626) 991-4730
Email address: Chcen271@Yahoo.com

Comments: This would Impact and Improvement Traffic to all Freeways and ~~help~~ help workers and people. 1

(Space for comments continued on reverse)

PC-G30

I-405 Improvement Project
Public Hearing
Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

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- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): OCTAVIO GONZALES	
Organization: Labor Local 652	
Address(Optional): 1181 N LOMBARD DR #B ANAHEIM CALIF	
Phone Number: 714 687-9943	Email address:

Comments:
POR QUE AY MUCHO TRAFICO 1
MUCHOS ACCIDENTES

(Space for comments continued on reverse)

PC-G30 Translation

Comment:

Because there is a lot of traffic and accidents. 1

PC-G31

I-405 Improvement Project
Public Hearing

Comment Sheet

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- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): ROBERT GONZALEZ

Organization: 1682 W. ORANGEWOOD APT. B ANAHEIM CAL 92802

Address(Optional):

Phone Number: 714-868-9913

Email address:

Comments: I Wand more Roads, For all the cars coming through, 1

(Space for comments continued on reverse)

PC-G32

I-405 Improvement Project
Public Hearing

Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

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- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Jaime Garcia

Organization: Laborers Local 652

Address(Optional): 2019 S Towner St Santa Ana CA 92707

Phone Number: (714) 767-7727

Email address:

Comments: This project would help the flow of traffic. help Create better infrastructure on our bridges and streets. It would also help create jobs and revenue for the County. 1

(Space for comments continued on reverse)

PC-G33

From: Harvey Goodman [hgoodman@cgc-intl.com]
Sent: Monday, July 09, 2012 12:36 PM
To: Parsons, 405.dedcomments
Cc: miller.sbcc4@earthlink.net
Subject: Response to I-405 Improvement Project Draft EIR

To whom it may concern:

We've been College Park East residents for over 40 years, the original owners of a house that is in a cul-de-sac that faces the sound wall on Almond Ave. boarding the freeway. Over this time we had pretty much gotten used to the issues with the noise and dirt from the freeway. However, the recent major construction associated with the West County Connectors Project over the past number of months that added lanes to the freeway and removed the shrubbery and trees along the inside of the sound wall has perceptively increased both the noise and dirt to a level that now negatively impacts our daily lives. Not able to stand in front of our house and hold a conversation in a normal voice (noise) or having to dust almost hourly (dirt) or laying awake every night unable to sleep (construction noise) are things we deal with on a daily basis. We have thus experienced the impact of freeway widening first hand.

Now, with the impending I-405 Improvement Project, we have to contend with the prospect of up to *SIX* additional lanes as well as the possibility that the existing sound wall will be moved ten feet closer to our house. In reviewing the DEIS/EIR associated with this project, it is incomprehensible that the conclusion was reached that air and noise pollution, visual/aesthetics and property values will not be adversely effected by any of the three build alternatives. If we extrapolate the impact of the recent freeway expansion, at a minimum (Alternative 1, the addition of one lane in each direction), there will be increased noise and air pollution resulting in a reduction in property value in College Park East. In the worst case (Alternative 3, three additional lanes in each direction), noise and air pollution in the immediate vicinity of Almond Ave will become intolerable.

Quality of Life

The DEIS/EIR seems to have completely disregarded the issue of *quality of life* on a local basis. For example, the following table is extracted from page 3.1.1-29 of the DEIS/EIR. Basically it presents the only response to the issue of "quality of life". It appears that the sole component of the enhancement of the quality of life mentioned is the added capacity of the freeway system leading to reduced commute time. We do not see a "Degradation to quality of life" section.

Applicable Goal, Policy, or Objective Consistency Analysis

Enhance the quality of life: -Promote coordinated transportation and land use planning -Minimize community impacts -Support economic growth -Protect the environment	Consistent. OCTA and Caltrans have developed an extensive outreach effort to ensure that all potentially affected jurisdictions and their residents are informed of the planning and implementation process and overall project schedule. In addition, most of the proposed improvements would be constructed within the existing I-405 ROW, which would assist in minimizing impacts to adjacent residences and businesses. The proposed improvements would **add additional capacity to the freeway system and reduce commute times**. Reduced commute times may facilitate land use planning, especially as it relates to new residential and commercial land uses because residents and shoppers may be attracted to these locations due to increased mobility. This may have a secondary effect of generating economic activity.

PC-G33 Continued

Specifically addressing the benefits of added freeway capacity, numerous studies have found that freeway expansion is often self-defeating: expansion simply generates more traffic. That is, even if traffic congestion is initially shifted from local streets to a new or widened freeway, people will begin to run errands and commute to more remote locations. Over time, the freeway and its environs become congested again as both the average number and distance of trips increases. Simply put, in addition to normal traffic growth associated with increases in car ownership and economic activity, the additional traffic will also be induced by the presence of the new road itself.

Personal experience with the impact of freeway widening, most recently on I-405 at the I-10 and on the Garden Grove Freeway from the I-405 to the "Orange Crush", reinforces the concept of induced demand. Traffic congestion on these freeways is now actually worse than before the construction. Thus, the benefits attributed to additional freeway capacity do not appear to be valid. 2

With regard to protecting the environment, no mention is made of increased noise and air pollution in the local residential areas, specifically, in our case, Seal Beach College Park East, caused by the "improvement" project in the DEIS/EIR.

1 **Air Pollution**

The majority of studies show that health effects begin along roadways that carry 20,000 or more vehicles per day (the area associated with this project estimates 300,000 to 500,000 vehicles per day!), and are strongest for persons who live, work or go to school within about 300 yards from the edge of a freeway (my house is now about 100 yards from the freeway and the projects calls for building lanes that would move the freeway 10 feet closer). It is also true that slower moving traffic emits more pollution than when cars move at freeway speeds. Traffic jams are bad for our air. The effects of pollutants found in vehicle exhaust are significant for people living in urban areas. These pollutants can impair lung function, especially in children and adults with asthma, with a higher number of sufferers resulting in high-traffic urban areas.

Generalized (not localized) regional analysis led to the following results presented in the DEIS/EIR concerning air pollution.

Alternative 1 emissions would be less than existing and future no build emissions. This decrease is due to higher vehicle speeds under Alternative 1, which generally result in lower emission rates. Therefore, Alternative 1 would result in a beneficial effect related to regional operational emissions. [Page 3.2.6-24]

... a regional operational emissions analysis was completed for all alternatives showing that criteria pollutant emissions for all build alternatives would be less than the future no-build conditions in years 2020 and 2040... [Page 3.2.6-26]

2 The assumption that freeway traffic speeds would increase as a result of increased capacity is problematic. As stated above, increased capacity usually does not result in decreased congestion. However, more importantly, the addition of one to three lanes in the north bound I-405 direction will no doubt create a traffic jam at the Los Angeles county line since no freeway capacity increase is planned there for the foreseeable future. Simply, the traffic will need to merge from the widened I-405 freeway in Orange County to the not widened freeway in LA County. ***Why did the planners completely disregard this in the analysis?*** 3

Noise Pollution

PC-G33 Continued

Traffic noise increases with higher freeway speeds. Traffic noise can affect the ability to work, learn, rest, relax, sleep, etc. Excessive noise can lead to mental and physical health problems. Based on the DEIS/EIR air pollution analysis discussed above, higher speeds would result from the increased freeway capacity causing lower emissions. How can this result, then, not therefore cause increased noise, as opposed to the statement in the DEIS/EIR below?

[Pages 3.2.7-8, 3.2.7-19 & 3.2.7-31]
The proposed project would not cause a substantial noise increase (i.e., 12 dB).

4

In actuality, residents along the freeway in College Park East will get both higher air pollution *and* higher noise pollution as a result of the freeway expansion. In the Seal Beach College Park East freeway expansion area, the modifications will result in south bound traffic from LA county having the freeway increase by up to 6 lanes just past the 605 freeway (assuming the Alternative 3 solution) causing a corresponding increase in speed (increased noise pollution) while the north bound traffic into LA county will have to merge down by up to 6 lanes causing stop and go traffic (increase in air pollution). ***Why did the planners completely disregard this in the analysis?***

Visual/Aesthetics

Finally, aside from the above mentioned negative pollution aspects of adding additional lanes to the freeway, the proposed move of the Almond Ave. sound wall 10 feet closer to my house will have both a huge negative financial and aesthetic impact in spite of the following comment in the DEIS/EIR.

[Page 3.6-13]
Based upon the information and analysis above, direct or indirect cumulative impacts related to visual and aesthetic resources are not anticipated to result, and no further analysis is necessary and no additional measures are required.

5

Almond Avenue is the major thoroughfare into the south side of College Park East. Removing 10 feet from the street width will basically eliminate the sidewalks and curb space on the street. ***How does this not have an impact on the visual and aesthetics of our neighborhood?***

Finally, in case there is any doubt that our quality of life has taken a major negative downturn as a result of the current I-405 widening, We invite the I-405 Improvement project team to our house to experience firsthand what we are talking about. Since we are in a cul-de-sac with limited parking, please park on Almond Avenue while you can, since, with ten feet removed to accommodate the new freeway sound wall for the I405 Improvement, there will not be roadside parking available in the future. We will first stand in front of our house and try to talk to each other in a normal voice. Notice the "For Sale" sign in the lawn that has been there since the current widening project started. Prospective buyers want a $30,000 to $50,000 discount for the proximity of our house to the freeway. We will then move inside my house where we cleaned no more than an hour before your arrival. We will supply towels to wipe the chairs so as not to get your cloths dirty from the freeway dust that has accumulated. Don't mind the heat in the house but the windows will have to be closed so we can hear our selves speak over the freeway noise.

6

Realistically, we understand the pressures in the current economic environment to spend the $1.4 billion allocated to this project. Politically it makes no sense to not spend the funds. However, we do expect an honest assessment of the impact that this project will have on our neighborhood and our lives. Once these issues are accurately addressed, measures can be taken to at least help alleviate the problems that are

7

PC-G33 Continued

caused. Creating a self-serving document such as the DEIS/EIR that totally ignores the negative aspects of the project is just not right.

We look forward to your response.

Harvey & Francine Goodman
3560 Carnation Circle
Seal Beach CA 90740
562 430-2398
hgoodman@cgc-intl.com

PC-G34

June 26, 2012

We've been College Park East residents for over 40 years, the original owners of a house that is in a cul-de-sac that faces the sound wall. Over this time we have pretty much gotten used to the issues with the noise and dirt from the freeway. However, the recent major construction over the past three months that added lanes to the freeway and removed the shrubbery and trees along the inside of the sound wall has considerably increased both the noise and dirt to a level that is now unacceptable.

We recently had put our house up for sale and the majority of the potential buyers have stated that everything about the house is very favorable except the noise from the freeway. Discounts of 5%-10% have been suggested to compensate for our proximity to the freeway. We cannot accept a $35,000 to $70,000 reduction in price and still cover our existing mortgage. 1

Now we face the possibility of removal of the sound wall for an extended period of time while up to SIX lanes are added to the freeway. After that, it is planned that a smaller wall is to be constructed that is ten feet closer to our home. This will cause a financial, health and environmental disaster that will have a devastating effect of our lives as well as the lives of our College Park East neighbors. 2

The stated purpose of the project is "to improve travel conditions for work, recreation, school, and commerce by increasing freeway capacity, improving traffic and interchange operations, and enhancing road safety to meet state and federal standards". In fact, it appears that there will be a negative impact on traffic flow since the Los Angeles County line is only a few miles north of the area where the freeway will be expanded to 14 lanes. With no freeway expansion planned past the LA County line in the foreseeable future, the bottleneck travelling north on the 405 will become horrendous. Considering that there will be a negative effect on the lives of the residents as well as the real estate prices, it appears that the only "benefit" of the project is that the OCTA will have successfully spent over $1 billion that has been allocated for this project. 3

We hope that you consider the horrible impact this project will have on those of use in College Park East. 4

Harvey & Francine Goodman
3560 Carnation Circle
Seal Beach, CA

PC-G35

From: Pat Goodman [patgoodman@yahoo.com]
Sent: Monday, June 11, 2012 4:28 PM
To: Parsons, 405.dedcomments
Subject: I 405 Improvement Project

I am opposed to the 405 FWY Improvement Project which will do more to create more traffic and smog to the area. I do support expansion and improvement to public transit. We need to get out of our cars.

Thank you for conducting these hearings. I regret that I am not able to attend this Thursday's meeting. Good luck. 1

Patricia Goodman
18531 Bentley Ln.
Huntington Beach, CA 92648

PC-G36

I-405 Improvement Project
Public Hearing
Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Mary Moukamanian
Organization: Local 652 Labers
Address(Optional):
Phone Number: 714 542-7203
Email address: marytroukamanian@gmail.com

Comments: Improvements to the Interstate 405 will help create jobs during the current economic hardship not just in construction, but in other trades as well. It will also decongest the flows of traffic on other local freeways; with less traffic the number of automobile accident should decrease. The less time spent on the road will lead to less energy consumed in gas. This will help conserve our Our Environment and other oil resources. 1

(Space for comments continued on reverse)

Caltrans OCTA

PC-G37

From: john graham [jcg31@att.net]
Sent: Thursday, June 14, 2012 7:54 AM
To: Parsons, 405.dedcomments; Parsons, 405.dedcomments

I don't care for the north bound carpool lane. The yellow line restriction is too long from Fairview to Brookhurst going north. It causes rear endings in the #2 lane when people have a chance to get out of the carpool lane. I drive this almost everyday. I enter the 405N from the 55/73 north connector and I can't easily get into the carpool lane. The bottleneck all the way up to Brookhurst makes drivers very annoyed and most don't want to let you merge towards the carpool lane even if they see multiple occupants in your car. They stay very close to other cars bumpers so you can't merge. You guys should have removed the carpool lane restriction in this region and tried that out for a while before all this mess. 1
John Graham
Costa Mesa, Ca.

PC-G38

From: Tom Graham [tgcal@sbcglobal.net]
Sent: Wednesday, June 20, 2012 9:42 PM
To: Parsons, 405.dedcomments
Cc: eric.bever@costamesaca.gov; wendy.leece@costamesaca.gov; gary.monahan@costamesaca.gov; stephen.mensinger@costamesaca.gov; jim.righeimer@costamesaca.gov; citymanager@costamesaca.gov; peter.naghavi@costamesaca.gov

It seems the basic 405 improvement plan is based on fallacious traffic forecasts. The presentations we have seen at Costa Mesa City Council during public hearings, and at the Orange Coast College public hearing all indicate significant traffic increases by the years 2020 and on to 2040. This is the basic premise on which the improvement plan was developed, and yet much available information indicates the traffic has been going down and will continue to go down.

Our question is HOW DO YOU JUSTIFY THE SIGNIFICANT TRAFFIC INCREASE PROJECTIONS IN THE IMPROVEMENT PLAN? 1

Consider the following:

POPULATION

According to the Center for Economic Research the Net Domestic Migration figure for California has been going down since 1991 and as of 2009 the cumulative figure has reached more than negative 3.5 million.

BUSINESSES

In 2009, 51 companies moved some or all of their employees out of state. In 2010 the figure was 202, and in 2011 the number was 254.

These are just a couple examples of data that is available.

The population is leaving and the businesses are leaving all because of the state political environment, and there is no indication in sight that this political situation will change

The entiire 405 improvement plan is built on a house of cards. 2

Can anyone explain to me WHY THE TRAFFIC PROJECTIONS SHOULD HAVE ANY CREDIBILITY AT ALL?. 3

I'd like to know.

Tom Graham
1106 Redding Ave.
Costa mesa

PC-G39

I-405 Improvement Project
Public Hearing

Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Ralph Jay Grajeda
Organization: Cement Mason Local #500
Address(Optional): 3938 W. 5th #202 Santa Ana, CA 92703
Phone Number: (714) 615-5709
Email address:

Comments: yes to the express toll. 1

(Space for comments continued on reverse)

PC-G40

6/26/2012

As an original owner I request that CPE be left alone. The wall should be left intact as it serves as a form of protection for residents.

As the freeway has now been expanded it has created more accidents and further expansion would only serve to be more detrimental.

Please consider the residents and air quality of the entire community.

J Green
[illegible] Hazewood
Seal Beach 90740

1

PC-G41

I-405 Improvement Project
Public Hearing

Comment Sheet

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- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☒ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): IRWIN GREENFIELD
Organization: —
Address (Optional): 17300 SANTA CLARA ST. F.V. 92708
Phone Number:
Email address:

Comments: THE PLAN THAT I FAVOR IS ALT 2 WE NEED THE EXTRA LANES, BUT I STRONGLY OPPOSE DEDICATING ANY TOLL LANES ON THE 405 FWY.

FOR ALT 2

(Space for comments continued on reverse)

1

PC-G42

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☒ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): LAURENCE GREENFIELD
Organization:
Address (Optional):
Phone Number: (714) 842-4841
Email address:

Comments: CHOOSE ALTERNATE 2

NO MORE TOLL ROADS!! 1

(Space for comments continued on reverse)

PC-G43

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): BERT C. GRUNSETH
Organization: LOCAL 582
Address(Optional): 5214 E. MINUET LN. ANAHEIM CA 92807
Phone Number: 714-310-7098
Email address:

Comments: THE FREEWAY IS TO CONGESTED. IT NEEDS TO BE IMPROVED. 1

(Space for comments continued on reverse)

PC-G44

From: Guardi [yipyop2@aol.com]
Sent: Monday, July 16, 2012 4:15 PM
To: Parsons, 405.dedcomments
Subject: 405 Expansion- Rossmoor Resident Response

We do not want this project to go forward. People need to try and live closer to their own schools and jobs, stop expecting freeways to be the answer. If this project continues and there are serious side effects to the residents, lawsuits will follow. 1

Thank you.
Rossmoor Resident

PC-G45

I-405 Improvement Project
Public Hearing

Comment Sheet

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- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Arturo Guillen
Organization:
Address(Optional): 1401 E Avalon Santa Ana Ca 92705
Phone Number: (714) 425-0587
Email address:

Comments: para que siga mucho trabajo y que no siga el trafico 1

(Space for comments continued on reverse)

PC-G45 Translation

Comment:

In favor, so there are more jobs and no traffic. 1

PC-G46

I-405 Improvement Project
Public Hearing

Comment Sheet

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- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Gonzalo Guillen	
Organization: local 652.	
Address(Optional): 15652 williams St Apt #105 Tustin ca 92780	
Phone Number: (714) 838-0964	Email address:

Comments: Para que el trafico circulen mas bien porque el futuro va aber mas trafico y se ocupan mas carriles mas ancho los carriles para tener un trafico mejor. 1

(Space for comments continued on reverse)

Caltrans

OCTA

PC-G46 Translation

Comment:

In favor, so traffic flows better in the future because there will be more traffic and we currently need a wider freeway with more lanes so traffic improves. 1

PC-G47

I-405 Improvement Project
Public Hearing

Comment Sheet

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- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Gonzalo Guillen R	
Organization: labor local 652	
Address(Optional): 621 S GARNSEY SANTA ANA CA	
Phone Number: 714) 878 9873	Email address:

Comments:

SI NO ESTA TRAVAJANDO NO PUEDE AYUDAR A MANTENER LA ECONOMIA
EL TRAFICO ESTA AUMENTANDO Y SOLO EMPEORANDO
ESTA PROYECTO CREARIA TRAVAJO INGRESOS PARA LA CIUDAD Y EL CONDADO 1

(Space for comments continued on reverse)

PC-G47 Translation

Comment:

If you are not working, you are not helping maintain the economy. The traffic is increasing and only worsening, this project would generate work and income for the city and the county. 1

PC-G48

I-405 Improvement Project
Public Hearing

Comment Sheet

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- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Jose Cuellen	
Organization: Labor Local 652	
Address(Optional): 1402 S. Hickory Santa Ana 92707	
Phone Number: (714) 542-9104	Email address:

Comments: It's needed for improve of our Freeway because of traffic. Traveling North bound & south bound is very bad. Please read my comment. 1

(Space for comments continued on reverse)

PC-G49

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last):	Jose Guillen G
Organization:	Labor Local 652
Address(Optional):	FRWCh EST 1320 PAC Santa Ana.ca 92701
Phone Number: 714-541-0824	Email address:

Comments:

Han agorado sus beneficios de desenpleo 1

(Space for comments continued on reverse)

PC-G49 Translation

Comment:

They have depleted their unemployment benefits. 1

PC-G50

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): MIGUEL L. GUILLEN
Organization:
Address(Optional):
Phone Number: (714) 783-7703 | Email address:

Comments: es nesesario que se abra este proyecto por que el fw. 405 esta demasiado congestionado y es nesesario, ademas este generara empleo para tantos personas nos que lo nesesitamos y los personas que estan en contra de este proyecto no tienen por que parar el progreso. 1

(Space for comments continued on reverse)

PC-G50 Translation

Comment:

It is necessary that this project starts because the 405 freeway is extremely congested and it is necessary, in addition, it would generate jobs for a lot of people that are in need and the people that are against this project should not stop progress. 1

PC-G51

From: Felix Guo [felix_guo@yahoo.com]
Sent: Tuesday, July 17, 2012 11:37 PM
To: Parsons, 405.dedcomments
Subject: i-405 Damage community

To
Ms. Smita Deshpande
Branch Chief –Caltrans District 12
"Attn: 405 DEIR-DEIS Comment Period"
2201 Dupont Drive, Suite 200
Irvine, CA 92612

Dear OCTD,

As in your EIR study, survey based on traffic volume through current 405 freeway has been peaked at year 2010 and the traffic flow decline steadily. So there is definitely "no need for the 405 freeway expansion".

