

Interstate 5 HOV Lane Extension Project
Interstate 5 (between Avenida Pico undercrossing and
San Juan Creek Road undercrossing)
EA: 0F9600; RTP ID: ORA2H01143; RTIP ID: ORA990929

Transportation Air Quality Conformity Checklist

40 CFR	Criteria	Yes	No	Air Quality Conformity Analysis (AQCA) Page #	Comments
NA	<p>Step 1. Does the project qualify as a Categorical Exclusion under SAFETEA-LU Section 6004?</p> <ul style="list-style-type: none"> If yes, then no FHWA involvement is required and Caltrans makes the conformity determination. An AQCA is not needed. Go to Step 3. If no, go to Step 2. 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NA	The project is subject to project-level conformity analysis requirements, and meets the criteria for a conformity determination. All relevant conformity procedures have been completed, including an interagency consultation finding that the project is not a Project of Air Quality Concern (POAQC). The project is found to meet all hot spot and regional conformity criteria.
NA	<p>Step 2. Does the project require preparation of a Categorical Exclusion, EA, or EIS under SAFETEA-LU Section 6005?</p> <ul style="list-style-type: none"> If yes, then Caltrans must submit conformity documentation to FHWA for FHWA's conformity determination. An AQCA must be prepared. Go to Step 3. 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	The proposed project is being processed through a Environmental Assessment/Finding of No Significant Impact (EA/FONSI) under SAFETEA-LU Section 6005.
§93.102	<p>Step 3. Is the project located in a nonattainment or maintenance area for ozone, nitrogen dioxide (NO₂), carbon monoxide (CO), PM_{2.5}, or PM₁₀ per http://www.epa.gov/oar/oaqps/greenbk/?</p> <ul style="list-style-type: none"> If no, STOP. Transportation conformity does not apply to the project. If yes, go to Step 4. 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11	The project is located in the South Coast Air Basin (SCAB) which is nonattainment for ozone, PM ₁₀ , and PM _{2.5} . The SCAB is in attainment/maintenance for CO and NO ₂ .
§93.126 or §93.128	<p>Step 4. Is the project exempt from conformity per 40 CFR 93.126 or 40 CFR 93.128?</p> <ul style="list-style-type: none"> If yes, STOP. The project is exempt from all project-level conformity requirements (check one box below and identify the project type, if applicable). <ul style="list-style-type: none"> <input type="checkbox"/> 40 CFR 93.126 Project type: <input style="width: 100px;" type="text"/> <input type="checkbox"/> 40 CFR 93.128 If no, go to Step 5. 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12	This is a new project and a conformity determination is required. The project is included in the 2008 Regional Transportation Plan (RTP) (RTP ID 2H01143). The project is also programmed within the Southern California Association of Governments (SCAG) adopted 2008 Regional Transportation Improvement Program (RTIP) (RTP ID ORA990929). The proposed project's RTIP listing is included in the 2008 RTIP.
§93.127	<p>Step 5. Is the project exempt from regional conformity per 40 CFR 93.127?</p> <ul style="list-style-type: none"> If yes, go to Step 11. The project is exempt from regional conformity requirements (identify the project type below). Project type: <input style="width: 100px;" type="text"/> If no, go to Step 6. 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12	Refer to comments in Step 4.