All the EIR data false prediction are based upon the following wrong assumption: " there will be more housing build up around Irvine, great park and other south community". 1

The expansion of freeway by county authority can only create more health problem from freeway pollutant, created traffic jam in our local College Park East Almond Ave., reroute more passing by traffic through our already crowded Lampson Blvd. 2

Our family and community in large are strongly against "any expansion option" of 405 freeway project. 3

College Park East resident
Felix and Lillian Guo and all family members

PC-G52

From: Adalinda Gutierrez [adalindag@ca.rr.com]
Sent: Tuesday, June 19, 2012 8:06 PM
To: Parsons, 405.dedcomments
Subject: Leave Our Wall Alone

My family lives in Seal Beach, College Park East. Please leave our wall alone. We recently purchased our dream home and we do not want the freeway inching it's way towards our home. Please find an alternative solution. 1

Thank You,
Adalinda Gutierrez

Sent from my iPhone

PC-G53

From: Adalinda Gutierrez [adalindag@ca.rr.com]
Sent: Tuesday, June 19, 2012 8:07 PM
To: Parsons, 405.dedcomments
Subject: Leave Our Wall Alone

Find an alternate solution! 1

Thanks

Sent from my iPhone

PC-G54

From: Adalinda Gutierrez [adalindag@ca.rr.com]
Sent: Tuesday, June 19, 2012 8:09 PM
To: Parsons, 405.dedcomments
Subject: Leave Our Wall Alone

We don't need or want the pollution, the noise, or the value of our homes depreciated because of the freeway. Find an alternative and leave our wall alone. 1

Thanks

Sent from my iPhone

PC-G55

From: Adalinda Gutierrez [adalindag@ca.rr.com]
Sent: Tuesday, June 19, 2012 8:10 PM
To: Parsons, 405.dedcomments
Subject: Leave Our Wall Alone

Please save our homes!!! 1

Thanks

Sent from my iPhone

PC-G56

From: Adalinda Gutierrez [adalindag@ca.rr.com]
Sent: Tuesday, June 19, 2012 8:16 PM
To: Parsons, 405.dedcomments
Subject: Leave Our Wall Alone

I have respiratory problems and the last thing I need is pollution from vehicles moving closer to my home. My children enjoy playing at the park which I you move the wall will be even closer to the freeway. Our children deserve a safe, nice place to play that is not riddled with noise and pollution. Please find an alternative and leave our neighborhood alone. I am quite sure that you can understand that we purchased our home in this neighborhood for a reason and do not wish to devalue our homes because of the freeway! 1

Thank you

Sent from my iPhone

PC-G57

From: Adalinda Gutierrez [adalindag@ca.rr.com]
Sent: Tuesday, June 19, 2012 8:22 PM
To: Parsons, 405.dedcomments
Subject: Leave the wall alone

Please leave our neighborhood alone. The amount that you want to widen the freeway will not make that significant of a difference for the freeway. How is that even an economical alternative? The expense associated with expanding the freeway probably will not outweigh the benefit. Please re consider and leave our neighborhood alone! 1

Sent from my iPhone

PC-G58

From: Adalinda Gutierrez [adalindag@ca.rr.com]
Sent: Tuesday, June 19, 2012 8:52 PM
To: Parsons, 405.dedcomments
Subject: Leave our wall alone

We do not want the freeway closer to our homes. There are homes located on Almond St. They will be heavily affected if the wall comes down and the freeway moves closer. 1

Sent from my iPhone

PC-G59

From: Adalinda Gutierrez [adalindag@ca.rr.com]
Sent: Tuesday, June 19, 2012 8:55 PM
To: Parsons, 405.dedcomments
Subject: Leave our wall alone

Do not destroy the quality of life in our neighborhood. Leave the freeway and our wall alone. 1

Sent from my iPhone

PC-G60

From: Jcglc12@aol.com
Sent: Sunday, June 03, 2012 9:18 AM
To: Parsons, 405.dedcomments
Subject: 405 Widening Project

I am a resident of College Park East in Seal Beach. I have read over the alternatives for the widening project in my area. I am very concerned with the possible moving of the sound wall off of Almond Avenue. I live in a cul-de-sac off of Almond Avenue and the freeway noise presently is tolerable. Moving the sound wall and constructing a new one over time will not only put the freeway closer to my home, but will cause excessive noise and more pollution. I feel the property value of my home will diminish being even closer to the freeway. 1

I urge the Project Development Team and the OCTA Board to recommend keeping the existing sound wall in place and implement a different alternative to widening the freeway without moving the sound wall.

Sincerely,
Lisa Gutierrez
College Park East Resident

PC-G61

I-405 Improvement Project
Public Hearing
Comment Sheet

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- [x] Monday, June 4, 2012 – Orange Coast Community College
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- [ ] Wednesday, June 6, 2012 – Westminster Community Center
- [ ] Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Rosemary Gutierrez
Organization:
Address(Optional):
Phone Number: 661 932 7444
Email address: rosemary.gutierrez21@ymail.com

Comments: I'm in the Improvement Project it was a good freeway to be expected most important the drive will be less stressful 1

(Space for comments continued on reverse)

Caltrans OCTA

PC-G62

7/1/2012

Supervisor John Moorlach:

I am writing you as a resident of College Park East, Seal Beach for sixteen years. I am writing you concerning the I 405 improvement project

I am aware that measure M passed with a majority of the vote needed to put it in place. However, I am very concerned with the expansion of the 405 freeway would affect my community.

I would prefer that there would be no expansion of the freeway. Since measure "M" passed, I would only be in favor of alternative 1 which would give one general-purpose lane in each direction from Euclid to the I 605 freeways. 1

I would like some questions regarding the sound wall to be addressed.

The first is that Almond Street is designated as a Tsunami evacuation and flood route. If you were to make it a one way, how is the evacuation path affected and what is the mitigation route proposed?

I would also like to address the wall itself. The current wall is eighteen feet high and has withstood the test of time because of the excellent construction. I have seen current sound wall off current freeways that don't compare to our wall. If the wall needs to be moved would it be replaced with the current type of wall that we have in place?

I would also like to know if you realize that there are two existing parks would be affected. One is at Astor Street and the other at Oleander Street. Children and adults use the park or play and exercise. All individuals would be exposed to more carbon monoxide and emissions. This can lead to many serious health problems for all that live in our community. 2

I would also like you to make an assessment of the appreciation and or depreciation of homes on that street or parallel and perpendicular five hundred feet east of Almond Street. If the sound wall is built comparing values of today's market to completion of the sound wall five and ten years after it is built

The population of California is continuing to increase each year. We can't keep adding lanes to our existing freeways as a solution to the problem. In the future, I see the need for a better Mass Transportation System that would include more fuel efficient busses, a bullet train, and /and a monorail that goes from San Diego to Sacramento. I feel Mass Transit improvements would be better for our communities 3

PC-G62 Continued

and would be better for the air we breathe and a better alternative for the noise pollution that would accompany the freeway expansion.

As a registered voter, I urge you to reexamine the expansion of Measure M (405) freeway in Orange County. I do not see that this plan would help solve any problems since there is no plan in place to expand the freeways in the Los Angles Area. The new expanded lanes would feed into the existing overcrowded Los Angles area freeways. I hope you take the time to hear the "voices of rage" in our local community. 4

Sincerely,
Beth M. Guzman

4556 Elder Avenue
Seal Beach CA 90740

PC-G63

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Paul Guzman
Organization: Labor Local 652
Address(Optional): 2113 N. Santa Fe ST. Santa Ana Ca. 92705
Phone Number: 714-558-0998
Email address: Paul sr@PLBuilding.com

Comments: I retired in 1980. Since That Time I worked as a Public Works Inspector for Costa Mesa Sanit. Dist. for 23 yrs. I have Traveled The area and I understand The need for upgrading The Freeway and Off ramps. I fully support any improvement in On The 405 Freeway I was present when That was built Progress is needed. 1

(Space for comments continued on reverse)

RESPONSE TO PUBLIC COMMENTS (PC)-G

Response to Comment Letter PC-G1

Comment PC-G1-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

With respect to a potential bottleneck at the Los Angeles county line, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Comment PC-G1-2

Future predicted peak-hour traffic noise levels along Martha Ann Drive are expected to rise from zero to 1-dB for any of the alternatives. For this project, soundwalls are only eligible for reconstruction and replacement in-kind when an existing soundwall must be removed, relocated, and replaced in-kind along the project alignment where space is needed for the proposed project's additional lanes or required safety features. Please see Common Response – Noise/ Noise Analysis.

Comment PC-G1-3

Acquisition of the property located at 12705 Martha Ann Drive in Rossmoor is not required for the project.

Response to Comment Letter PC-G2

Comment PC-G2-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

We acknowledge your comments about the proposed project. With respect to a potential bottleneck at the Los Angeles county line, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line. With respect to the Express Lanes in Alternative 3, there is no requirement for any motorist to use them. The Express Lanes provide a choice for motorists who need a reliable travel time in the corridor and are willing to pay a toll for it.

With respect to the question regarding tolling and tax dollar support as double taxation, please see Common Response – Opposition to Tolling.

Response to Comment Letter PC-G3

Comment PC-G3-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Respuesta a la Carta De Comentario PC-G4

Comentario PC-G4-1

Las agencias de Caltrans y Orange County Transportation Authroity les gustaría agradecerle por haber participado en el proceso ambiental para el proyecto de ampliación de la autopista de San Diego (I-405). Su comentario fue considerado durante el proceso de selección de la "Alternative Preferida", como esta escrito en el reporte llamando en ingles "I-405 Improvement Project Final EIR/EIS." Se le notificará en la dirección proveida en su Cometario cuando el reporte "Final EIR/EIS" va a estar disponible para revisarlo.

Response to Comment Letter Translation PC-G4

Comment PC-G4-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-G5

Comment PC-G5-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-G6

Comment PC-G6-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-G7

Comment PC-G7-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-G8

Comment PC-G8-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-G9

Comment PC-G9-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-G10

Comment PC-G10-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-G11

Comment PC-G11-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-G12

Comment PC-G12-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-G13

Comment PC-G13-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-G14

Comment PC-G14-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Response to Comment Letter PC-G15

Comment PC-G15-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

With respect to a potential bottleneck at the Los Angeles County line, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Comment PC-G15-2

The Draft EIR/EIS, page 3.1.6-96, presents analysis of the anticipated operations on I-405 in the transition areas where the Express Lanes start and end. Table 3.1.6-17 of the Draft EIR/EIS summarizes the operations anticipated in these transition areas. On I-405 southbound in the area of the Los Angeles County line (labeled as "I-405 – I-605 to San Gabriel" in Table 3.1.6-17), LOS F operating conditions are anticipated during peak hours under both the No Build Alternative and Alternative 3 because the volumes expected in the corridor are anticipated to exceed capacity. The additional GP lane proposed in Alternative 3, starting near the I-605 southbound entrance ramp, would improve traffic flow, but it is not anticipated to eliminate peak-period congestion.

Response to Comment Letter PC-G16

Comment PC-G16-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. See Common Response – Preferred Alternative Identification.

Comment PC-G16-2

With respect to a potential bottleneck at the Los Angeles County line, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Comment PC-G16-3

A TSM/TDM alternative that includes TDM techniques, such as staggered work hours, is included in the Draft EIR/EIS in Section 2.2.3. This alternative does not satisfy the purpose and

need of the project, but some TSM/TDM elements are included in each of the build alternatives, as described in the Draft EIR/EIS on page 2-17.

Comment PC-G16-4

The purpose of the project is to provide throughput for forecasted traffic to the year 2040. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-G17

Comment PC-G17-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Comment PC-G17-2

The project description complies with Caltrans and FHWA policies and CEQA and NEPA requirements. The EIR/EIS is intended to serve as a project-level document.

Comment PC-G17-3

The EIR/EIS has been prepared consistent with Caltrans and FHWA policies and CEQA and NEPA requirements. Project plans for a project of this size are typically included as an appendix to the environmental document. Appendix P, Project Plans, is referred to throughout the EIR/EIS to assist the reader.

The proposed Euclid Street southbound I-405 on-ramp from Ellis Avenue is discussed and shown in several sections within the EIR/EIS.

In Section 2.2.1, Common Design Features of the Build Alternatives, it states that the “Euclid Street/Ellis Avenue interchange would be improved with construction of a new southbound I-405 on-ramp from eastbound Ellis Avenue.”

In Section 3.1.1.4.1, Affected Environment, it states that “the Santa Ana River Trail crosses underneath the I-405 mainline in Costa Mesa and under the proposed Euclid Street southbound I-405 on-ramp from Ellis Avenue.”

Figure 3.1.1-6: Location of Santa Ana River Trail, in Section 3.1.1.4.2, Environmental Consequences, shows the proposed Euclid Street southbound I-405 on-ramp from Ellis Avenue.

In Section 3.1.7.2, Affected Environment, the proposed Euclid Street southbound I-405 on-ramp from Ellis Avenue over the Santa Ana River is described as having "the potential to create a spot location within the corridor where there would be new lighting; however, potential ramp lighting spill-over can be minimized using cut-off fixtures and shielding to block light trespass into the neighborhood and Moon Park. Based on this analysis, no substantial impact is anticipated by any of the three alternatives under consideration."

In Section 3.1.7.3, Environmental Consequences, the proposed Euclid Street southbound I-405 on-ramp from Ellis Avenue is discussed within the Key Viewpoint #15 Analysis. A pre- and post-construction view simulation of the proposed feature is also provided (Figure 3.1.7-10). The analysis concludes that "while the new bridge across the river adds a new element to the viewshed, the existing view has such a high degree of encroachment of unaesthetic elements that the addition of the bridge is unlikely to further degrade the view substantially. The overall visual quality would likely drop slightly but remain within the moderately low category, while the viewer response would be moderate given the exposure time and sensitivity of the bikeway users. The overall visual impact within the view is anticipated to be moderately low. This summary is shown in Table 3.1.7-2."

The Euclid Street southbound I-405 on-ramp from Ellis Avenue piers that would be located in the Santa Ana River are accounted for in the 0.01-acre of permanent impacts shown in Table 3.3.2-2: Temporary Impacts and Permanent Loss by Alternative within the BSA. This permanent impact area is also shown in Appendix O2 through O7 of the EIR/EIS.

Comment PC-G17-4

Section 3.1.4.2.3, Environmental Consequences, discusses the acquisitions of properties required for the project. No homes would be displaced, and no relocation of residences would be required with the implementation of the build alternatives.

Properties identified for partial acquisitions are identified in the Community Impact Assessment (see Parsons 2011a, Appendix A) and Final EIR/EIS, Appendix T.

The build alternatives would all require full acquisition of the properties where Sports Authority, Days Inn, and Fountain Valley Skating Center are located, along with partial acquisition of the property where Boomers is located, on the south side of I-405 between Magnolia Street and Warner Avenue, as discussed in Section 3.1.4.2.3 of the Draft EIR/EIS. OCTA and Caltrans have developed design options for all of the alternatives that would remove the braided ramps between Warner Avenue and Magnolia Street on the north and/or south sides of I-405. If the design option for removal of the ramps on the south side of I-405 is incorporated into the Preferred

Alternative, no acquisition or relocation of any these properties would be required. Please see Common Response – Impacts to Businesses.

Comment PC-G17-5

The Noise Study Report shows the impact analysis and identifies feasible abatement. The Noise Abatement Decision Report determines the reasonableness of the feasible traffic noise abatement measures presented in the Noise Study Report. Before a reasonableness determination can be made, feasibility – providing at least a 5-dB traffic noise reduction – must be achieved for at least one frequent outdoor use area. In the Draft EIR/EIS, Section 3.2.7, Noise, outlines the details of the recommended traffic noise abatement measures from the Noise Abatement Decision Report and includes detailed information regarding soundwalls and their heights. The noise tables in Appendix N – Noise Information have been updated to correspond to the recommended abatement shown in the figures also within Appendix N. A summary of the soundwalls is found in the following tables in Appendix N, Noise Information:

- Appendix N3: Alternative 1 Reasonableness Analysis Summary and Recommended Soundwall Locations, Table 1 – Noise Abatement Information (Alt-1)
- Appendix N4: Alternative 2 Reasonableness Analysis Summary and Recommended Soundwall Locations, Table 2 – Noise Abatement Information (Alt-2)
- Appendix N5: Alternative 3 Reasonableness Analysis Summary and Recommended Soundwall Locations, Table 3 – Noise Abatement Information (Alt-3)

A traffic noise impact would occur under CEQA if ground-level noise-sensitive land uses would experience a predicted traffic noise level that would be substantially higher than existing levels. An increase of 5 dB was considered substantial for this project. Noise impacts under CEQA are discussed in Chapter 4 of the Draft EIR/EIS.

Comment PC-G17-6

Representative frequent outdoor use areas along I-405 are identified by “R” followed by the segment number and a site-specific number. These site-specific numbers are used in the text, tables showing noise analysis, and figures showing the project vicinity, as well as soundwalls. The address and other relevant information of each number are included in Appendix B of the Noise Study Report. Including the address of each point every time that point is mentioned in the text or table will make the text and table more complicated and difficult to follow.

Soundwalls are recommended in accordance with Caltrans’ Traffic Noise Analysis Protocol, which specifies that soundwalls must reduce traffic noise levels by at least 5 dB at the impacted noise-sensitive areas. The Noise Study Report identifies heights and lengths required to provide

the feasible abatement of 5 dB. Areas that are not specified to be noise sensitive are usually not included behind soundwalls unless they are in close proximity to noise-sensitive areas. Gaps in the soundwalls and lower soundwall heights for these areas are only considered where it is not detrimental to the goal of providing feasible traffic noise abatement to noise-sensitive areas. Areas next to the freeway will still be exposed to some traffic noise coming from the top of the soundwalls or from the end points of the soundwalls. The goal of noise abatement measures is to reduce the future traffic noise by at least 5 dB for areas that are exposed to the traffic noise levels that are approaching or exceeding Caltrans/FHWA NAC.

Comment PC-G17-7

Caltrans' Traffic Noise Analysis Protocol defines the procedure for assessing reasonableness of noise barriers from a cost perspective. A cost-per-residence allowance is calculated for each benefited residence (i.e., residences that receive at least 5 dB of noise reduction from a noise barrier). Caltrans' published 2009 base allowance of $31,000 was used for this project. Additional allowance dollars are added to the base allowance based on absolute noise levels, the increase in noise levels resulting from the project, achievable noise reduction, and the date of building construction in the area. Total allowances are calculated by multiplying the cost-per-residence by the number of benefited residences.

The soundwall that was considered in front of the La Quinta Inn was to provide traffic noise abatement for the pool area, which is currently impacted by the traffic noise and would continue to be impacted in the future. It was concluded that this soundwall would not be reasonable (cost effective). Predicted traffic noise inside the hotel rooms facing the freeway would not approach or exceed Caltrans NAC. Please see Response to Comment GL1-19 for a detailed explanation of soundwalls associated with the La Quinta Inn. Please also see Common Response – Noise/Noise Analysis. Mitigation Measure NOI-04, which specifies that the contractor needs to develop a construction noise and vibration monitoring and mitigation plan once details of the construction activities and phases are finalized, has been added to the environmental document. Implementing proper mitigation measures would minimize or eliminate construction-related noise and vibration impacts. Parks along I-405 that would be impacted by the future traffic noise have been evaluated, and whenever impacts are identified, required abatement measures have been identified.

Comment PC-G17-8

Visual impacts are discussed in Section 3.1.7.3 of the Final EIR/EIS. Elements, such as replacement structures, new retaining walls, and soundwalls, would be a permanent change to the elements within the existing viewsheds along the corridor, including some areas where visual impacts were determined to be Moderately High, as described for Viewpoints 17A and 17B.

With the implementation of Mitigation Measures VIS-1 through VIS-21, the potential adverse effects of the build alternatives on the visual character and quality of the project surroundings would be minimized.

For the discussion of visual quality within each landscape unit, it is important to remember that these are general evaluations for the unit as a whole. Specific locations within the unit may have higher or lower visual quality than the average. In the discussion of key viewpoints, visual quality is assessed for specific views, and these may differ from the average, or general, visual quality rating because that rating only considers a specific location within the landscape unit.

The project is assessed from stationary locations, as well as from dynamic viewpoints such as vehicles, pedestrians, and bicyclists; however, because it is not possible to analyze every possible view within the project area, the FHWA analysis methodology recommends selecting many key viewpoints that represent the potential visual effects of the project and the viewers' experience. A key viewpoint is a representative, typical, characteristic, and clear perception of project elements to the primary viewer group. Additionally, key viewpoints are areas seen to and from the roadway, viewpoints that clearly display the visual effects of the proposed project. The key viewpoints include a representation of all critical visual elements of the proposed project and viewer group types.

The residential area in question is protected from the freeway by a large soundwall that effectively blocks views from the neighborhood into the freeway corridor. One of the few places within this neighborhood that is not visually separated from the freeway is the Santa Ana River Trail and the trail's connection with Moon Park; therefore, this view (Key Viewpoint #15) was chosen to represent the neighborhood because it addresses that portion of the neighborhood not currently screened, as well as a public park and trail that serves this neighborhood.

The Visual Impact Assessment was prepared in accordance with Caltrans and FHWA policy and guidelines. No additional renderings or analysis are necessary.

Comment PC-G17-9

The cumulative effects analysis in Section 3.6 of the Final EIR/EIS utilizes the Caltrans 8-step process for the preparation of cumulative impact analysis. The 8-step process incorporates the requirements identified in Section 15355 of the CEQA Guidelines and 40 CFR, Section 1508.7 of the CEQ Regulations. The past, present, and reasonably foreseeable projects utilized in the cumulative effects analysis are summarized in Table 3.6-1. Note that the cumulative traffic analysis accounted for all projects listed in the Central Orange County Corridor MIS up to the year 2035.

As discussed in Section 3.2.7 and as shown in Appendix N1, noise levels associated with the build alternatives are almost always lower than those reported for the future no-build conditions. It should also be noted that the noise analysis is conservative in its assumptions and utilizes a worst-case scenario, as discussed in Section 3.2.7. Although operation of the build alternatives would increase noise levels over the existing condition, the noise levels are less than the future noise conditions without the project.

It should also be noted that the existing condition of the corridor and resources within the corridor represents all of the cumulative effects of all past projects, and there is no requirement for the cumulative analysis to specifically address cumulative effects since the enactments of CEQA and NEPA.

Comment PC-G17-10

Section 3.1.2 of the Draft EIR/EIS covers induced growth. Anticipated growth in the region is reflected in the forecast traffic demand based on the OCTAM use of forecasts to 2035 of population and employment data identified on page 3.1.2-1 of the Draft EIR/EIS. On page 3.1.2-9, the conclusion is stated that "the proposed project would have no substantial potential for stimulating the location, rate, timing, or amount of growth locally or regionally." In part, this is because communities within the study area are almost entirely built out or contain few large, undeveloped parcels. It is not anticipated that the proposed alternatives would induce substantial traffic.

Comment PC-G17-11

The Final EIR/EIS was prepared in accordance with Caltrans and FHWA policy and guidance. The Final EIR/EIS has been through a rigorous legal sufficiency review and is in compliance with both CEQA and NEPA. See response to Comment GL1-1. The Final EIR/EIS includes a complete and detailed project description. A Supplemental Traffic Study has been prepared and a Supplemental Draft EIR/EIS prepared and circulated covering potential traffic impacts in Los Angeles County. The analysis and measures presented in the Supplemental Draft EIR/EIS are included in Section 3.1.6 of the Final EIR/EIS.

Response to Comment Letter PC-G18

Comment PC-G18-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

There is a 2-year plant establishment plan in place after the project is completed for the WCC Project. An aesthetics landscape master plan is in place as part of that project, which consists of eucalyptus and jacarandas.

Response to Comment Letter PC-G19

Comment PC-G19-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Response to Comment Letter PC-G20

Comment PC-G20-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-G21

Comment PC-G21-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-G22

Comment PC-G22-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Response to Comment Letter PC-G23

Comment PC-G23-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-G24

Comment PC-G24-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-G25

Comment PC-G25-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-G26

Comment PC-G26-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-G27

Comment PC-G27-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred

Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-G28

Comment PC-G28-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-G29

Comment PC-G29-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Respuesta a la Carta De Comentario PC-G30

Comentario PC-G30-1

Las agencias de Caltrans y Orange County Transportation Authroity les gustaría agradecerle por haber participado en el proceso ambiental para el proyecto de ampliación de la autopista de San Diego (I-405). Su comentario fue considerado durante el proceso de selección de la “Alternative Preferida”, como esta escrito en el reporte llamando en ingles “I-405 Improvement Project Final EIR/EIS.” Se le notificará en la dirección proveida en su Cometario cuando el reporte “Final EIR/EIS” va a estar disponible para revisarlo.

Response to Comment Letter Translation PC-G30

Comment PC-G30-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-G31

Comment PC-G31-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-G32

Comment PC-G32-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-G33

Comment PC-G33-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

All reasonable and feasible noise abatement will be constructed, as described in Section 3.2.7 of the Final EIR/EIS and final Noise Abatement Decision Report. Air quality Measures AQ-1 through AQ-14, described in Section 3.2.6, will avoid and/or minimize all construction-related air quality effects. As described in Section 3.2.6, emissions will be reduced under all of the build alternatives compared to the future No Build Alternative, and no permanent adverse project-related air quality effects were identified. Please see Common Responses – Noise/Noise Analysis and Air Quality.

The I-405 Improvement Project may have an effect on property values, but it is not likely to be a major change because I-405 is an existing facility within Orange County. In addition, Caltrans has found no literature, studies, or evidence that property values decrease because of freeway widening near a home. Please see Common Response – Property Values.

Comment PC-G33-2

The discussion in the table generally reflects the highlights as it relates to the goals and objectives of the plans. The reader would have to read the applicable sections to understand the project as a whole, as project effects on the quality of life are dependent on the reader. For example, the substantial reduction in travel times reported for the build alternative would be an improvement in the quality of life for the 455,000 and 512,000 Average Annual Daily Traffic between SR-22 and I-605 in 2020 and 2040, respectively. Everybody can find something they do not like about the project, but as described in Response to Comment PC-G33-1, Caltrans and OCTA have made an honest effort to reduce impacts to quality of life based on the public comments received from the cities and residents in the corridor cities; however, it should be noted that the addition of capacity does not induce travel, but it does draw trips diverted by congestion back to the freeway.

Air quality was analyzed at both the project level and regional level. Noise was specifically analyzed at the representative receptors shown on the plans in Appendix N. Project-related construction and operational air quality and noise effects were analyzed in detail in the project Air Quality Technical Study and Noise Study Report. As described in Sections 3.2.6 and 3.2.7, project-related emission and noise levels associated with the Preferred Alternative would be less than the future No Build Alternative.

Please see Common Response – Air Quality, Health Risks, and Noise/Noise Analysis.

Comment PC-G33-3

The localized analysis is included and required. The localized analysis is referred to as the "Local-Project Level Analysis" in Section 3.2.6, and includes CO and PM hot-spot analysis and MSAT analysis. Please see Common Responses – Air Quality and Health Risks.

With respect to a potential bottleneck at the Los Angeles County line, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line regarding the referenced traffic jam at the Los Angeles County line.

Comment PC-G33-4

Traffic noise analysis has been conducted according to State and federal guidelines as outlined in Caltrans' Traffic Noise Analysis Protocol. The results of the Noise Study Report show that the future predicted peak-hour traffic noise levels in this area of Seal Beach would increase by zero to 2 dB.

Traffic noise impacts are considered to occur at receiver locations where predicted design-year traffic noise levels are at least 12 dB greater than existing noise levels, or where predicted design

year traffic noise levels approach or exceed the NAC for applicable activity categories. Typically, a 12-dB increase is for projects where a new freeway is planned. Noise increase due to the proposed project will be much less than 12 dB because doubling the traffic volumes would only increase noise levels by 3 dB.

If existing noise levels are high, traffic noise impacts can occur even when there is no project-related increase in noise. Existing soundwalls can only be replaced by higher soundwalls if an additional 5-dB noise reduction could be achieved. The current maximum preferred height for soundwalls in California is 16 ft due to seismic issues; however, the soundwall that protects residences along Almond Avenue in Seal Beach would be replaced at the original 18-ft height due to the policy of in-kind replacement.

Soundwalls have a "diminishing margin of return" once the line-of-sight to major sources of traffic noise have been cut or blocked, which include, but are not limited to, tire, engine, and truck stack exhaust noise. The insertion loss for barriers does not follow a linear trend in reducing noise levels once the line-of-sight is removed from the tallest noise source, which for traffic noise is the exhaust from truck stacks, which are approximately 12 ft from ground level. Even if the wall could be replaced with a wall taller than the original, the insertion loss would still be less than the required 5-dB insertion needed to attain acoustic feasibility according to Caltrans' Traffic Noise Analysis Protocol. In fact, adding 12 ft in height to the existing 18-ft-tall soundwall would still not lower noise levels by an additional 5 dB.

The vehicle speeds used in the traffic noise analysis assumed that both directions of I-405 would be traveling at free-flow speeds. This assures that the predicted traffic noise levels will reflect the worst-case scenario for the peak-hour traffic noise level.

Please also see Common Responses – Almond Avenue Soundwall and Noise/Noise Analysis.

Please see Response to Comment PC-G33-3 and Common Response – Air Quality.

Comment PC-G33-5

Please see Response to Comment PC-G33-1.

Comment PC-G33-6

Please see Response to Comment PC-G33-1.

Comment PC-G33-7

The Draft EIR/EIS, including specialized technical studies (see Appendix F for a complete list), represents a comprehensive analysis of the potential temporary and permanent environmental

effects of the proposed build alternatives on the environment. Sections 3.1.4, 3.1.6, 3.2.6, and 3.2.7, as well as the Community Impact Assessment, Air Quality Technical Study, and Noise Study Report, are a comprehensive evaluation of many of the quality of life issues you discuss in your comment. Additionally, as discussed in Response to Comment PC-G33-1, Caltrans and OCTA have made modifications to the build alternatives to further address some of the quality of life issues voiced by you, the corridor cities, and communities and residents, as described in Chapter 2 of the Final EIR/EIS.

The proposed project is subject to federal, as well as State, environmental review requirements. Caltrans, as assigned by FHWA, has prepared this joint Draft EIR/EIS in compliance with CEQA and NEPA. Caltrans is the Lead Agency for compliance with CEQA and NEPA. Please see Common Response – Insufficient Environmental Document/Mitigation Measures.

Response to Comment Letter PC-G34

Comment PC-G34-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

It appears that this comment pertains to construction of the WCC Project; therefore, please direct your comment to the OCTA Community Relations Office (550 South Main Street, Orange, CA, 714-560-5376).

The I-405 Improvement Project may have an effect on property values, but it is not likely to be a major change because I-405 is an existing facility within Orange County. In addition, Caltrans has found no literature, studies, or evidence that property values decrease because of freeway widening near a home. Please see Common Response – Property Values.

Comment PC-G34-2

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Comment PC-G34-3

With respect to a potential bottleneck at the Los Angeles county line, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Comment PC-G34-4

Please see Responses to Comments PC-G34-1 through PC-G34-3 above.

Response to Comment Letter PC-G35

Comment PC-G35-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Project-related construction and operational air quality effects were analyzed in detail in the project Air Quality Technical Study. As described in Section 3.2.6 of the Draft EIR/EIS, project-related emission levels associated with the build alternatives would be less than the future No Build Alternative. Please see Common Response – Air Quality.

Alternatives with both LRT and BRT are included in Section 2.2.7, Alternatives Considered but Eliminated from Consideration, of the Draft EIR/EIS. LRT was considered in four such alternatives, and BRT was considered in two such alternatives. For a graphic summary of those alternatives, see Figure 2-39 of the Draft EIR/EIS. BRT and LRT in the project corridor would not be feasible or reasonable without extensions and connections north and south of the project limits. Please also see Common Response – Elimination of LRT and BRT Alternatives.

Response to Comment Letter PC-G36

Comment PC-G36-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-G37

Comment PC-G37-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

As discussed in Chapter 2 of the Final EIR/EIS, on July 31, 2007, Caltrans approved a Project Study Report for a separate project (EA 0J440K) to provide continuous ingress and egress from the HOV lanes on the entire length of I-405 in Orange County. This separate project has not yet been programmed or funded; however, the proposed continuous access would be implemented as part of Alternatives 1 and 2 for the segment of I-405 between Euclid Street and I-605. Transit vehicles and HOV2+ would continue to be eligible to utilize the HOV lanes.

Continuous access is not compatible with Alternative 3.

Response to Comment Letter PC-G38

Comment PC-G38-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

The population and employment forecasts used for traffic forecasting are approved by SCAG. Because of the recent economic recession, there has been a significant reduction in traffic volumes throughout the region. Caltrans published traffic data for I-405 shows a reduction in daily traffic of approximately 20 percent between 2005 and 2009 for the freeway segment south of Euclid Street.

Because the business cycle is largely unpredictable, traffic forecasts are prepared independent of the business cycle. The traffic forecasts for year 2020 and 2040 are based on the population and employment forecasts for those years. The percent growth in traffic between 2009 and 2020/2040 seems high only in the context of reduced traffic volumes caused by the recession. With the economy expected to rebound in the future, traffic volumes are expected to quickly reach pre-recession levels and increase further as projected.

A comparison of pre-recession traffic data (year 2005) to forecast volumes shows annual growth rates of 1.0 to 1.5 percent from 2005 to 2040 and annual rates of 1.1 percent or less from 2020 to 2040, consistent with the referenced City forecasts.

Comment PC-G38-2

Net migration from the entire state of California must be broken down to more localized population shifts for use in forecasting travel along the 16 miles of I-405 in the project corridor. The population and employment forecasts for the communities along the corridor and for Orange County as a whole are presented in Tables 1-7 and 1-8 on page 1-11 of the Draft EIR/EIS. The

tables show that population and employment in the corridor communities and Orange County as a whole are forecast to increase substantially through year 2040. For example, Orange County employment is anticipated to increase by 24 percent from 2005 (when employment is 1,615,936) and 2040 (when employment is 2,003,798). Please see Response to Comment PC-G38-1.

Comment PC-G38-3

Please see Response to Comments PC-G38-1 and PC-G38-2.

Response to Comment Letter PC-G39

Comment PC-G39-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-G40

Comment PC-G40-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Responses – Almond Avenue Soundwall.

Response to Comment Letter PC-G41

Comment PC-G41-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-G42

Comment PC-G42-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-G43

Comment PC-G43-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-G44

Comment PC-G44-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Respuesta a la Carta De Comentario PC-G45

Comentario PC-G45-1

Las agencias de Caltrans y Orange County Transportation Authroity les gustaría agradecerle por haber participado en el proceso ambiental para el proyecto de ampliación de la autopista de San Diego (I-405). Su comentario fue considerado durante el proceso de selección de la “Alternative Preferida”, como esta escrito en el reporte llamando en ingles “I-405 Improvement Project Final EIR/EIS.” Se le notificará en la dirección proveida en su Cometario cuando el reporte “Final EIR/EIS” va a estar disponible para revisarlo.

Response to Comment Letter Translation PC-G45

Comentario PC-G45-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred

Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Respuesta a la Carta De Comentario PC-G46

Comentario PC-G46-1

Las agencias de Caltrans y Orange County Transportation Authroity les gustaría agradecerle por haber participado en el proceso ambiental para el proyecto de ampliación de la autopista de San Diego (I-405). Su comentario fue considerado durante el proceso de selección de la "Alternative Preferida", como esta escrito en el reporte llamando en ingles "I-405 Improvement Project Final EIR/EIS." Se le notificará en la dirección proveida en su Cometario cuando el reporte "Final EIR/EIS" va a estar disponible para revisarlo.

Response to Comment Letter Translation PC-G46

Comment PC-G46-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Respuesta a la Carta De Comentario PC-G47

Comentario PC-G47-1

Las agencias de Caltrans y Orange County Transportation Authroity les gustaría agradecerle por haber participado en el proceso ambiental para el proyecto de ampliación de la autopista de San Diego (I-405). Su comentario fue considerado durante el proceso de selección de la "Alternative Preferida", como esta escrito en el reporte llamando en ingles "I-405 Improvement Project Final EIR/EIS." Se le notificará en la dirección proveida en su Cometario cuando el reporte "Final EIR/EIS" va a estar disponible para revisarlo.

Response to Comment Letter Translation PC-G47

Comment PC-G47-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-G48

Comment PC-G48-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Respuesta a la Carta De Comentario PC-G49

Comentario PC-G49-1

Las agencias de Caltrans y Orange County Transportation Authroity les gustaría agradecerle por haber participado en el proceso ambiental para el proyecto de ampliación de la autopista de San Diego (I-405). Su comentario fue considerado durante el proceso de selección de la "Alternative Preferida", como esta escrito en el reporte llamando en ingles "I-405 Improvement Project Final EIR/EIS." Se le notificará en la dirección proveida en su Cometario cuando el reporte "Final EIR/EIS" va a estar disponible para revisarlo.

Response to Comment Letter Translation PC-G49

Comment PC-G49-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Respuesta a la Carta De Comentario PC-G50

Comentario PC-G50-1

Las agencias de Caltrans y Orange County Transportation Authroity les gustaría agradecerle por haber participado en el proceso ambiental para el proyecto de ampliación de la autopista de San Diego (I-405). Su comentario fue considerado durante el proceso de selección de la "Alternative Preferida", como esta escrito en el reporte llamando en ingles "I-405 Improvement Project Final EIR/EIS." Se le notificará en la dirección proveida en su Cometario cuando el reporte "Final EIR/EIS" va a estar disponible para revisarlo.

Response to Comment Letter Translation PC-G50

Comment PC-G50-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred

Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-G51

Comment PC-G51-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

With respect to the population and employment forecasts upon which the traffic forecasts are based, please see Response to Comment PC-G38-1.

Comment PC-G51-2

The build alternatives are all forecast to reduce congestion on I-405. This will encourage more drivers to stay on I-405 rather than divert to local streets as a result of freeway congestion. With respect to health problems, please see Common Response – Health Risks.

Comment PC-G51-3

Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-G52

Comment PC-G52-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Responses – Almond Avenue Soundwall.

Response to Comment Letter PC-G53

Comment PC-G53-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in

your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-G54

Comment PC-G54-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Responses – Almond Avenue Soundwall.

Response to Comment Letter PC-G55

Comment PC-G55-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. As stated in the EIR/EIS, no full acquisitions of residential properties are anticipated.

Response to Comment Letter PC-G56

Comment PC-G56-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Responses – Almond Avenue Soundwall.

Response to Comment Letter PC-G57

Comment PC-G57-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred

Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

The benefits to congestion of the build alternatives are summarized in the Draft EIR/EIS in Tables 3.1.6-4 through 3.1.6-8 and Tables 3.1.6-12 through 3.1.6-14.

Response to Comment Letter PC-G58

Comment PC-G58-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Response to Comment PC-G56-1.

Response to Comment Letter PC-G59

Comment PC-G59-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Response to Comment PC-G56-1.

Response to Comment Letter PC-G60

Comment PC-G60-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Responses – Almond Avenue Soundwall.

Response to Comment Letter PC-G61

Comment PC-G61-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred

Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-G62

Comment PC-G62-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Renewed Measure M was passed by the voters of Orange County, and the proposed project was included in that measure. For additional information, please see Common Response – Measure M Funding.

Comment PC-G62-2

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Responses – Almond Avenue Soundwall.