40 CFR	Criteria	Yes	No	Air Quality Conformity Analysis (AQCA) Page #	Comments
	<p>Step 6. Is the project located in a region with a current conforming RTP and TIP?</p> <ul style="list-style-type: none"> • If yes, go to Step 7. • If no and the project is located in an isolated rural area, go to Step 8. • If no and the project is not located in an isolated rural area, STOP and do not proceed until a conforming RTP and TIP are adopted. 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12	Refer to comments in Step 4.
	<p>Step 7. The project is included in a currently conforming RTP and TIP. The regional emissions analysis conducted for the RTP and TIP must be documented.</p> <p>6004 and 6005 projects: Does the project air quality technical report and AQCA document the following required components?</p>	<input checked="" type="checkbox"/>		12	The project is included in the 2008 RTP (RTP ID 2H01143). The project is also programmed within the SCAG adopted 2008 RTIP (RTIP ID ORA990929). The proposed project's RTIP listing is included in amendment number 33 to the 2008 RTIP. Therefore, the proposed project would conform to the SIP.
§93.102	a) Pollutants and precursors applicable to the project area for which EPA designates as nonattainment or maintenance and the associated boundaries	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11	The project is located in the SCAB which is nonattainment for ozone, PM ₁₀ , and PM _{2.5} . The SCAB is in attainment/maintenance for CO and NO ₂ .
§93.110 (a)(b)(f)	b) Regional emissions analysis used the latest planning assumptions based on the MPO's most recent estimates of current and future population, employment, travel, and congestion.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12, 13, B-1, C-6, C-7	A traffic analysis was prepared on December 4, 2009, the <i>2007 Air Quality Management Plan for the South Coast Air Basin</i> (2007 AQMP) was discussed, and the analysis conforms with the latest rules and regulations including Federal Highway Administration (FHWA) and U.S. Environmental Protection Agency (EPA) guidance. The proposed project is included in the 2008 RTIP which was found conforming by FHWA/FTA on November 17, 2008. The 2008 RTIP was prepared using the latest planning assumptions for the SCAG Region and utilizes a planning horizon of fiscal year 2010. The project is included in the 2008 RTP (RTP ID 2H01143).
§93.110 (a)(b)(f)	c) Regional emissions analysis used the most recent available vehicle registration data.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12, 13, B-1, C-6, C-7	Refer to comments in Step 7(b).
§93.110 (a)(b)(f)	d) Date that the conformity analysis was begun (i.e. the date that the planning assumptions were adopted)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12, 13, B-1, C-6, C-7	The conformity analysis was started on March 6, 2008. Also, refer to comments in Step 7(b).
USDOT/EPA guidance	e) Planning assumptions are less than 5 years old or justification for the use of older data is described	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12, 18	The conformity analysis was based on assumptions from the 2007 AQMP, 2008 RTP, 2008 RTIP, and the cities of San Juan Capistrano, Dana Point, and San Clemente General Plans. These documents are the latest available and less than five years old.
§93.111(a)(c)	f) Conformity determination conducted using the most recently EPA-approved emission estimation model (EMFAC2007).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	13, 22, B-1, C-1 - C-9	The <i>Transportation Project-Level Carbon Monoxide Protocol</i> (CO Protocol) was developed by the Institute of Transportation studies at the University of California, Davis was followed for the proposed project analysis. The CO Protocol is based on EMFAC emissions factors. The 2008 RTP and 2008 RTIP were prepared using the EMFAC2007 emissions model (refer to page B-1 of the Air Quality Conformity Analysis). Additionally, a qualitative particulate matter analysis was completed per

40 CFR	Criteria	Yes	No	Air Quality Conformity Analysis (AQCA) Page #	Comments
					EPA Guidelines (March 2006).
§93.112	g) Interagency and public consultation requirements (outlined in a specific implementation plan according to §51.390 or, if a SIP revision has not been completed, according to NEPA requirements) have been conducted. Document consultation on conformity tests and methodologies. If comments received, comments and responses to comments have been documented.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	13, 22, B-1, E-1, D-1	The project was also submitted to the Transportation Conformity Working Group (TCWG) on February 23, 2010, and was reviewed by FHWA, EPA, and Caltrans. The project was found not to be a POAQC for PM ₁₀ and PM _{2.5} . The project is in the SCAB, which is nonattainment for ozone, PM ₁₀ , and PM _{2.5} .
§93.114(a)	h) The title of the currently conforming RTP and TIP and the date that FHWA made a conformity determination on these documents	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12, 19, C-6, B-1, E-1	<p>The project is included in the 2008 RTP (RTP ID 2H01143). The 2008 RTP was found to be conforming by FHWA/FTA on June 5, 2008. The project is also programmed within the SCAG adopted 2008 RTIP and was found to be conforming by FHWA/FTA on November 17, 2008. The 2008 RTIP includes the project description, below.</p> <p><i>I-5 AT AVENIDA PICO TO PACIFIC COAST HIGHWAY – ADD 1 HOV LANE IN EACH DIRECTION AND AVENIDA PICO INTERCHANGE IMPROVEMENT EA#0F960K, 2M0714</i></p> <p>The proposed project's RTIP listing is in the process of being updated. Therefore, the proposed project's RTIP description will be amended to adjust the postmiles. The proposed project would conform to the SIP once the amendment has been incorporated into the RTIP. These modifications do not represent a significant change to the design concept and scope. Therefore, the proposed project would be in conformance with the RTIP and RTP.</p> <p>The project would not result in any new air quality violations nor increase existing air quality violations from that previously accounted for in the 2007 AQMP and State Implementation Plan (SIP). The project complies with the cities' <i>General Plans</i> as well as the SIP and EPA conformity requirements.</p>
§93.115	i) Project comes from a currently conforming RTP and TIP (i.e. the project is included in the regional emissions analysis for a currently conforming RTP and TIP).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12, 19, B-1, E-1	The project is included in the 2008 RTP (RTP ID 2H01143). The project is also programmed within the adopted 2008 RTIP and was found to be conforming by FHWA/FTA on November 17, 2008.
§93.115	j) Project's design concept and scope have not changed significantly from what was assumed in the regional emissions analysis for the conforming RTP.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12, 19, B-1, E-1	<p>The proposed project's RTIP listing is in the process of being updated. Therefore, the proposed project's RTIP description will be amended to adjust the postmiles. The proposed project would conform to the SIP once the amendment has been incorporated into the RTIP. These modifications do not represent a significant change to the design concept and scope. Therefore, the proposed project would be in conformance with the RTIP and RTP.</p> <p>The project's design concept and scope have not changed since it was programmed within these documents. The project is consistent with the description</p>