Comment PC-G62-3

Alternatives M3, M9, M10, M11, M12, and M13 (see Section 2.2.7 and Figure 2-8), evaluated as part of the I-405 MIS (2003-2006), included project components similar to what you are recommending within your comment. These alternatives were not considered viable alternatives for further consideration because they do not fulfill the project purpose and are substantially more expensive than the Preferred Alternative (see discussion of Alternatives M3, M9, M10, M11, M12, and M13 in Section 2.7). Please also see Common Response – Elimination of LRT and BRT Alternatives.

Comment PC-G62-4

With respect to a potential bottleneck at the Los Angeles county line, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Response to Comment Letter PC-G63

Comment PC-G63-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred

Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

PUBLIC COMMENTS (PC)-H

PC-H1

From: Donald Haddock [mailto:dhhaddock@yahoo.com]
Sent: Wednesday, June 06, 2012 11:30 AM
To: Christina Byrne
Cc: Diane Hill
Subject: OCTA/405...I do not want alternative #3

Ms. Byrne,

I am completely opposed to alternative # 3. It took years to complete the bridge and new on-ramps at the Harbor Blvd and 405 interchange. It wasn't until that process was completed that new businesses started to re-appear and are still quickly filling up the empty lots near the freeway on Harbor Blvd. Any new construction that would hamper access to these new businesses or any future changes to access from the 405 to harbor blvd. for any period of time would negatively impact these businesses and once again hurt the city of Costa Mesa directly. We have had enough. 1

Take option#3 off the table now. Costa Mesa will only be negatively impacted by this proposal . We as a city are completely against this. 2

sincerely,

Donald H. Haddock
276 Princeton Dr.
Cossta Mesa, Ca. 92626

PC-H2

From: Donald Haddock [dhhaddock@yahoo.com]
Sent: Monday, June 11, 2012 5:57 PM
To: Parsons, 405.dedcomments
Subject: OCTA/405 ...No to alternative #3 for Costa Mesa...

To OCTA/405 Planning,,

I am completely opposed to alternative # 3. It took years to complete the bridge and new on-ramps at the Harbor Blvd.; the bridge at Fairview Rd., and 405 interchange. It wasn't until that process was completed that new businesses started to re-appear and are still quickly filling up the empty lots near the freeway on Harbor Blvd. Any new construction that would hamper access to these new businesses, or any future changes to access from the 405 to harbor blvd. for any period of time would negatively impact these businesses and once again hurt the city of Costa Mesa directly. We have had enough. Take option#3 off the table now. Costa Mesa will only be negatively impacted by this proposal . We as a city are completely against this and stand united to defeat the most expensive and ill-concieved alternative. NO!! on alternative #3 1

sincerely,

Donald H. Haddock
276 Princeton Dr.
Cossta Mesa, Ca. 92626

PC-H3

From: Patrick Halbert [phalbert@roadrunner.com]
Sent: Monday, June 18, 2012 7:07 PM
To: Parsons, 405.dedcomments
Cc: scrumby@sealbeachca.gov
Subject: Seal Beach - College Park East - Sound Wall

I live across the street from Almond Park in College Park East Seal Beach and I'm concerned about the lack of specific information of the different alternatives and their impact to the freeway wall which runs along Almond Avenue. I read a June 2012 District 4 City Council Newsletter which states all three alternatives involve moving the sound wall as far as 10 feet into CPE but none of the alternatives require the sound wall to be moved into Almond Park. What is the truth? 1

- Are there any drawings of how the wall will be moved in each area along CPE?
- What are the proposals of 'moving' the wall? Build new wall then tear down old? 2

How can the WCC project be completed without adding another carpool lane for the 22-405 HOV connectors? Does this mean the WCC and I-405 projects require a minimum of Alternative 2? 3 Housing values have dropped significantly the past few years. I planned on retiring and selling my house in three years. I would image it would be more difficult to sell a house with a 48-54 month freeway project starting in 2015. Are there any forecast on the de-valuation of CPE homes? 4

Patrick Halbert
4573 Almond Avenue
Seal Beach, CA 90740

PC-H4

July 1, 2012

OCTA Board Member
550 S.Main St
PO BOX 14184 Orange CA 92863 TEL: (714) 560 6282

Dear Mr. GREGORY T. WINTERBOTTOM,

I am a resident of the City of Seal Beach College Park East Community. I am asking you to vote for Alternative 1 for the I-405 Freeway Improvement project. This alternative will have the most limited community and environmental impacts compared to any other alternative. The community believes this alternative is the most best choice because:

1. Alternative 1 does not encroach 10 feet into Almond Avenue which has an existing soundwall that protects the community. If this wall is torn down and a new wall is built for widening the I-405, it will make Almond a one way street. In case you were not aware, Almond Street is a dedicated Tsunami escape route and the only community access route out from the College Park Community. Almond Street needs to be wide and two way configuration is needed in order to serve as an escape route due to floods and/or Tsunamis. 1

2. Alternative 1 also impacts to existing parks will at Astor Street and at Orleander Street. Like many of parks in our community, children play and senior citizens walk along Almond Street every day. Mothers and their children walk use these parks every day. An alternative that encroaches into our community will create expose families and children to more vehicle exhaust which causes respiratory problems, lung disease and/or lung cancer. The closer the freeway is closer to our community, the more exposed to vehicle exhaust and harmful toxics. 2

3. Funding is only available for Alternative 1.
Alternative 2 has a funding gap which will require OCTA to issue bonds and take more of the County's tax dollars. The community and residents do not favor this irresponsible tax-waste scenario. 3

Sincerely, Ruth

RUTH G. HALLETT
3661 WISTERIA ST.
SEAL BEACH, CA 90740

Please don't let the wall be torn down!

PC-H5

From: Michelle Halligan [michellemccready@gmail.com]
Sent: Thursday, June 14, 2012 4:26 PM
To: Parsons, 405.dedcomments
Subject: Public comment on 405 expansion

Hello Smita,

I just wanted to share my thoughts on the proposed changes to the 405. I support the first two options listed in this OC Register article: http://www.ocregister.com/news/option-358779-third-westminster.html

"The first option is to widen the I-405 by adding a single general-purpose lane in each direction from Euclid Street to I-605.

The second option would do the same thing as the first and also add a general-purpose lane in the northbound direction from Brookhurst Street to the Seventh Street exit on the 22 and a second general-purpose lane southbound from Seal Beach Boulevard to Brookhurst." 1

I do not support the third option mentioned because of the toll lane. I do not think it would be effective. I am a Huntington Beach resident and my neighbors and I know plenty of side street options to avoid the freeway during peak hours. We would never pay a toll for that stretch of road. The toll lane may attract some support from those who commute into Orange County from Long Beach, but I think their traffic concerns would be better assuaged by adding multipurpose lanes in both directions and/or improving the 22. 2

Good luck with this complex project.

Regards,

Michelle

PC-H6

From: Dan Happoldt [dpoolman@socal.rr.com]
Sent: Monday, July 16, 2012 8:58 PM
To: Parsons, 405.dedcomments
Subject: ROSSMOOR/405

Gentlemen: As a 35 year resident of Rossmoor with 4 families and 7 grandkids in this area , I urge you to do more studies on the tremendous impact these additional lanes will have on us .

The noise, pollution and traffic congestion that will be created is not acceptable. To NOT do an impact study on Rossmoor residents is amazing to me . You have done all these other "environmental studies" but nothing on the people who will be the most affected by your decisions. 1

We residents are already seeing the tremendous traffic congestions on Los Alamitos Blvd caused by the widening of lanes and the bridge rebuild to Seal Beach as traffic is diverted there to access the 605 North
And we will have more years of this until 2014 !!!!

That is just 1 project ! Now you want more years of congestion with this new project !

It would seem appropriate that you would coordinate this project with LA County to widen the 405 into that area so there would be no "bottleneck" at Rossmoor area. 2

Have the Transit authorities of Orange and LA Counties even tried to coordinate this monster project ????

I urge you to reconsider this undertaking

Regards, Dan Happoldt
12201 Chaucer Rd.
Rossmoor , Ca. 90720-4534

dpoolman@socal.rr.com

PC-H7

From: claudia harden [nuwyldkt@yahoo.com]
Sent: Thursday, June 21, 2012 9:34 AM
To: Parsons, 405.dedcomments
Cc: Gary Miller
Subject: 405 project

We oppose any changes to the 405 that involve moving the soundwall along the College Park East neighborhood in Seal Beach. As it is now, we are subject to substantial noise and air pollution from the current configuration. To increase that not only during construction of additional lanes but also to make the increase permanent once the construction is complete is unthinkable. 1 The additional lanes will not benefit the thousands of people whose lives will be disrupted by the additional noise and pollution because even if they are regular communters along that section of the 405 they won't have access to those lanes. 2 In addition to that, the project has a reported shortfall of $625 million dollars! That alone should make you stop and think, "is this really necessary?". 3 We have put up with months and months of disruption from the current realignment of lanes, rebuilding of bridges, etc. We still have the Seal Beach bridge rebuild to go through - this will make CPE residents virtual prisoners - cut off from old town Seal Beach and most of Long Beach - while it's being constructed. 4 When it's done it will be worthwhile, but there seems to be very little merit to the 405 project.

Claudia Harden
4132 Birchwood Ave
Seal Beach, Ca 90740

PC-H8

From: Betts2021@aol.com
Sent: Sunday, June 24, 2012 3:59 PM
To: Parsons, 405.dedcomments
Subject: 405 Improvement Project

After reading about the plans for "improving" the 405 I am adding my comment as follows: Option 2 - which proposes to add two new general purpose lanes will improve the bottleneck areas, not require toll charges, and not demolish and rebuild any overpasses is the ONLY sensible option. 1

Betts Harley
2021 Irvine Ave., Costa Mesa, Ca.

PC-H9

I-405 Improvement Project
Public Hearing

Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☒ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): LLOYD HARING
Organization:
Address (Optional): 16290 JIM ST. WESTMINSTER CA 92683
Phone Number: 714.842-7149
Email address: lrphjim@aol.com

Comments: Options 1 and 2 are REASONABLE. Option 3 is OUT OF THE QUESTION BECAUSE IT DID NOT WORK ON THE 91 FREEWAY. THE OBVIOUS MISSING OPTION THAT WOULD WORK BEST WOULD BE AN ADDITIONAL CARPOOL (NOT EXPRESS-TOLL LANE) LANE AND AN ADDITIONAL GP LANE IN EACH DIRECTION. 1

THE IDEA THAT ANYONE WOULD WANT TOLL LANES IS INSANE EXCEPT TO MONEY HUNGRY ASSHOLES!

(Space for comments continued on reverse)

PC-H10

I-405 Improvement Project
Public Hearing
Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☒ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Rebecca Haring
Organization:
Address (Optional): 16290 Jim St. Westminster, Ca 92683
Phone Number: 714-842-7149
Email address: lrphjim@aol.com

Comments: you need an option 4 - another carpool lane and another GP lane. Am against any toll lanes. Would go for either 1 or 2 but definately not 3 Why repeat mistakes like the 91 and the so called OrangeCrush that is still a mess

1

(Space for comments continued on reverse)

Caltrans

OCTA

PC-H11

From: Nicholas Harris [nghfoods@gmail.com]
Sent: Sunday, July 15, 2012 1:02 PM
To: Parsons, 405.dedcomments
Subject: 405 widening

Please leave the exising sound wall up: I believe in the following suggestions

o End the 405 Improvement Project at ValleyView Street and use the existing seven lanes of 405 between Valley View Streetand the LA County line in any manner desired for the optimum traffic flow.

o If either Alternatives 2 or 3 are chosen,end either one or both of the new lanes at Valley View so that they only haveto take away one or no lanes at the county line instead of 2 lanes.

o Use rubberized asphalt on the 405 betweenValley View and the LA County line to minimize noise

o With a center line movement, a 4 foot insideshoulder and 405 realignment, the Almond Avenue sound wall will not need to bemoved into SB College Park East.

o A4 foot inside shoulder on the south side of the freeway is acceptable, why noton the north side of the freeway? Thesoundwall would not need to be moved.

Thank You
Nick Harris

1

PC-H12

I-405 Improvement Project
Public Hearing
Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): RICHARD HARRISON	
Organization: Labor Local 652	
Address(Optional): 952 W 17th ST APT-D COSTA MESA CA 92627	
Phone Number: 415-686-2471	Email address:

Comments: WITH THE POPULATION GROWING THE FREEWAY NEEDS TO be IMPROVED TO HANDLE THE CROWDS IT TAKES WAY TO long TO GET AROUND I WAS BORN IN ORANGE COUNTY AND SEE THE PROBLEM 1

(Space for comments continued on reverse)

Caltrans OCTA

PC-H13

From: reem hashem [rjhashem@hotmail.com]
Sent: Sunday, July 15, 2012 9:12 PM
To: Parsons, 405.dedcomments
Subject: I-405 Improvements project

Hello,
I am glad to see this environmental document under way, for the traffic issues along this corridor must be dealt with. However, I see many flaws in this whole process and approach for widening the I-405:

- The DEIS does not take into consideration (as a final alternative) the need for mass transit as an integral part of the solution. Pouring concrete and charging toll are not long-term solutions. 1
- Charging toll pours right into the realm of the "haves" and the "have nots". 2
- Modeling after the SR-91 toll freeway is not completely valid as the toll lanes are not fully utilized throughout the day, leaving the congestion in the mainlanes unbearbale. 3
- This very discussion of expanding the freeway comes at a time when OCTA is championing the intermodal facility to be located in Anaheim (ARTIC). The ARTIC supports mass transit operations, bus and Metrolink rail, and eventually high speed rail. How can the officials at OCTA encourage the ARTIC and yet tell the public that mass transit is not an option on the I-405 ??? 4
- It is quite astonishing that OCTA would even think of going into further debt to build Alternative 3, at the very time that the state's and Cities' budgets are in shambels. Who will pick up the bill? our grandchildren? 5
- I believe that a better option than Alternative 3 would be to call those lanes in the center of the freeway "managed lanes" which can include: HOV, HOT, Park and Ride buses, and possibly train service such as a People Mover (monorail). This would make it much easier to stomach and it would make CA a pioneer in solving the transportation problem. 6

Finally:
- We should only build what we can afford today with today's money that we have in the bank. 7
- We need to expand mass transit (park and ride and passenger rail) through a sound masterplan that covers the entire state of CA. That's forward thinking. Regards, 8

PC-H14

From: Bill Haslett [bhaslett36@msn.com]
Sent: Friday, June 15, 2012 8:41 AM
To: Parsons, 405.dedcomments
Subject: I-405 "Improvement" project

Name: William Haslett
3590 Sunflower Circle
Seal Beach, CA 90740
562-799-6729
BHASLETT36@msn.com

I attended the session this past Tuesday June 12th at the Seal Beach Tennis Center hosted by our City planning organization. They requested that we provide comments in writing on the project.
All residents of College Park East are concerned over the significant impacts in the proposals as well as the egregious gaps in the environmental impact report.

1. What are the sound level impacts to the community? Increased traffic and the gridlock caused by the funnel effect of the project will raise sound levels in the residential areas. Today, the noise of the traffic is heard on Lampson Avenue. Therefore, we assume that sound levels and associated sound attenuation will propagate to Lampson as well. **1**
2. Will retrofits to windows and doors in the community be funded as a part of this effort as is done in areas close the airports when expansions occur? If not, why not?
3. There are new EPA regulations being brought out related to airborne particulates. Where is this being addressed? Was it covered in the EIR?
4. What are the expected health ramifications of the proposed changes? **2**
5. What will be done to minimize the particulate fallout in local households? The location being close to the ocean moderates the temperatures and as such people use the late afternoon ocean breezes to cool their homes. With this increased traffic, soot from the pollution will increase the dirt in our homes.
6. We understand that there is not planned change to the lanes from the LA County line North. This being the case, how does creating this funnel of traffic to the LA County line "Improve" traffic? **3**
7. With the daily Marine layer in the area, combined with the funnel effect and expected gridlock, does it not create an inversion layer that will exceed EPA mandated levels? With the on shore flow, all of these pollutants will be pushed into the College Park East neighborhood, having a significant carcinogenic effect.
8. Financing. Since this is funded with Measure M, based on sales taxes and the 2008 –2011 recession driving significant reductions in spend and therefore sales tax income, how have the funding projections been adjusted to accommodate? **4**
9. Local traffic within College Park East. Should OCTA decide to move the freeway wall, taking away 10 feet of Almond AVE., the residents will lose several thousand feet of parking space. Each week, there is street cleaning causing people to move their vehicles and park on Almond Ave. Has this impact been reviewed? Has anyone actually observed the traffic and parking patterns? **5**
10. Wall installation. I was told that the report does not provide construction sequencing information therefore we are unable to ascertain the real and true impacts. That is, since the wall would be torn down, the construction sequence becomes critical to local residents. it would be important that the new wall be constructed before the old wall is removed.

PC-H14 Continued

11. Animal impacts. Over the years, various creatures have come to use the area of the wall as a nesting area. Several times in the past decade we have had Turkey Vultures nesting in this area along the existing wall. How will this impact their habitat? **5 Cont.**

I look forward to your responses to these questions.
William Haslett

PC-H15

From: Jerry Hayes [jerandcarol@sbcglobal.net]
Sent: Tuesday, July 17, 2012 4:35 PM
To: Parsons, 405.dedcomments

Committee on #3 to widen 405:
Whey tear down the Fairview onramp to the 405? This project was done recently and will only add to the traffic cut through though Halecrest tract. Not a sensible plan for Costa Mesa!! **1**
Carol Hayes

PC-H16

From: Jen Hayter [jenhayter@ymail.com]
Sent: Sunday, July 15, 2012 2:10 PM
To: Parsons, 405.dedcomments
Subject: College Park Seal Beach wall issue

I have been a homeowner in College Park, Seal Beach, for the past 26 years. I am extremely upset over the movement of the Almond Ave. wall. I am upset over the lack of regard to residents of this area. There will be a loss of parking along Almond Ave. Where do cul-de-sac residents park on street sweeping day? Almond will become a sub standard street. Have you checked into the increase noise, air pollution and safety hazards this will cause College Park residents? Due to prevailing on-shore winds, there will be an increase noise and pollution. Why have the air quality impacts for this area not discussed in the EIR? Why did the EIR not study the greater health risks due to increased vehicle emissions? LA county has no plans to add additional lanes at the county line. How far south/west will the backup extend along both the 22 and 405 freeways. As a voter, tax payer, and resident I am asking for this project to be scraped. Jennifer Hayter 1

PC-H17

From: Heather [heathersillusions@yahoo.com]
Sent: Tuesday, July 03, 2012 4:01 PM
To: Parsons, 405.dedcomments
Subject: Alternative 3

I vote against Alternative 3 for the 1 405 Improvement Project. This suggested Plan is too expensive and ill conceived. 1

Thank You.

Sent from my iPad

PC-H18

From: phjoanhemphill6@gmail.com
Sent: Sunday, July 01, 2012 10:45 AM
To: Parsons, 405.dedcomments
Subject: Draft EIR comments

I am a resident of Leisure World. Leisure World has the Haynes power plant directly behind, the 405 running very close on the side opposite and the 22 west/605/405 interchange very, very close to our boundary on our north. The close proximity of these sources of pollution poses a threat to our health, and the noise they generate is a constant source of annoyance and disruption of our peace. Since last year and continuing into at least 2014, we are experiencing and will experience inconveniences associated with the improvements to the 22 and the 405 to connect the carpool lanes on those freeways and improve their juncture. Traffic is already very heavy on Seal Beach Boulevard and Westminster and will get much worse when the bridge over the 405/22 west is taken down and reconstructed. It is already difficult during certain times of the day to get out of Leisure World onto either of these major arteries, and I am anticipating long delays exiting and entering when the bridge work begins. 1

Because of the omnipresence of heavy traffic in my community--the constant, loud noise of the freeways and the pollution that the traffic brings--I oppose widening of the 405 in Seal Beach and Long Beach. Apart from my own dismay at the thought of more noise and more pollution, it is obvious to me that widening the freeway yet again will not solve our longterm transportation problems. And from my point of view, the ability of commuters to have a bit less congestion for a mile or so is not worth the permanently raised noise and pollution levels.

Patricia Joan Hemphill
13301 Fairfield Lane #183A
Seal Beach, California 90740

PC-H19

I-405 Improvement Project
Public Hearing
Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- [x] Monday, June 4, 2012 – Orange Coast Community College
- [ ] Thursday, June 7, 2012 – Rush Park Auditorium
- [ ] Wednesday, June 6, 2012 – Westminster Community Center
- [ ] Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Dave Henderson
Organization: None
Address(Optional):
Phone Number: 562) 697-3755
Email address: Davethn10@hotmail.com

Comments: Yes, make the freeway wider! The traffic is horrible. Very backed up. Bumper 2 bumper traffic 1

(Space for comments continued on reverse)

PC-H20

I-405 Improvement Project
Public Hearing
Comment Sheet

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- [x] Monday, June 4, 2012 – Orange Coast Community College
- [ ] Thursday, June 7, 2012 – Rush Park Auditorium
- [ ] Wednesday, June 6, 2012 – Westminster Community Center
- [ ] Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): NIDIA HENRIQUEZ
Organization:
Address(Optional):
Phone Number: (818)602-1253
Email address: yucaxyuc@hotmail.com

Comments: I hope the 405 Improvements go through because this freeway really needs it. It takes me such a long time to travel from work to home, and vice versa. 1

(Space for comments continued on reverse)

PC-H21

I-405 Improvement Project
Public Hearing

Comment Sheet

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- [x] Monday, June 4, 2012 – Orange Coast Community College
- [ ] Thursday, June 7, 2012 – Rush Park Auditorium
- [ ] Wednesday, June 6, 2012 – Westminster Community Center
- [ ] Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): JASON HERBERT	
Organization: Plumbers Local # 78	
Address(Optional): 30397 Big River Dr Rancho Santa Margarita, Ca. 92587	
Phone Number: (310) 334-9630	Email address: jherbert151@gmail.com

Comments: Awsome !!! 1

(Space for comments continued on reverse)

Caltrans

OCTA

PC-H22

From: Christian Herc [christianherc@yahoo.com]
Sent: Sunday, July 15, 2012 7:02 PM
To: Parsons, 405.dedcomments
Subject: OCTA I405 Improvement Project

Dear OCTA,

As a concerned resident of Rossmoor i find it very worrisome that in addition the lanes under construction at the 405/605/22 exchange currently, the county is looking to further expand traffic and thus pollution. I would request that OCTA conduct further air quality tests prior to engaging in such an expansion. Furthermore, there are numerous articles outlining the the inherent danger with freeway pollution. 1

Example: http://latimesblogs.latimes.com/greenspace/2011/04/freeway-air-pollution-brain-damage-mice.html

Thanks, Christian Herc

PC-H23

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Monday, June 4, 2012 – Orange Coast Community College
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- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Antonio Hernandez
Organization:
Address (Optional): 618 E. Mt Sunkden Ave Santa Ana
Phone Number:
Email address:

Comments: Traffic is increasing and only getting worse, this project would create jobs and revenue for city and county. It will also help our frustrated of the bridges and streets. 1

(Space for comments continued on reverse)

PC-H24

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Felipe Hernandez
Organization: Local 1052 Laborers
Address (Optional): 2601 W. Hall Av Santa Ana Calif
Phone Number: 714 436-5799
Email address:

Comments: Mucho trafico
Ebrl del
Agan lo-ese trabajo 1

(Space for comments continued on reverse)

PC-H24 Translation

Comment:

There is a lot of traffic every day, do this job. 1

PC-H25

I-405 Improvement Project
Public Hearing

Comment Sheet

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- ☐ Monday, June 4, 2012 – Orange Coast Community College
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- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Gerardo Hernandez
Organization:
Address(Optional): 2501 Olive Av. #7 Long Beach, CA 90806
Phone Number: (562) 826 1258
Email address:

Comments: Mucho trafico y mucho tiempo que pierden las personas para transportarse de un lugar a otro muchos accidentes por lo mismo que ai mucho trafico 1

(Space for comments continued on reverse)

PC-H25 Translation

Comment:

There is a lot of traffic and people waste a lot of time traveling from one place to another. There are a lot of accidents because there is a lot of traffic. 1

PC-H26

I-405 Improvement Project
Public Hearing

Comment Sheet

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- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Jose Luis Hernandez
Organization: Local 416
Address(Optional):
Phone Number: (323) 573-1034
Email address:

Comments: This will helpme to pay my
ret my bills etc.
not just me it will help everybody. 1

(Space for comments continued on reverse)

PC-H27

I-405 Improvement Project
Public Hearing
Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

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- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Ramiro Hernandez
Organization: Local 416
Address(Optional):
Phone Number: (323) 559-0898
Email address:

Comments: Save a lot of time. 1

(Space for comments continued on reverse)

PC-H28

I-405 Improvement Project
Public Hearing
Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

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- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Ray S. Hernandez
Organization: Cement Masons Local #500
Address(Optional): 1111 S. Jackson St. Santa Ana Ca. 92704
Phone Number: (714) 612-0819
Email address: Hernandez Ray55@yahoo.com

Comments: We need more Lanes for more cars. 1

(Space for comments continued on reverse)

PC-H29

From: Mary Herrera [MHH30@msn.com]
Sent: Monday, June 18, 2012 2:33 PM
To: Parsons, 405.dedcomments
Subject: College park East Seal Beach Ca Soundwall

Hello Smita Deshpande,

You do not know me and that is ok just hear me out. I have lived in College Park East, in Seal Beach CA for 27 Years. I grew up in Los Alamitos, but picked Seal Beach to purchase our home on Fern Cir. a cul-de-sac to raise our three kids. I am now raising my Grandchild here.
The freeway noise does not bother me that much I have learned to live with it, but I am very opposed to the moving of the sound wall closer to my home. It would mean the noise would be closer to my home, more pollution closer to my home, the sound wall closer to my home. This is not fair to our community here or my family. I purchased my home knowing the freeway was already there, but never to think you would expand our way!
Yes we have too many cars on the freeway, but that is not my fault and should not be punished for it! That is what I feel you are trying to do to us. Please find another solution to the freeway expansion, is it really necessary?

Who are you trying to please the drivers that use the freeway everyday that could careless about our homes? How would you feel if you lived in our Track, I would hope you would think like I do!!

Thank you for taking the time to read this, just hope you make the right decision!

Mary, Joe, Angelina, Joseph, Stone, Gavin, Natalie and Cash Herrera
3561 Fern Cir, Seal Beach, CA 90740
562-594-4196

1

PC-H30

From: Garry Herron [garryherron@roadrunner.com]
Sent: Thursday, June 14, 2012 4:00 PM
To: Parsons, 405.dedcomments
Subject: Our concerns about the upcoming I-405 widening project

To:

Smita Deshpande
Branch Chief - Caltrans District 12
"Attn: 405 DEIR / DEIS Comment Period"
2201 Dupont Drive
Suite 200, Irvine, CA 92612

From:

Garry and Kathleen Herron
4373 Elder Avenue
Seal Beach, CA 90740

We are homeowners and residents in the College Park East neighborhood of Seal Beach, and we have concerns about this proposed project that are not addressed to our satisfaction by the Draft EIR documents which we have reviewed. Our concerns are based on the fact that our neighborhood is immediately adjacent to the I-405/SR22 freeway, and therefore any increase in the size of that freeway will have immediate, long-term and lasting impacts on our living environment and quality of life.

More specifically, it appears to us that the Draft EIR Report has not thoroughly studied the adverse effects of several potential consequences that would come from this project, and so there seems to be no plan or intent to mitigate these negative consequences. These consequences include such things as:

- Increased traffic noise.
- Increased air pollution due to the increase in traffic.
- Narrowing of Almond Avenue, a neighborhood street that parallels, and is immediately adjacent to, the freeway.
- Increased congestion on Seal Beach Blvd. and Lampson Ave.

The resulting negative effects could have a significant adverse impact on our living environment and quality of life.

We would appreciate a response acknowledging and addressing our concerns.

Thank you.

Sincerely,

Garry and Kathleen Herron

1

PC-H31

Smita Deshpande, Branch Chief,
Caltrans-District 12, "Attn: 405 DEIR-DEIS Comment Period"
2201 Dupont Drive, Suite 200
Irvine, CA, 92612

Subject: State Route 405 (I-405; San Diego Freeway) between SR-73 and I-605 and Draft EIR/EIS

I am concerned about the impacts the State Route 405 improvement project will have on our community. I am especially concerned about Alternative 3 which will widen the San Diego Freeway in the City of Costa Mesa and convert an existing car pool lane to a toll lane.

Alternative 3 would require that the Fairview/I 405 interchange be demolished and rebuilt, even though it was just rebuilt three years ago. Residences and public parks near the I- 405 will be adversely affected both during construction and upon completion of the project. Problems include air pollution, noise, and degradation of the visual quality of our neighborhoods. Ramp closures at Harbor, Fairview, and South Coast will not only inconvenience residents, but impair access to the many businesses which contribute to our local and regional economy. 1

In addition,

Please include these comments in the public/administrative record for this project and the project EIR/EIS. Thank you for the opportunity to comment.

Yours truly,

Diane Nil
(Name)

1288 Londonderry St Costa Mesa 92626
(Address) (City)

_____ Please keep me informed about future hearings and future steps in the review process for the I- 405 project.

PC-H32

From: Richard Hilliker [rwhilliker@hotmail.com]
Sent: Monday, July 16, 2012 10:02 PM
To: Parsons, 405.dedcomments; Richard Hilliker
Subject: 405 extension question

Hi,

Can you please tell me why the pylons are being installed on the shoulder of the transition road from the North 405 to North 605? I did not see them on the plans and it appears a ramp is going up. I live right behind it on Martha Ann. 1

Thank you,

Richard Hilliker

PC-H33

From: Michael Hoag [villageat@cox.net]
Sent: Tuesday, July 17, 2012 11:44 AM
To: Parsons, 405.dedcomments
Subject: I-405

We all know and understand that auto centric infrastructure is not sustainable.
Pick oil, pollution, consumer expense.
The awful truth is car manufactures can make cars faster then we can increase road capacity.
A 101 course in transport / mobility planning makes it clear that making bigger roads generates more car trips. 1

PC-H34

July 1, 2012

OCTA Board Member
550 S.Main St
PO BOX 14184 Orange CA 92863 TEL: (714) 560 6282

Dear Mr. Gregory T. Winterbottom
Vice Chairman, Public member

I am a resident of the City of Seal Beach College Park East Community. I am asking you to vote for Alternative 1 for the I-405 Freeway Improvement project. This alternative will have the most limited community and environmental impacts compared to any other alternative. The community believes this alternative is the most best choice because:

1. Alternative 1 does not encroach 10 feet into Almond Avenue which has an existing soundwall that protects the community. If this wall is torn down and a new wall is built for widening the I-405, it will make Almond a one way street. In case you were not aware, Almond Street is a dedicated Tsunami escape route and the only community access route out from the College Park Community. Almond Street needs to be wide and two way configuration is needed in order to serve as an escape route due to floods and/or Tsunamis.

2. Alternative 1 also impacts to existing parks will at Astor Street and at Orleander Street. Like many of parks in our community, children play and senior citizens walk along Almond Street every day. Mothers and their children walk use these parks every day. An alternative that encroaches into our community will create expose families and children to more vehicle exhaust which causes respiratory problems, lung disease and/or lung cancer. The closer the freeway is closer to our community, the more exposed to vehicle exhaust and harmful toxics.

3. Funding is only available for Alternative 1.
Alternative 2 has a funding gap which will require OCTA to issue bonds and take more of the County's tax dollars. The community and residents do not favor this irresponsible tax-waste scenario.

1

Sincerely,

Frank S. Hogodi
4517 Guava Ave
Seal Beach, CA. 90740

PC-H35

From: mbh@presstimeprinters.com
Sent: Saturday, June 23, 2012 1:11 PM
To: Parsons, 405.dedcomments
Cc: Randy Holbrook; mholbrook@pldlawyers.com; Frances Gabler; shelley@presstimeprinters.com
Subject: 405 Project

To Whom it May Concern:

I am writing in regards to the 405 expansion project to express my **support for Proposal #3 with the express lanes.**

I use the 405 daily to commute between Los Alamitos and Costa Mesa. In my opinion, Proposal #3 is the proposal that is most likely to significantly shorten my daily commute time. In addition to adding the general purpose lanes contemplated by proposal #1, proposal #3 will also make better use of an existing, but underutilized carpool lane, while adding a second toll lane and help fund itself through the tolls collected--features lacking in both alternative proposals.

Traditional carpool lanes are a joke--based on my own experience and observations, it is clear that most people using the carpool lanes are either (i) parents driving their children around or (ii) company trucks transporting crews of people. In the vast majority of cases it doesn't appear that the carpool lane has actually served to remove any meaningful number of cars from the road; it appears that the cars in the carpool lane would have had the same number of occupants whether or not the carpool lane even existed.

By turning the existing carpool lane into a dual purpose carpool/toll lane, the existing lane should serve a greater number of people than it currently does. Additionally, the two toll lanes will, over time, help to pay the costs of the project and any associated maintenance costs. Proposals #1 and #2 will do neither.

For the foregoing reasons, I believe that Proposal #3 will be the most beneficial to all Orange County residents and should be selected.

1

Matthew B. Holbrook
12432 Rainier Cir.
Los Alamitos, CA 90720
(714) 342-1276

PC-H36

From: Deborah Holzhauer [nursedeborah@gmail.com]
Sent: Monday, July 16, 2012 11:55 PM
To: Parsons, 405.dedcomments
Subject: Personal Comment Re: 405 Improvement

I think it is very important for both Los Angeles and Orange counties to work together on the 405 improvement project.
It would be ridiculous to improve the 405 without following through on traffic mitigation into Orange County. It would lead
to a disastrous bottleneck resulting in gridlock. If you are going to do the job, please do it right. Don't skimp on quality and
common sense due to politics. This is a crucial improvement project that must be done right the first time to avoid wasting
taxpayer's money and causing prolonged public inconvenience. 1

Please think about the obvious trends with the car pool lanes and HOV lanes. If you add more lanes to accommodate only those
vehicles and they too become overcrowded, It will ultimately become a moot point. 2

I think widening the 405 is necessary but if it means there are significant problems with land acquisition resulting in eminent
domain issues, I would encourage you to strongly consider building a double-decker freeway like San Francisco uses. 3

Thank you for allowing me to submit my opinions and recommendations.

PC-H37

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): MATTHEW Hough
Organization: Local 416
Address(Optional):
Phone Number: (909)809-7412
Email address: Matthewhough@AOL.com

Comments: This project will not only help meet the demand for less traffic jams and safer highways. It will personally benefit my life as a commuter and a father. 1

(Space for comments continued on reverse)

PC-H38

I-405 Improvement Project
Public Hearing
Comment Sheet

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- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Antonio A. Huerta	
Organization:	
Address(Optional): 818 42 Vine Av.	
Phone Number: 714-418-3653	Email address:

Comments: We need to start work on the Freeways. 1

(Space for comments continued on reverse)

PC-H39

From: Maria Huang [maria_david168@yahoo.com]
Sent: Tuesday, June 19, 2012 9:34 AM
To: Parsons, 405.dedcomments
Subject: Leave our Wall Alone (at College Park East)

We are the residents at College Park East, we urge you to please leave our sound wall alone when you expand the 405 Freeway. The reasons are:

1. There will still be a bottle neck at the 605 freeway even if you expand 10 ft for 405 freeway, because LA County is **not** expanding the 405 freeway on their side of the county line.

2. The residents at College Park East will have increased noise and pollution and other health problems.

3. Our property value at College Park East will likely to go down.

4. By taking 10 ft off Almond Street to expand 405 freeway, our Almond street will be narrower and become unsafe for our kids, runners, bikers, walkers... 1

Sincerely,

Maria & David Huang
4733 Dogwood Ave.
Seal Beach, CA 90740

PC-H40

18 June 2012

Orange County Transportation Authority
Caltrans
Seal Beach City Council
Assemblyman Tom Harmon

Gentlemen:

We live in College Park East in Seal Beach, CA. We have lived here since 1981 and enjoy the small community very much.

We recently attended a meeting called by the Seal Beach city council to inform us of the Cal Trans plans for widening the 405 Freeway which runs along our track. Appaently the city council only expected a few residents to attend and were surprised that so many residents showed up with their comments and/or unhappiness on the plans. We were told there are three plans which are being considered. I believe most of residents' first choice would be a "no build" for the freeway which is none of the three plans for a variety of reasons. As it is now we must endure lots of noise from the freeway, especially when heavy trucks go by shaking our houses. There is also the pollution caused by the many vehicles going through this interchange of the 405, 605, and the 22 freeways. We understand it is one of the busiest interchanges and also have a record number of accidents. One item of major concern for our residents is the possibility of demolishing of the current sound wall. We were told the freeway would impinge into our track by removal of the parking lane in order to make space for the freeway. We totally object to this. 1

In addition, we were told was that this project is paid for by Orange County and only goes up to the county line. Los Angeles county has no plans to add additioal lanes to the freeeway which means there will be a great backup right at the Orange County line. It does not make much sense to widen the freeway and then to suddenly be back at square one with a narrower freeway. How does that help the congestion at the county line? 2

We were informed at least two other cities also object to the plans presented. We would believe other cities would also object for the same reasons that we have stated.

We feel that the least objectionable plan would be to add one lane in each direction of the freeway and not to demolish the sound wall and leave it as is. 3

We look forward to your recognizing our objecttions to your plans and seriously consider the residents" point of view to not remove the present sound wall nor take away the parking lane as it is.

Thank you for your attention.

Mr & Mrs Arthur Huey

Mr & Mrs. Arthur Huey
3520 Heather Circle
Seal Beach, CA 90740

PC-H41

From: Debbie Hults [debbiehults@gmail.com]
Sent: Monday, July 16, 2012 5:33 PM
To: Parsons, 405.dedcomments
Subject: comments on I-405 improvement project

Dear Parsons Group:

As a commuter and a Costa Mesa resident I understand the traffic problem on the I-405. Adding general purpose lanes in each direction starting at Euclid would help this problem, as outlined in option 1 and 2.

Just three years ago we endured the widening of Fairview, the demolition and rebuilding of the Fairview Bridge. The construction noise, pollution and extra traffic during the day was unbearable. Most nights, crews would work, dropping off and assembling heavy equipment and large pile drivers directly behind our home. Large lights were used. Needless to say, the noise was loud and constant. My family's sleep was interrupted for the entire 19 months of the project.

We were unable to open our windows because of the additional pollution caused by the construction. Down stairs was miserable. We were unable to use the upstairs rooms because of the extreme temperature (over 100 degrees at times) caused by closed windows. 1

Paularino Elementary was also affected by the noise and pollution. Each classroom does not have air conditioning to help filter out the added pollution from construction.
The children need to be outside for recess, lunch and PE,
however, with the added environmental pollution, their health will be compromised.

If option 3 is chosen, the residents of Costa Mesa not only have to endure the long construction, yet again, for a toll lane we are unable to use, we have to help pay for it. The 7 million, 3 year old, Fairview Bridge will have to be demolished and re-built. This is abusive and a waste of money. At a time when many families are struggling to survive this economy, tearing down a new, 7 million dollar bridge, and asking us to pay for a new one to be built, is a bad idea, and makes government look inefficient, arrogant and wasteful.

When Orange County voters passed M2, a toll road was not mentioned. I do not believe the voters of Orange County intended the ½ percent sales tax increase to be used for an additional lane on the I-405 with a toll to pay. We are already paying for the freeways and roads through the sales tax increase and the gas tax. 2

I would also like to add, if a toll lane is added on the I-405 in Orange County, and ends at the I-605, it will cause a bottle neck at the north county line. The ultimate goal of alleviate traffic congestion on the I-405 will not be achieve and the funds from measure M will be wasted. 3

Please feel free to contact me with any questions via email: debbiehults@gmail.com

Sincerely,

Debbie Hults
Costa Mesa Resident

PC-H42

Smita Deshpande, Branch Chief,
Caltrans-District 12, "Attn: 405 DEIR-DEIS Comment Period"
2201 Dupont Drive, Suite 200
Irvine, CA, 92612

Subject: State Route 405 (I-405; San Diego Freeway) between SR-73 and I-605 and Draft EIR/EIS

I am concerned about the impacts the State Route 405 improvement project will have on our community. I am especially concerned about Alternative 3 which will widen the San Diego Freeway in the City of Costa Mesa and convert an existing car pool lane to a toll lane.

Alternative 3 would require that the Fairview/I 405 interchange be demolished and rebuilt, even though it was just rebuilt three years ago. Residences and public parks near the I- 405 will be adversely affected both during construction and upon completion of the project. Problems include air pollution, noise, and degradation of the visual quality of our neighborhoods. Ramp closures at Harbor, Fairview, and South Coast will not only inconvenience residents, but impair access to the many businesses which contribute to our local and regional economy. 1

In addition,

Please include these comments in the public/administrative record for this project and the project EIR/EIS. Thank you for the opportunity to comment.

Yours truly,

Debra Hults
(Name)

3137 Boston Way Costa Mesa CA 92626
(Address) (City)

_____ Please keep me informed about future hearings and future steps in the review process for the I- 405 project.

PC-H43

OCTA and CALTRANS

Re: I 405 Improvement Project EIR

Sirs:

I find that your EIR for the above I 405 Improvement project (project) is flawed and minimizes the negative impacts on the environment and populace adjacent to the project.

1. You fail to note any negative impact to any property adjacent/abutting the proposed project as long as the project does not encroach physically upon that adjacent property (i.e. all finished project stays within the existing freeway right of way). 1
2. Your EIR fails to note any visual quality or character degradation (EIR Ch.3, section 3.1.7 pg28) due to the sound wall (SW 649) and required retention wall moving to 16 feet from the housing structures, and only acknowledges potential light spill from the Ellis SB on-ramp as an easily mitigated impact. 2
3. Your EIR fails to note any noise impact to Moon Park caused by no sound wall along the portion over the Santa Ana River and the potential reflection of increased noise reflecting off the concrete surface of the Santa Ana River Project. 3
4. Your EIR fails to note any tunneling effect of the Easterly blowing breezes caused by the reconfiguration of the sound wall (after completion of the movement of the sound wall) and the distribution of airborne trash and material trapped by the new design. 4
5. Your description of movement of sound walls does not address any impacts the construction will have on the immediately adjacent properties in privacy, noise, vibrations, particulate and volatile emissions.
6. You EIR does not address potential air born material/dust on the air quality at the schools/parks within ½ mile of the project during construction. While it lists them off as potential sensitive sites, there is no further reference to them in Chapter 3.2.6 Air Quality. 5
7. Your EIR does not address potential heat re-radiation effects on housing when sound walls are moved closer to existing housing, especially in areas where the air flow will be reduced due to the reduced cross sectional area to allow free air flow caused by the movement of the sound wall/retention wall. 6
8. Your EIR fails to address any economic impact to the properties where the change in the road bed does not leave the right of way but extends significantly closer to the adjoining properties, often to the very edge of the ROW. 7

Of most concern is the residential area south of the Santa Ana River to Harbor Blvd. In all three of your options you have included the planned SB onramp for Ellis Ave. It is configured to cross the Santa Ana River and add an additional width of road bed to the West Side of the I405 to accommodate the new SB onramp, thereby moving sound wall 649 closer to the properties immediately adjacent to that on ramp to the west. This would also necessitate the addition of a retaining wall as the ROW slopes away toward the adjacent properties. This affects a Costa Mesa City Park, the Santa Ana River Bike trail and numerous homes on Nevada St., Wyoming Circle and Maryland Circle in Costa Mesa. 8

PC-H43 Continued

I can find no study that demonstrates that the only effective configuration for this additional SB on-ramp is as designed. While there may be limitations to other alternatives to this new SB on-ramp, they do not appear in the EIR as rejected considerations. 8

The existing SB on-ramp is a two lane on-ramp with peak hour timing lights. These are set to allow 1 vehicle per lane to enter the freeway at peak times. Simply by changing the timing to allow 2 vehicles to enter per lane sequentially (lane 1 then lane 2 then lane 1 then lane 2) there would be a reduction in vehicles standing in the on-ramp. Also if additional storage lanes were added to the on-ramp as presently configured, most of traffic accessing the on-ramp from Ellis would be able to be stored and then released to the freeway in a timely manner to improve the LOS of the left turn lane to access the on-ramp. 9

If, as your document implies, the freeway access would be more efficient at both Brookhurst St. and Magnolia St., they would now draw some portion of the traffic away from Ellis as an alternate and further reduce the demand at Ellis. No appreciable increase in housing either by density increases or conversion of commercial to residential or increase in commercial use is in any plans associated with the area that generates the base traffic on Ellis, so there should be no substantial traffic growth and therefore overall traffic pressure in that area would be net reduced once the freeway improvements are completed. 10

I note that you are able to design and construct the planned SB Ellis on-ramp in such a manner to preserve the entrance to the Sanitation District directly across from the existing Ellis on-ramp. A redesign of the existing Ellis SB on-ramp would achieve the same results in preserving the Sanitation District entry. Also the properties affected by a redesign would not be residential properties either. Of course, a redesign of the current on-ramp would be cheaper and not negatively affect the properties in Costa Mesa. Should the decision to keep the current planned SB on-ramp at Ellis then the potential impacts must be addressed. 11

1. How long will the actual construction of the Ellis SB on ramp and moving of the existing sound wall take, especially that part that is south of the Santa Ana River?
2. What times will construction be done? Since the construction is a noisy and dusty process, will it be done at times when most families are home and trying to enjoy their homes, i.e. after work/school? Is CalTrans willing to only do construction during those times that are the least disruptive to the abutting properties inhabitants? 12
3. What landscaping options will be used to mitigate the visual and heat issues of the new massive (25ft. tall structure) within 15 feet of the home itself? Will the affected property owners have any say in the selection? How will that landscape material be maintained to maximize its life and growth? 13
4. What additional heat mitigation measures will be used should the reradiating of heat from the new sound wall/retaining wall become excessive and not mitigated by landscaping options? 14
5. After the move of the sound wall/retaining wall, how will remaining property still in the ROW be maintained? Who should be contacted to address funnel effect of blowing trash that collects between the new sound wall/Retaining wall and the existing abutting 15

PC-H43 Continued

properties? What assurances are CalTrans and OCTA willing to make (re timely removal of said trash)?
6. Due to no sound wall on the on-ramp as it crosses both the Santa Ana River and a portion of Moon Park, what sound mitigations will be in place to assure continued enjoyed use of Moon Park? 16
7. Will there still be a remaining slope to the few feet remaining between the sound wall/retaining wall and the property wall or will it be flat and consistent with the abutting property? 17
8. Since the new retaining wall will require a relatively large footer or piles, that will be constructed in very close proximity to homes, what mitigation measures will be used to:
   a. Reduce impact on the residents of the noise, dust, vibrations, etc.
   b. Mitigate damage from vibrations on the construction of those structures and all other structures
   c. Address health issues driven by the increased incidence of air pollutant materials including dust, volatile materials, and diesel emissions in such close proximity and concentration due to the trapping of those materials between the very near houses and the construction activity. 18
9. What measures will be used to provide security to the adjacent properties from the construction area when no construction is in progress, and the construction site is empty?
10. What measures will be used to visually screen the property (privacy issues) during the removal and reconstruction process?
11. What monetary relieve will be provided to adjoining property owners for subsequent loss of property values due to the visual impact of the moving of the sound wall/retaining wall? 19
12. Will any temporary relocation of affected families be used to minimize disturbance in sleep and other unplanned disturbances be used? 20
13. Will any structures built be either on the surface or subsurface on the abutting properties (i.e. out of the existing ROW but subsurface in the adjoining properties? If so, how will that be handled? 21

Since one option is going to be chosen, I am totally against option 3 (toll way addition) for the following reasons:

1. The toll way will provide Costa Mesans no benefit since all access to the toll way is inconvenient to any part of Costa Mesa except that part that routinely uses the 73 NB access to the 405.
2. The toll way will only support individuals who can afford toll use in their daily travels
3. Most importantly, the toll way will eliminate existing HOV lanes that encourage non toll paying vehicle users to have multiple passengers and removes a significant impact to reducing the overall vehicle count on the freeways, this being done in the highest density area of Orange County, not to mention lower ability to pay tolls when compared to those potential users from south of the proposed toll addition and areas of greater affluence. Even though the toll way will have a number of vehicles with multiple passengers and encourages a minimum of three passengers per vehicle (not tolled at non-peak hours) 22

PC-H43 Continued

the number of 2 person car pools will be reduced and when tolls are applied to 3 passenger cars, the number will be further reduced. No on voted to add a lane and remove free HOV lanes. 22

Option 1 makes no financial sense since both 1 and 2 require the same bridge demolition and rebuild. The small difference in cost makes Option 2 the only sensible choice. 23

Thank you for the opportunity to respond

John V. Humphrey
714-751-6552
1620 Sandalwood St.
Costa Mesa, CA 92626

PC-H44

From: Lisa3541 [lisa3541@aol.com]
Sent: Saturday, June 23, 2012 7:06 AM
To: Parsons, 405.dedcomments
Subject: College Park East/Seal Beach Sound Wall -

TO:	FROM:
Smita Deshpande	Terry and Lisa Humphrey
Caltrans District 12	3541 Rose Circle
2201 Dupont Dr, Suite 200	Seal Beach, CA 90740
Irvine, CA 92612	

Bringing Down The Wall –

First of all, let me identify who I am and where I live. My name is Lisa Humphrey. I am 52 and my husband is 60 years old; we have lived in our home since 1987. We live in one of the homes on the corner of Rose Circle and Almond Ave, closest to the 'wall' separating us from the 405 freeway. I have 2 children; both of which have lived in this home their entire lives.

We were fully aware that there would be noise and pollution coming over the wall when we purchased our home, but it was our first home purchase after marrying in September of 1986, and we believed this home to be our 'starter' home. Over the years lanes on the freeway were added and eucalyptus trees were removed. The pollution and noise has already increased since 1987.

10 + years ago we were notified that CALTRANS/OCTA wanted to buy our home, along with 5 or 6 others, to make way for this very expansion. That plan was aborted and we decided to stay in our home, and to remodel. We added extra insulation to the walls and installed double pane windows. We've added our own trees along our wall, and had a waterfall added to our existing pool. All of this was intended to elliminate some of the pollution and noise.

Fast forward, 2012 – Here we are again discussing the removal of the infamous wall and expansion to the 405. Why? Because some genius has predicted that by the year 2030 or 2040, depending on which EIR you read, our stretch of the 405 freeway will not be able to accommodate all the commuters. Has this 'think tank' taken into consideration that statistically more employers are allowing, and in some cases suggesting that employees work from their homes? It saves the employer from leasing large office space, coupled with saving time employees are wasting on the freeways. Not to mention it's almost become cost prohibitive to commute into offices due to rising gas prices. How about the downturn in home building, thus a cap on our population; or the unemployment rate; some have nowhere to go? Who's to say that there wouldn't be a downturn in 'commuter' traffic? Who really knows what 2030/2040 brings?? Many of those living in College Park East are well into their retirement years. They'll be forced to live with the disturbance and not even be able to attest that this was a project was worth the aggravation! 1

There are 2 additional factors here; One being the state of our national economy and the depressed home market. ALL of us have less equity in our homes today– ALL of us...even those who live on 'prime real estate'. 2

PC-H44 Continued

Add this proposed construction and we in our neighborhood are really stuck! We won't be able to sell our homes to remove ourselves from this project, not even at a bargain basement price! Who in their right mind would purchase a home without a wall during construction even if the intention is to build a shorter wall 10' closer??

So while you're contemplating which is a better scenario for the masses, also consider what is happening to us.

- Loss of property value
  Many of us have lived in this neighborhood for many years and have accumulated equity and/or paid off their homes ensuring the ability to someday retire. Some bought a few years back during the height of the housing market and are upside down with no option to sell, but to walk. Either way, with everything that is going on in our country and the diminishing home values, it's hard enough to recoup our properties value. With this looming project we wouldn't be able to even contemplate selling our homes and moving away from this project without taking a bath. Selling our homes at a loss at this point would not only affect us, but we'd be taking our neighbors down with us! The comps in the area would diminish even further! I understand that Alternative 3, adding toll lanes, will be a revenue stream for you. Will those of us affected by the project be receiving compensation to offset the loss of OUR revenue stream? In addition, who should I send my bill to for the actual damage that has been caused by this project thus far? Since construction has begun the stucco on my home has begun to crack! **2**
- Noise
  We knew when we bought this home that the freeway was there and that the wall didn't block all of the noise, but the late night noise from the construction of this project is only the beginning of the long term noise we can all expect by accommodating even more cars to travel at maximum speed. I actually look forward to rush hour traffic; it's the only time we are able to enjoy being in our backyard without practically yelling at one another to be heard. We have invested thousands of dollars attempting to 'muffle' the noise, i.e., planted additional trees, built a waterfall feature into our pool, wired outdoor speakers..You are still able to hear the freeway, but at least now there is ***additional*** noise to focus on. **3**
- Pollution
  I would venture to say that most of us have grown accustomed to dusting, vacuuming, changing out our air filters and cleaning our pool filters more frequently than the average person. I cannot even imagine how much more dirt and exhaust we'd be exposed to with the wall down, closer and lower than it is now. There has to be someone studying the health risk this imposes! We are ALL inhaling proven carcinogenic materials everyday!! How many in our neighborhood have lost their jobs which in turn mean that they have lost their health insurance, not to mention the retired that have subpar health insurance. Who in your department should we send our medical bills to?? **4**
- Lack of parking along Almond Ave.
  Those of us living on one of the 'Circles' need Almond for the overflow cars on our street. And what would you suggest we do on 'street sweeping day'? Should the city wave the parking tickets we'd traditionally receive? Or should we make sure that we're available that day to drive around until the street sweeper has passed? **5**
- Lastly, IT WON'T SOLVE THE TRAFFIC ISSUE!!! There will be a bottle neck at the 605/LA county line. I understand that LA County has found other ways to spend their money and keep city workers and sub-contractors employed?? **6**

The Navy owns the property on the southbound lanes of the 405. It would make much more sense if you were to infringe on their 'farmland'. But, I understand they told you 'NO', you couldn't have that land; and you said 'OK'. Well, I say 'NO' to taking down that wall and moving it closer to my home! **7**

PC-H45

From: Nancy Hunsaker [mailto:nlh02@yahoo.com]
Sent: Thursday, June 07, 2012 11:20 AM
To: Christina Byrne
Subject: 405 freeway expansion 605 to 73

Dear Ms. Byrne,

It makes no sense to expand this freeway project with alternative 3. Alternative 2 seems the best option as it would expand the lanes on each side by two lanes.

The 405 freeway, when very busy, slows/stops going North at the Santa Ana River. It was approximately four years ago that the Fairview bridge was reconstructed and to tear this bridge down is a waste of money and will interfere with City life in Costa Mesa AGAIN!! **1**

With all the construction within our city limits, the toll lanes would be very inconvenient to Costa Mesa residents since there are no exits or entrances within our city limits. How ridiculous is that for Costa Mesa....

There is no limit as to the cost of the toll roads years from now. We would not only be inconvenienced but would be paying for the 'pleasure' of driving a distance to get on the toll road and then paying for it without limit as to what the cost would be over a period of time.

Please leave us alone in Costa Mesa.

Nancy Hunsaker
3160 Killybrooke Lane
Costa Mesa, CA 92626

PC-H46

From: Nancy Hunsaker [mailto:nlh02@yahoo.com]
Sent: Monday, July 16, 2012 8:36 PM
Subject: I-405 expansion 405 (at 605) to 73 freeway

To Whom It May Concern:

Costa Mesa does not need to be inconvenienced with the expansion #3 as this work was completed a few years ago. We do not need the freeway to come closer to the homes that are nearby which will cause more pollution and noise. Without an exit in Costa Mesa for the carpool/toll road, the whole thing is such an unnecessary and costly expense for the City. A toll road makes no sense either. **1**

Please remove expansion #3 from the agenda.

Nancy Hunsaker
3160 Killybrooke Lane
Costa Mesa, CA 92626

PC-H47

Smita Deshpande, Branch Chief,
Caltrans-District 12, "Attn: 405 DEIR-DEIS Comment Period"
2201 Dupont Drive, Suite 200
Irvine, CA, 92612

Subject: State Route 405 (I-405; San Diego Freeway) between SR-73 and I-605 and Draft EIR/EIS

I am concerned about the impacts the State Route 405 improvement project will have on our community. I am especially concerned about Alternative 3 which will widen the San Diego Freeway in the City of Costa Mesa and convert an existing car pool lane to a toll lane.

Alternative 3 would require that the Fairview/I 405 interchange be demolished and rebuilt, even though it was just rebuilt three years ago. Residences and public parks near the I- 405 will be adversely affected both during construction and upon completion of the project. Problems include air pollution, noise, and degradation of the visual quality of our neighborhoods. Ramp closures at Harbor, Fairview, and South Coast will not only inconvenience residents, but impair access to the many businesses which contribute to our local and regional economy. 1

In addition,

Please include these comments in the public/administrative record for this project and the project EIR/EIS. Thank you for the opportunity to comment.

Yours truly,

GENE HUTCHINS
(Name)

1808 KINGLET COURT, COSTA MESA, CA 92626
(Address) (City)

✓ Please keep me informed about future hearings and future steps in the review process for the I- 405 project.

PC-H48

I-405 Improvement Project

Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (EIR/EIS). Comments must be received by Caltrans no later than July 17, 2012.

Name (First and Last): KIM-YEN HUYNH	
Organization: Asian American Business Women Association AABWA	
Address (Optional):	
Phone Number: 714.642.0072	Email address: KimYenAabwa@gmail.com

Comments: It was very informative for us to attend the Hearing on June 6 at City of Westminster. The I-405 Improvement Project was broadcast to AABWA members and the community via telecast as talk show with TED Nguyen - OCTA on Channel 57.8 Global TV. Special thanks to Belete Demissie for his due dillenge outreach to the communities for all of the information of the project. 1

(Space for comments continued on reverse)

PC-H49

From: Mickey Huynh [mickey.huynh@panasonic.aero]
Sent: Wednesday, June 20, 2012 2:13 PM
To: Parsons, 405.dedcomments
Subject: 405 North bound

Hello Smita,

I just read an article about Costa Mesa 405 freeway with several options such as expanding 1 lane in north bound, 1 lane in both sides and close Fairview, Euclid & Brookhurst for toll road. Being resident in Fountain Valley for almost 10 years and now in Costa Mesa, I have been observing and experiment myself the caused of congestion and only in North bound section between Euclid Ave and Beach Blvd. I, noticed that north bound lanes are being narrower at Brookhurst and also obstructing by Brookhurst bridge poles which caused me alert and slowing down my speed. I also noticed that there are many cars end their 2:30 P.M. work shift merging into the freeway this also alerts me to slow down to prevent from accident, and of course there is also caused of direct sun light from west direction during evening hours too. I don't really know if CalTrans have been studying about 405N bound congestion or not, but I would be very happy to know this issue have been acknowledge and researched by CalTrans and I would love to have a copy of survey or report regarding to this 405N congestion. 1

Best regards,

Mickey Huynh

RESPONSE TO PUBLIC COMMENTS (PC)-H

Response to Comment Letter PC-H1

Comment PC-H1-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternative 3 would require reconstruction of the Harbor Boulevard/I-405 interchange. Caltrans/OCTA have considered a design option for Alternative 3 that would eliminate new lanes south of Euclid Street, except for the extension of the southbound auxiliary lane approaching the Harbor Boulevard exit ramp north to Euclid Street. If Alternative 3 is selected as the Preferred Alternative and the design option is implemented, reconstruction of the Harbor Boulevard/I-405 interchange would no longer be required. Please also see Common Response – Preferred Alternative Identification and Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes.

Comment PC-H1-2

Please see Response to Comment PC-H1-1.

Response to Comment Letter PC-H2

Comment PC-H2-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Response to Comment PC-H1-1.

Response to Comment Letter PC-H3

Comment PC-H3-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Alternative 1 would avoid the Almond Avenue soundwall, and Alternatives 2 and 3 would require relocation of the soundwall up to 10 and 3 ft to the north, respectively. Alternatives 2 and 3 would also likely include parking restrictions along Almond Avenue to maintain the City street standards for two-way travel. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Responses – Preferred Alternative Identification and Almond Avenue Soundwall.

Comment PC-H3-2

If Alternative 2 or Alternative 3 without the design option discussed in Response to Comment PC-H3-1 is selected as the Preferred Alternative, the wall would be reconstructed at 18 ft (same as the existing wall) at the new location. The proposed soundwall locations for Alternatives 2 and 3 are shown in the Draft EIR/EIS Appendix N (N4 and N5) in Figures 21 through 23. The new soundwall would be constructed of masonry brick, the same as other soundwalls within the corridor.

Comment PC-H3-3

There are no build alternatives that require an additional carpool lane within the I-405/SR-22 Connectors or any part of the WCC Project. There is only a transitional area for the managed lanes.

Please see Common Response – Preferred Alternative Identification.

Comment PC-H3-4

The I-405 Improvement Project may have an effect on property values, but it is not likely to be a major change because I-405 is an existing facility within Orange County. In addition, Caltrans has found no literature, studies, or evidence that property values decrease because of freeway widening near a home. Please see Common Response – Property Values.

Response to Comment Letter PC-H4

Comment PC-H4-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

See Response to Comment PC-H3-1 and Common Responses – Preferred Alternative Identification and Almond Avenue Soundwall.

Comment PC-H4-2

As discussed in Section 3.1.1.4 of the Draft EIR/EIS, none of the build alternatives would affect Shapell Park or Bluebell Parks, located near Oleander Street and Aster Street, respectively. As discussed in Section 3.2.6 of the Draft EIR/EIS, the build alternatives would not have any substantial effects on air quality within the project area. Please see Common Responses – Almond Avenue Soundwall, Air Quality, and Health Risks.

Comment PC-H4-3

Alternative 1 is fully funded from Measure M2. Alternative 3 is fully funded from a combination of Measure M2 and bonds against anticipated toll revenue. At this time, Alternative 2 is currently the only alternative that is not considered fully funded. If Alternative 2 is selected as the Preferred Alternative, Caltrans/OCTA will seek additional federal, State, and local funding sources to make up the shortfall. The project is considered a Major Project by FHWA, and a Draft Financial Plan must be submitted to FHWA prior to approval of the Final EIR/EIS. The Draft Financial Plan must identify full funding for the project. Please see Common Response – Measure M Funding.

Response to Comment Letter PC-H5

Comment PC-H5-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Comment PC-H5-2

The benefits to congestion of the build alternatives, including Alternative 3 that includes tolled Express Lanes, are summarized in the Draft EIR/EIS in Tables 3.1.6-4 through 3.1.6-8 and Tables 3.1.6-12 through 3.1.6-14. Chapter 1 of the Draft EIR/EIS summarizes the need for the proposed improvements.

No one is required to pay a toll. Express Lanes provide an option for motorists willing to pay a toll for a congestion-free trip in the corridor with a reliable trip time.

Response to Comment Letter PC-H6

Comment PC-H6-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Portions of the Rossmoor community were considered in the environmental studies prepared for the project. For example, noise analysis was conducted to identify potential impacts to properties near I-405. Air quality analysis was conducted to identify potential impacts of the project. Drainage analysis was conducted to identify improvements needed to the Montecito Channel, which drains portions of Rossmoor. Traffic analysis of the two freeway interchanges near Rossmoor (Seal Beach Boulevard I-405 interchange and the Katella/Willow I-605 interchange) was completed. Numerous other environmental studies were conducted that included consideration of Rossmoor.

Additional traffic noise analysis was included in the noise study within Rossmoor from the I-405/I-605 split to the Katella Avenue interchange of I-605. Future predicted peak-hour traffic noise levels along Martha Ann Drive are expected to rise from zero to 1-dB for any of the alternatives. Most residences adjacent to the project along I-605 already have the current maximum allowable soundwall height of 16 ft. In accordance with the Caltrans design guidelines, the maximum soundwall height should not exceed 16 ft due to seismic issues. For the areas with soundwalls less than 16 ft in height, such as locations represented by Receivers R6.52 through R6.59 and R6.64 through R6.70, there are no impacts predicted to occur. Receivers R6.52 through R6.59 (street addresses 12251 through 12541 Martha Ann Drive) are actually predicted to experience a drop in traffic noise levels of approximately 4 dB due to a soundwall that is part of the WCC Project that preceded this project. Receivers R6.64 through R6.70 (street addresses 12101 through 11881 Martha Ann Drive) are protected from traffic noise impacts by a 14-ft-high soundwall along the southbound I-405 to northbound I-605 connector.

Health Risk Assessments are not utilized by Caltrans because of uncertainty and applicability of the results; however, analysis of MSATs, which have the greatest potential to affect the health of residents located adjacent to the project, was completed as discussed in Section 3.2.6 of the Draft EIR/EIS. Although the various alternatives would place travel lanes closer to some residences, it is anticipated that MSAT exposure, including DPM, would be less than existing conditions. MSAT emissions are likely lower than existing levels in the design year as a result of EPA's and California’s control programs that are projected to further reduce MSAT emissions. Please see Common Response – Health Risks.

Please also see Common Response – Noise/Noise Analysis and Air Quality.

Comment PC-H6-2

There would be some inconvenience during construction of any of the build alternatives; however, only minor improvements are envisioned on Seal Beach Boulevard as part of the I-405 Improvement Project. The Seal Beach Boulevard bridge over I-405 was designed and constructed to accommodate the I-405 Improvement Project, so no further bridge construction is anticipated.

With respect to a potential bottleneck at the Los Angeles county line, please see Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Substantial coordination between Caltrans Districts 7 and 12, OCTA, Los Angeles Metro, Gateway City COG, and the City of Long Beach has occurred. Please see Common Response – Coordination between Caltrans Districts 7 and 12, OCTA, Los Angeles Metro, Gateway City COG, and the City of Long Beach.

Response to Comment Letter PC-H6

Comment PC-H7-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Traffic noise analysis has been conducted according to State and federal guidelines as outlined in Caltrans' Traffic Noise Analysis Protocol. The results of the Noise Study Report show that the future predicted peak-hour traffic noise levels in this area of Seal Beach would increase by zero to 1-dB. Please also see Responses to Comments PC-H3-1 and PC-H3-2 and Common Responses – Preferred Alternative Identification, Almond Avenue Soundwall, and Noise/Noise Analysis.

Comment PC-H7-2

The build alternatives will reduce congestion and decrease travel times for all within the corridor. See also Common Responses – Air Quality, Health Risks, Almond Avenue Soundwall, and Noise/Noise Analysis.

Comment PC-H7-3

Please see Response to Comment PC-H4-3.

Comment PC-H7-4

Although the I-405 Improvement Project does require some additional pavement widening and soundwall construction within the WCC Project footprint, construction effects on the adjacent communities would be substantially less. Structures constructed under the WCC Project (Seal Beach Boulevard Bridge, Valley View Street Bridge, and the 7th Street off-ramp) will not be reconstructed during the I-405 Improvement Project. The design of both projects has been carefully coordinated to avoid throw-away costs and reduce construction impacts within the WCC Project area.

Response to Comment Letter PC-H8

Comment PC-H8-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-H9

Comment PC-H9-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-H10

Comment PC-H10-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-H11

Comment PC-H11-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Responses to Comments PC-H3-1 and PC-H3-2 and Common Responses – Preferred Alternative Identification, Almond Avenue Soundwall, and Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes.

Response to Comment Letter PC-H12

Comment PC-H12-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-H13

Comment PC-H13-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

As discussed in Section 2.2.7, mass transit components were initially included in the I-405 MIS within the project area. None of these alternatives were considered as viable alternatives to carry forward for further consideration and analysis within the environmental document. Please see Common Response – Elimination of LRT and BRT Alternatives.

Comment PC-H13-2

The experience on the SR-91 Express Lanes is that motorists from all income groups use the Express Lanes. No one is required to use the tolled Express Lane facility, and the GP lanes remain available for all users unable or unwilling to pay the toll for the Express Lane facility under Alternative 3. All of the build alternatives reduce congestion and improve travel times in the GP lanes.

Comment PC-H13-3

The SR-91 Express Lanes are highly successful and very efficient. They do not eliminate congestion in the GP lanes; they provide an option to that congestion to motorists willing to pay a toll. The tolls are set at the rates necessary to maintain high-speed operations. For an explanation of how this management works, see the Draft EIR/EIS, page 2-20. The same methods were used for all of the build alternatives. Please see Common Responses – Comparison of Tolled Express Lane Operation of SR-91 to I-405 and Opposition to Tolling.

Comment PC-H13-4

Please see Response to Comment PC-H13-1.

Comment PC-H13-5

Bonding against future Renewed Measure M sales tax receipts is planned for all of the build alternatives to expedite delivery. Please also see Response to Comment PC-H4-3.

Comment PC-H13-6

The proposed Express Lanes in Alternative 3 are managed lanes; however, that term has not been used in the Draft EIR/EIS because it is a broad category. Express Lanes is a more precise definition of what is proposed in Alternative 3. For a more complete explanation and definition of Express Lanes, see the FHWA Web page http://www.ops.fhwa.dot.gov/publications/managelanes_primer/index.htm. Transit vehicles would use these lanes for free, and HOVs meeting the occupancy requirement would enjoy a free or reduced toll.

Comment PC-H13-7

Please see Response to Comment PC-H4-3.

Comment PC-H13-8

We acknowledge your support for statewide transit planning. Please also see Response to Comment PC-H13-1.

Response to Comment Letter PC-H14

Comment PC-H14-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Traffic noise analysis has been conducted according to State and federal guidelines as outlined in Caltrans' Traffic Noise Analysis Protocol. The results of the Noise Study Report show that the future predicted peak-hour traffic noise levels in this area of Seal Beach would increase by zero to 2 dB with the project by the design year of 2040.

The soundwall is not proposed along the portion of I-405 where it is next to Lampson Avenue because there are no frequent outdoor use areas that would be benefited from a soundwall at this location.

Traffic noise is at its highest level when traffic volumes are close to capacity and traffic moves at full speed. The traffic noise level goes down when traffic slows down due to congestion at high volume. Stop-and-go traffic produces much less noise than traffic moving at high speed.

Under Alternative 1, the existing 18-ft-high soundwall along Almond Avenue would remain as-is and untouched. Since the public meetings, design modifications were made to Alternative 3 that would allow the same existing soundwall to also remain as-is; however, the design changes required to change Alternative 2 enough to allow the existing wall to remain as-is are not acceptable to current design and safety standards. Under Alternative 2, sections of the existing soundwall would need to be removed, relocated, and replaced in-kind along the project alignment where space is needed for the proposed project's additional lanes and required safety features. The current maximum preferred height for soundwalls in California is 16 ft due to seismic issues; however, this soundwall would be replaced at the original 18-ft height due to the policy of in-kind replacement. Please also see Common Response – Almond Avenue Soundwall.

Under the Caltrans' Traffic Noise Analysis Protocol used for this study, ground-level interior noise levels are addressed and examined using the NAC of Title 23, Part 772 of the CFR, titled "Procedures for Abatement of Highway Traffic Noise and Construction Noise." Once the outdoor noise-sensitive areas have been provided the required 5-dB abatement, possible interior traffic noise impacts are also considered to be abated. Based on Caltrans' Protocol, if noise-sensitive land uses would experience an hourly equivalent continuous traffic noise level of 75 dBA or higher and a soundwall cannot provide feasible noise abatement to the exterior outdoor use areas, then interior noise abatement measures such as building façade upgrades (e.g., double-paned windows and air conditioning so that windows can be closed for a prolonged period of time) may be considered. For all cases in this project, recommended soundwalls provide required abatement to the exterior use areas with noise levels of 75 dBA or higher; therefore, no interior acoustical abatement measures were considered. Please also see Common Response – Noise/Noise Analysis.

Comment PC-H14-2

The Air Quality Technical Report was prepared in accordance with FHWA and Caltrans policy and guidance. As discussed in Section 3.2.6 of the Final EIR/EIS, the project is a POAQC and requires PM_{10} and/or $PM_{2.5}$ hot-spot analysis based on 40 CFR 93.116 and 93.123, and EPA's Hot Spot Guidance. Interagency consultation concurred with this determination on January 25, 2011 (see Appendix J, Air Quality). Pursuant to Federal Conformity Regulations (specifically, 40 CFR 93.105 [c] [1][i]), a qualitative analysis of the localized PM emissions was conducted. Based on the detailed PM hot-spot analysis, which is consistent with 40 CFR 93.116 and 93.123 and EPA's hot-spot guidance, the proposed project would not cause or contribute to, or worsen, any new localized violation of PM_{10} and/or $PM_{2.5}$ standards.

MSATs have the greatest potential to affect the health of residents located adjacent to the project. Although the various alternatives would place travel lanes closer to some residences, it is anticipated that MSAT exposure, including DPM, would be less than existing conditions. MSAT emissions are likely lower than existing levels in the design year as a result of EPA's and California's control programs that are projected to further reduce MSAT emissions.

Please see Common Responses – Air Quality and Health Risks.

Comment PC-H14-3

Please see Response to Comment PC-H14-2 and Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Comment PC-H14-4

OCTA regularly updates Measure M revenue projections. Measure M2 revenues would only be used to construct a single GP lane in each direction, as identified for Project K in the measure. Caltrans/OCTA would have to use other federal, State, and local funds to pay for construction of the second GP lane in each direction proposed in Alternative 2. The additional lane and toll support facilities proposed in Alternative 3 would be funded from bonds against future toll revenues. Please also see Response to Comment PC-H4-3 and Common Response – Measure M Funding.

Comment PC-H14-5

Only Alternative 2 would require relocation of the wall up to 10 ft along Almond Avenue. Although construction sequencing will not be determined until the final design phase, it is common practice to construct soundwalls in advance of major construction activities. Please see Responses to Comments PC-H3-1 and PC-H3-2 and Common Responses – Preferred Alternative Identification and Almond Avenue Soundwall.

Response to Comment Letter PC-H15

Comment PC-H15-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Only Alternative 3 would require replacement of the Fairview Road Overcrossing. Caltrans/OCTA have considered a design option for Alternative 3 that would eliminate new lanes south of Euclid Street, except for the extension of the southbound auxiliary lane approaching the Harbor Boulevard exit ramp north to Euclid Street. This design option would eliminate the need to replace the Fairview Road Overcrossing. If Alternative 3 is selected as the Preferred Alternative and this design option is also selected, construction impacts within Costa Mesa would be substantially reduced. Caltrans/OCTA have also considered other design options to avoid replacement of the Fairview Road Overcrossing under Alternative 3. Please see Common Responses – Preferred Alternative Identification and Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes.

Response to Comment Letter PC-H16

Comment PC-H16-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Responses to Comments PC-H3-1 and PC-H3-2 and Common Responses – Almond Avenue Soundwall, Air Quality, Health Risks, and Traffic Flow at the Orange County/Los Angeles County Line.

Response to Comment Letter PC-H17

Comment PC-H17-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-H18

Comment PC-H18-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Project-related construction and operational air quality and noise effects were analyzed in detail in the project Air Quality Technical Study and Noise Study Report. As described in Sections 3.2.6 and 3.2.7, project-related emission and noise levels associated with the build alternatives would be less than the future No Build Alternative.

Please see Common Responses – Preferred Alternative Identification, Noise/Noise Analysis, Air Quality, and Health Risks.

Response to Comment Letter PC-H19

Comment PC-H19-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-H20

Comment PC-H20-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-H21

Comment PC-H21-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-H22

Comment PC-H22-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Project-related construction and operational air quality and noise effects were analyzed in detail in the project Air Quality Technical Study and Noise Study Report. As described in Sections 3.2.6 and 3.2.7, project-related emission and noise levels associated with the Preferred Alternative would be less than the future No Build Alternative.

Please see Common Responses – Preferred Alternative Identification, Noise/Noise Analysis, Air Quality, and Health Risks.

Response to Comment Letter PC-H23

Comment PC-H23-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Respuesta a la Carta De Comentario PC-H24

Commentario PC-H24-1

Las agencias de Caltrans y Orange County Transportation Authroity les gustaría agradecerle por haber participado en el proceso ambiental para el proyecto de ampliación de la autopista de San Diego (I-405). Su comentario fue considerado durante el proceso de selección de la “Alternative Preferida”, como esta escrito en el reporte llamando en ingles “I-405 Improvement Project Final EIR/EIS.” Se le notificará en la dirección proveida en su Cometario cuando el reporte “Final EIR/EIS” va a estar disponible para revisarlo.

Response to Comment Letter Translation PC-H24

Comment PC-H24-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred

Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Respuesta a la Carta De Comentario PC-H25

Commentario PC-H25-1

Las agencias de Caltrans y Orange County Transportation Authroity les gustaría agradecerle por haber participado en el proceso ambiental para el proyecto de ampliación de la autopista de San Diego (I-405). Su comentario fue considerado durante el proceso de selección de la "Alternative Preferida", como esta escrito en el reporte llamando en ingles "I-405 Improvement Project Final EIR/EIS." Se le notificará en la dirección proveida en su Cometario cuando el reporte "Final EIR/EIS" va a estar disponible para revisarlo.

Response to Comment Letter Translation PC-H25

Comment PC-H25-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-H26

Comment PC-H26-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-H27

Comment PC-H27-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-H28

Comment PC-H28-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-H29

Comment PC-H29-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Responses to Comments PC-H3-1 and PC-H3-2 and Common Responses – Preferred Alternative Identification and Almond Avenue Soundwall.

Response to Comment Letter PC-H30

Comment PC-H30-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Responses to Comments PC-H3-1 and PC-H3-2.

Project-related construction and operational air quality and noise effects were analyzed in detail in the project Air Quality Technical Study and Noise Study Report. As described in Sections 3.2.6 and 3.2.7, project-related emission and noise levels associated with the Preferred Alternative would be less than the future No Build Alternative.

Mitigation Measure NOI-04, which specifies that the contractor needs to develop a construction noise and vibration monitoring and mitigation plan once details of the construction activities and phases are finalized, has been added to the environmental document. Implementing proper mitigation measures would minimize or eliminate construction-related noise and vibration impacts.

The Traffic Study for the project and attached to the Draft EIR/EIS considers potential increases in traffic on Seal Beach Boulevard due to the proposed build alternatives and provides for some improvements on Seal Beach Boulevard. With respect to Lampson Avenue, the additional lanes and improved performance on I-405 under the build alternatives will encourage traffic currently diverting from the congested freeway to local streets to remain on the freeway.

Please see Common Responses – Preferred Alternative Identification, Noise/Noise Analysis, Air Quality, Health Risks, and Almond Avenue Soundwall.

Response to Comment Letter PC-H31

Comment PC-H31-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Response to Comment PC-B20-1.

Response to Comment Letter PC-H32

Comment PC-H32-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

The columns constructed as part of the WCC Project improvements. Specifically, the columns will support the I-405/I-605 direct HOV connector. Please contact OCTA and their Public Outreach for a detailed status of the WCC Project.

Response to Comment Letter PC-H33

Comment PC-H33-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-H34

Comment PC-H34-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Responses to Comments PC-H4-1 through PC-H4-3.

Response to Comment Letter PC-H35

Comment PC-H35-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-H36

Comment PC-H36-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Response to Comment PC-H6-2.

Comment PC-H36-2

All of the proposed build alternatives add capacity in the GP lanes. Alternative 3 is the only proposed build alternative that adds capacity both in the GP lanes and in the Express Lanes; the capacity added in the Express Lanes consists of a new lane in each direction south of Valley View Street to SR-73 that would be managed along with the existing HOV lane as a dual-lane Express Lane Facility. The trend in both HOV and GP lane utilization in the I-405 corridor is for an increasing amount of traffic and congestion, as summarized in the Draft EIR/EIS in Tables 3.1.6-4, 3.1.6-5, 3.1.6-12, and 3.1.6-13. Those tables show that none of the proposed build alternatives would eliminate congestion on I-405, but each build alternative would reduce congestion compared to the No Build Alternative. Please see Common Response – Opposition to Tolling for an explanation of the manner in which Alternative 3 would control the amount of traffic utilizing the Express Lanes and provide two uncongested lanes at all time.

Comment PC-H36-3

As discussed in Section 2.2.7, a "double-decker" freeway alternative was considered early in the project development phase of the MIS. Subsequent to that, the alternative to construct an elevated structure was eliminated from further consideration. Please see Common Response – Elimination of LRT and BRT Alternatives.

Response to Comment Letter PC-H37

Comment PC-H37-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-H38

Comment PC-H38-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-H39

Comment PC-H39-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Responses to Comments PC-H3-1, PC-H3-2, and PC-H6-2 and Common Responses – Almond Avenue Soundwall, Traffic Flow at the Orange County/Los Angeles County Line, Noise/Noise Analysis, Air Quality, Health Risks, and Property Values.

Response to Comment Letter PC-H40

Comment PC-H40-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred

Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Responses to Comments PC-H3-1 and PC-H3-2 and Common Response – Almond Avenue Soundwall.

Comment PC-H40-2

Please see Response to Comment PC-H6-2 and Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Comment PC-H40-3

Please see Response to Comment PC-H40-1 and Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-H41

Comment PC-H41-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Caltrans and OCTA have made design revisions to the build alternatives, as discussed in Chapter 2 of the Final EIR/EIS, to avoid many of the community concerns/impacts identified during the Draft EIR/EIS public comment period. As a result of these design revisions, reconstruction of the Fairview Road Overcrossing is no longer required for the Preferred Alternative.

Please see Response to Comment PC-H15-1 and Common Response – Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes.

Comment PC-H41-2

Please see Response to Comment PC-H14-4 and Common Response – Measure M Funding.

Comment PC-H41-3

Please see Response to Comment PC-H6-2 and Common Response – Traffic Flow at the Orange County/Los Angeles County Line.

Response to Comment Letter PC-H42

Comment PC-H42-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Response to Comment PC-B20-1 and Common Response – Replacement of Fairview Road Overcrossing/Truncation of Tolled Express Lanes.

Response to Comment Letter PC-H43

Comment PC-H43-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

The May 2012 Draft EIR/EIS, including specialized technical studies (see Appendix F for a complete list), represents a comprehensive analysis of the potential temporary and permanent environmental effects of the proposed build alternatives on the environment. See also Common Response – Insufficient Environmental Document/Mitigation Measures.

Comment PC-H43-2

As shown in Tables 3.1.7-1 through 3.1.7-22, construction of the build alternatives would result in changes to the visual quality and/or character associated with vegetation removal, construction activities, and the introduction of new and modified permanent structures. The referenced area is represented by key viewpoints 15 and 16 (see Figures 3.1.7-3 and 3.1.7-9). As noted in Table 3.1.7-1 in the remarks section, the Visual Impact Assessment acknowledged many intrusive elements in the build condition. This would include the referenced soundwall and the resulting ratings of visual quality, character, and viewer response.

Comment PC-H43-3

The hard surfaces of the Santa Ana River and other features were taken into consideration during the traffic noise modeling of this area. According to the results of the detailed traffic noise analysis in the Noise Study Report, the future predicted peak-hour traffic noise levels would remain unchanged after construction of the soundwall and retaining wall with any of the project alternatives. In addition, the predicted future traffic noise levels at Moon Park would not

approach or exceed the NAC exterior limit of 67 dBA; therefore, it was determined that the park would not be impacted by future predicted traffic noise levels.

Please see Common Response – Noise/Noise Analysis.

Comment PC-H43-4

This is not a new wall; it is an in-kind replacement of an existing soundwall and would not substantially effect or change wind patterns or distribution of trash.

Comment PC-H43-5

Construction noise is addressed in the Draft EIR/EIS on page 3.2.7-43. Soundwalls are typically constructed during the day and involve small-diameter 16-inch shallow drilled piles, which is much quieter compared to larger-diameter deeper driven or drilled piles for bridges and large structures. Construction noise associated with soundwalls would likely be less than the freeway vehicle noise. With implementation of Measures NOI-2, NOI-3, and NOI-4 construction noise impacts would be minimized.

Mitigation Measure NOI-04, which specifies that the contractor needs to develop a construction noise and vibration monitoring and mitigation plan once details of the construction activities and phases are finalized, has been added to the environmental document. Implementing proper mitigation measures would minimize or eliminate construction-related noise and vibration impacts.

Construction emissions are addressed in the Draft EIR/EIS starting on page 3.2.2-7. The Draft EIR/EIS discusses potential project effects related to airborne material/dust on air quality within the project corridor in Section 3.2.6 under "PM_{10} and $PM_{2.5}$ Qualitative Analysis." A qualitative PM hot-spot analysis was performed following the EPA document Transportation Conformity Guidance for Qualitative Hot-Spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas. The particulate emissions include PM emissions from vehicle exhaust, brake wear, tire wear, and re-entrained dust. PM_{10} and $PM_{2.5}$ ambient air quality data from monitoring stations within the proposed project area were utilized. These data were compared with PM_{10} and $PM_{2.5}$ NAAQS and were also examined for trends to predict future conditions in the project vicinity. Tables 3.2.6-5 through 3.2.6-7 present emissions, including PM_{10} and $PM_{2.5}$, from vehicles traveling along the project corridor for the years 2009, 2020, and 2040 (i.e., existing, opening, and design years, respectively). Based on the result of the project's PM hot-spot analysis, which is consistent with 40 CFR 93.116 and 93.123 and EPA's hot-spot guidance, the build alternatives would not cause or contribute to, or worsen, any new localized violation of PM_{10} and/or $PM_{2.5}$ standards.

Other than as discussed above, soundwalls are masonry block walls and do not typically include volatile compounds. With implementation of Measures AQ-1 through AQ14, the effects of project construction on air quality would be minimized.

Comment PC-H43-6

Radiant heat effects are typically not considered for freeway soundwalls. Throughout the I-405 corridor, there are existing and proposed conditions in which soundwalls are or will be placed adjacent to the State ROW. In some instances, there are existing soundwalls within 10 ft of a 2-story residence, and they would not likely have any measureable effect on interior or exterior air temperature at 10 ft.

Comment PC-H43-7

The preliminary design generally is balanced with respect to minimizing the amount of ROW acquisition, especially when adjacent to single- and multi-family residents. Please see Common Response – Property Values.

Comment PC-H43-8

The on-ramp is proposed within Caltrans and OCSD ROW, and it does not require acquisition of private property from homes along Nevada Street, Wyoming Circle, or Maryland Circle. As described in Section 3.1.1.4 of the Draft EIR/EIS, the build alternatives would have no effect on Moon Park; however, the build alternatives would require partial (south-side only) temporary closure of the Santa Ana River Trail during construction of the on-ramp. Additionally, the project would require an aerial easement to accommodate the wider structure upon completion of the on-ramp. Subsequent to completion, the only noticeable change for users would be that they would have to cross under a slightly wider bridge. Conceptual studies were analyzed at the early stage of this project; however, they were deemed infeasible due to underperformance at the intersection of Ellis Avenue, Euclid Street, and the OCSD driveway.

Comment PC-H43-9

Several design options were investigated during development of the designs included in the Draft EIR/EIS. Based on analysis of the design options, it was concluded that the most effective solution involved construction of the new ramp referenced in the comment. Modification to the peak-hour timing lights or ramp metering by staggering the two-lane on-ramp would not improve the performance of the intersection at Ellis Avenue, Euclid Street, and the OCSD driveway because I-405 is not anticipated to perform at levels that could accommodate the staggered ramp meter approach. The second recommendation to increase additional ramp storage within the southbound loop on-ramp would also not be a viable solution due to the freeway LOS during the peak period, thereby perpetuating queuing issues for the left turns along Ellis Avenue.

Comment PC-H43-10

The traffic forecasts on which the new ramp design is based account for population and employment changes forecast throughout Orange County and the region, as well as improvements along the corridor. Although freeway access would be improved at the Magnolia Street and Brookhurst Street interchanges, local traffic entering I-405 in the southbound direction south of Brookhurst Street would benefit by accessing I-405 via the new southbound on-ramp.

Comment PC-H43-11

Please see Response to Comment PC-H43-8. With the design shown in the Draft EIR/EIS, the intersection at Ellis Avenue, Euclid Street, and the OCSD driveway would operate more effectively than any of the other design options analyzed. Moreover, the design benefits the OCSD operations by minimizing impacts at the driveway and their ROW. The potential impacts from this design have been documented throughout the Draft EIR/EIS.

Comment PC-H43-12

Several construction activities are interconnected with construction of the new southbound Euclid Street on-ramp, such as widening of the Euclid Street Undercrossing on both sides and widening of the bridge on both sides over the Santa Ana River. Construction of these activities is anticipated to occur within an 18-month duration. It is anticipated that the new southbound Euclid Street on-ramp would be constructed in approximately 10 months, and the soundwall along the southbound direction of I-405 south of the Santa Ana River in approximately 3 months. Major work that would involve structure pile driving for bridge foundation would occur during hours of the day that would not disrupt the community. For construction of the soundwall on top of the retaining wall along Nevada Street, it is anticipated that disruption to the residential community would occur during daytime hours. The contract documents would adhere to the Noise Control specifications with regards to hours of the day that are prohibited for major work, such as pile driving.

Comment PC-H43-13

It should be noted that starting with the very first home on Nevada Avenue south of Moon Park, the proposed retaining wall height is 16 ft. With regards to the landscaping between the existing property walls and the face of the relocated soundwall on retaining wall, during the design phase of the project an aesthetics committee would be formed that is made up of stakeholders including the various cities that are involved with the project. Input from individual city representatives would be solicited, at which point affected residents could express their input concurrently.

Comment PC-H43-14

Please see Response to Comment PC-H43-6.

Comment PC-H43-15

Based on the preliminary design, there is approximately 5 to 6 ft between the proposed retaining wall and existing property wall. A maintenance agreement will be in place with Caltrans/City of Costa Mesa as part of the Cooperative Agreement that would state how this buffer area would be maintained.

Comment PC-H43-16

Please see Response to Comment PC-H43-3.

Comment PC-H43-17

Based on preliminary engineering, the gap of approximately 5 ft will be graded to match closer to the abutting property.

Comment PC-H43-18

During construction of the soundwall or retaining wall, it is anticipated that the existing property walls that line the row of homes would be left intact, thereby maintaining security from the freeway activities. Please see Common Reponses – Air Quality and Health Risks.

Comment PC-H43-19

Please see Common Response – Compensation for Construction Impacts.

Comment PC-H43-20

At this time, there are no plans for any temporary relocation of families.

Comment PC-H43-21

All wall structures, including footing, will be within the State ROW adjacent to the private adjoining properties.

Comment PC-H43-22

The Express Lanes included in Alternative 3 provide all freeway users with a benefit, even if they do not choose to use the Express Lanes. The additional capacity provided by the proposed Express Lanes increases traffic performance in the corridor.

The SR-91 Express Lanes are used by motorists in all income groups.

The proposed Express Lanes do not eliminate the HOV lanes. HOVs meeting the occupancy requirement will use the Express Lanes free. With respect to the change in the occupancy requirement proposed for the Express Lanes in Alternative 3, see Common Response – Opposition to Tolling.

Comment PC-H43-23

Please see Common Response – Preferred Alternative Identification.

Response to Comment Letter PC-H44

Comment PC-H44-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Responses to Comments PC-H3-1 and PC-H3-2 and Common Response – Almond Avenue Soundwall.

Comment PC-H44-2

Please see Response to Comment PC-H3-4 and Common Response – Property Values.

Comment PC-H44-3

The results of the Noise Study Report show that the future predicted peak-hour traffic noise levels at your property (Receptor R5.17) in Seal Beach would increase by 1 dB in comparison to the existing traffic noise with or without the project by the design year of 2040.

Please also see Common Response – Noise/Noise Analysis.

Comment PC-H44-4

Please see Response to Comment PC-H14-2 and Common Responses – Air Quality and Health Risks.

Comment PC-H44-5

Please see Responses to Comments PC-H3-1 and PC-H3-2 and Common Response – Almond Avenue Soundwall.

Comment PC-H44-6

Please see Response to Comment PC-H6-2 and Common Response – Traffic Flow at the Orange County/Los Angeles County Line**.**

Comment PC-H44-7

Please see Responses to Comments PC-H3-1 and PC-H3-2 and Common Response. – Shifting Improvements away from Residential Properties onto NAVWPNSTA Seal Beach Property.

Response to Comment Letter PC-H45

Comment PC-H45-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

The proposed Express Lanes would utilize congestion management pricing. When there is too much traffic traveling and volume is at a point that congestion reduces travel speed and makes travel time in the Express Lanes unreliable, toll rates are increased to ensure free-flow conditions. This restores trip reliability. Conversely, when the Express Lanes are underutilized, tolls are decreased, allowing more motorists to use the Express Lanes, which also helps reduce congestion in the GP lanes. Please also see Response to Comment PC-H15-1 and Common Responses – Preferred Alternative Identification, Replacement of Fairview Road Overcrossing/ Truncation of Tolled Express Lanes, and Opposition to Tolling.

Response to Comment Letter PC-H46

Comment PC-H46-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Project-related construction and operational air quality and noise effects were analyzed in detail in the project Air Quality Technical Study and Noise Study Report. As described in Sections 3.2.6 and 3.2.7, project-related emission and noise levels associated with the build alternatives would be less than the future No Build Alternative. Please also see Response to Comment PC-H15-1 and Common Responses – Preferred Alternative Identification, Noise/Noise Analysis, Air Quality, Health Risks, and Opposition to Tolling.

Response to Comment Letter PC-H47

Comment PC-H47-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Please see Response to Comment PC-B20-1.

Response to Comment Letter PC-H48

Comment PC-H48-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Response to Comment Letter PC-H49

Comment PC-H49-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

Traffic in the I-405 corridor from SR-73 to I-605 has been thoroughly studied, and a summary of the study findings is included in Section 3.1.6 of the Draft EIR/EIS. The Traffic Study is available for your review on the Caltrans District 12 Web site (http://www.dot.ca.gov/dist12/405/index.htm).

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PUBLIC COMMENTS (PC)-I

PC-I1

From: greta.ia@juno.com [mailto:greta.ia@juno.com]
Sent: Tuesday, July 03, 2012 7:29 AM
To: Christina Byrne
Subject: NO, NO HOT lanes

Ms. Christina Byrne,

I am totally against the High Occupancy Toll Lanes, alternative #3. all this construction will not help the Costa Mesa citizens, but inconvenience them again. 1

I am all for widening the 405 Fwy from Euclid going north. This should help with the current bottleneck. the segment of I-405 between SR-73 and the Santa Ana river was widened to its ultimate configuration just a few years ago when the SR-73 was built. 2

The I-73 is never used to full capacity and adding the HOT lanes will only cause more trouble for the CM residents, specially the ones which live near the 405. 3

Margarete Iannelli

PC-I2

From: Mike Ignatius [mike5ign@yahoo.com]
Sent: Wednesday, July 18, 2012 12:10 AM
To: Parsons, 405.dedcomments
Subject: 405 Improvement Project

My name is Michael Ignatius and I live at 3550 Fern Circle in Seal Beach in College Park East. I support the first option which will not require the sound wall to be moved into the Almond road right of way. I have the following concerns in respect to proposed 405 Improvement Project. I am particularly concerned with Alternatives 2 and 3 that will require the movement of the sound wall along Almond St. approximately 10 plus feet into the existing road right of way. Several environmental factors need to be further considered on how they impact our development. 1 2

Aesthetics
Moving the wall into the existing road right of way would significantly degrade the existing visual character or qualityu of the area. This is a permenant impact in which we have come to enjoy the appeal of wider access roadway. Bring the wall inwards is a significant impact. 3

Air Quality
Moving the wall into Almond St. will further impact the exposure to frwy fumes, dust, asbestos dust from car brakes, and other pollutents from other vehicles. 4

Property Value impacts
The wall movement will cause a negative impact on property values especially for those of us on the cal de sacs along Almond. 5

Parking
Loss of parking on the south side of Almond will significantly impact the residents on the cal de sacs because as it is there is insufficient parking as it is. When we have have guests especially during the holidays or celebrations, parking on both sides of Almond is used extensively. This will cut that available parking in halve and require guests to walk further down Almond. 6

Thank you for your understanding and consideration to our concerns.

Michael Ignatius
3550 Fern Circle
Seal Beach, CA 90740

PC-I3

From: Paul Ikuta [res0a431@verizon.net]
Sent: Tuesday, July 17, 2012 4:12 PM
To: Parsons, 405.dedcomments
Subject: 405 expansion

Hello,

My name is Paul Ikuta and I live in Rossmoor. I was deeply troubled to learn the air quality examination was cursory in an area that could have the highest impact from your expansion. I believe an impartial analysis and evaluation with an understandable summary be given to the residents of Rossmoor. If this does not occur, a cease and desist order or some other facsimile would be examined by the Rossmoor residents. 1

Thank you.

Paul T. Ikuta, MD
Clinical Assistant Professor USC

PC-I4

I-405 Improvement Project
Public Hearing
Comment Sheet

Please provide your comments regarding the I-405 Improvement Project Draft Environmental Impact Report / Environmental Impact Statement (Draft EIR/EIS). Comments must be received by Caltrans no later than July 2, 2012.

Meeting Venue (please check one of the following):

- ☐ Monday, June 4, 2012 – Orange Coast Community College
- ☐ Thursday, June 7, 2012 – Rush Park Auditorium
- ☐ Wednesday, June 6, 2012 – Westminster Community Center
- ☐ Thursday, June 14, 2012 – Fountain Valley Senior Center

Name (First and Last): Marcelo Isais	
Organization: Labor local 652	
Address(Optional): P.O. Box 241 Fullerton CA 92836	
Phone Number: (714) 747-7257	Email address:

Comments: The Reazan is Becouse is To much Trafic.
Trafic is increasing and only geting worse.
and by the 2040 orange countx will add 370 Thousand new Residents
wich will increase the Trafic Congestion.
it will also help our infrastructure of briges and stree 1

(Space for comments continued on reverse)

RESPONSE TO PUBLIC COMMENTS (PC)-I

Response to Comment Letter PC-I1

Comment PC-I1-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during selection of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Responses – Preferred Alternative Identification and Opposition to Tolling.

Comment PC-I1-2

As shown in Tables 3.1.6-4, 3.1.6-5, 3.1.6-12, and 3.1.6-13, all segments of I-405 from SR-73 to I-605 are forecast to operate at LOS F (heavily congested) during peak hours in years 2020 and 2040. None of the build alternatives are expected to eliminate congestion during peak hours on I-405. It is agreed that removal of the lane drops along I-405 north of the Santa Ana River will improve northbound traffic flow in Costa Mesa, but they will not eliminate congestion forecast in Costa Mesa. The addition of southbound lanes north of the Santa Ana River with no improvements south of the river will increase the volume of traffic flowing into Costa Mesa on I-405 and increase levels of congestion forecast in that area. These factors were considered in identification of the Preferred Alternative.

Please also see Response to Comment PC-I1-1.

Comment PC-I1-3

SR-73 is currently operating under capacity during peak hours and is forecast to continue operating under capacity through year 2040 based on Tables 2.3.1 and 2.4.2, respectively, of the Traffic Study; however, the GP branch connector between southbound I-405 and southbound SR-73 is forecast to exceed capacity during peak hours in 2040, as shown in Table 2.4.4. The proposed direct connector to SR-73 in Alternative 3 would restore the GP branch connector to an operating condition under capacity, as shown in Tables 2.7.4 and 2.7.5, although Alternative 3 would degrade the branch connector from northbound SR-73 to northbound I-405. Alternatives 1 and 2 would make no changes to the SR-73 interchange or its branch connectors.

Response to Comment Letter PC-I2

Comment PC-I2-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comments were considered during identification of the Preferred

Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review. Please see Common Responses – Preferred Alternative Identification and Almond Avenue Soundwall.

Comment PC-I2-2

Only Alternatives 2 and 3 would require relocation of the Almond Avenue soundwall. Caltrans/OCTA have considered design options to avoid relocation of the soundwall under Alternatives 2 and 3. Please see Common Response – Almond Avenue Soundwall.

Comment PC-I2-3

Please see Response to Comment PC-I2-2.

Comment PC-I2-4

Please see Response to Comment PC-I2-2.

Comment PC-I2-5

Please see Response to Comment PC-I2-2.

Comment PC-I2-6

Please see Response to Comment PC-I2-2.

Response to Comment Letter PC-I3

Comment PC-I3-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

The air quality analysis was conducted consistent with Caltrans protocols and guidance and addresses both construction and operational impacts. As discussed in Section 3.2.6 of the Draft EIR/EIS, the build alternatives would not have any substantial effects on air quality within the project area. Please see Common Response – Air Quality.

MSATs have the greatest potential to affect the health of residents located adjacent to the project. Although the various alternatives would place travel lanes closer to some residences, it is anticipated that MSAT exposure, including DPM, would be less than existing conditions. MSAT emissions are likely lower than existing levels in the design year as a result of EPA's and California’s control programs that are projected to further reduce MSAT emissions. Please see Common Response – Health Risks.

Response to Comment Letter PC-I4

Comment PC-I4-1

Caltrans and OCTA thank you for participating in the environmental process for the I-405 Improvement Project. Your comment was considered during identification of the Preferred Alternative as described in the Final EIR/EIS. You will be notified at the address provided in your comment when the Final EIR/EIS is available for review.

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