40 CFR	Criteria	Yes	No	Air Quality Conformity Analysis (AQCA) Page #	Comments
					in the 2008 RTP and 2008 RTIP.
	k) Project's open to the traffic year is consistent with the date identified in the RTP and/or TIP. ¹	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12	Project Construction would begin in 2015 and the opening year is 2019 which is consistent with the 2008 RTIP listing.
§93.115	l) Applicable conforming TIP includes emissions mitigation, control measures, or written commitments.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	13, 22, 23, B-1, E-1	The project is programmed within the 2008 RTIP which includes transportation control measures such as traffic flow improvements, public transit projects, and high occupancy vehicle lanes. Approval of the NEPA document for this project will be considered a written commitment to implement the identified control measures. Additionally, the project would comply with SCAQMD Rule 403 (fugitive dust control) emissions mitigation, as well as all applicable Caltrans Standard Specifications for construction.
	<ul style="list-style-type: none"> If the answers to 7a through 7l are yes, go to Step 11. If the answers to any of these questions are no, revise the air quality technical report and/or AQCA to incorporate these required components. 			NA	Go to Step 11.
§93.101 §93.109	<p>Step 8. For projects in isolated rural areas, is the project regionally significant per 40 CFR 93.101, based on review by Interagency Consultation?</p> <ul style="list-style-type: none"> If yes, go to Step 9. If no, go to Step 11. The project, located in an isolated rural area, is not regionally significant and does not require a regional emissions analysis. 	<input type="checkbox"/>	<input type="checkbox"/>	NA	NA
§93.109	<p>Step 9. Is the project included in another regional conformity analysis that meets the isolated rural area analysis requirements per 40 CFR 93.109, including Interagency Consultation and public involvement?</p> <ul style="list-style-type: none"> If yes, go to Step 11. The project, located in an isolated rural area, has met its regional analysis requirements through inclusion in a previously-approved regional conformity analysis that meets current requirements. If no, go to Step 10. 	<input type="checkbox"/>	<input type="checkbox"/>	NA	NA
	<p>Step 10. The project, located in an isolated rural area, requires a separate regional emissions analysis.</p> <p>6004 project: Does the air quality technical report document the regional emissions</p>			NA	NA

¹ "Consistent with" means within the same regional conformity analysis period. Regional conformity analysis periods may be between one and ten years long. Open to traffic dates can vary within one analysis period without changing the regional analysis. A schedule change that moves the opening date into a different analysis period requires RTP, TIP, and regional conformity amendments prior to final NEPA action because it affects the regional emission analysis.

40 CFR	Criteria	Yes	No	Air Quality Conformity Analysis (AQCA) Page #	Comments
	analysis, and contain the following components? 6005 project: Does the AQCA document the following required components of the emissions analysis?				
§93.102	a) Pollutants and precursors applicable to the project area that EPA designates as nonattainment or maintenance and the associated boundaries	<input type="checkbox"/>	<input type="checkbox"/>	NA	NA
§93.109 (l)	b) For each pollutant and precursor, the interim emissions tests and/or emission budget test apply for conformity. Indicate which emissions budgets have been deemed adequate and/or approved by EPA, and which emission budgets are currently applicable for what analysis years. Indicate which test is being used for analysis years after the attainment year (budget, interim, dispersion modeling) and if hot-spot analyses are included.	<input type="checkbox"/>	<input type="checkbox"/>	NA	NA
§93.110(a)(b)	c) Regional emissions analysis used the latest planning assumptions including current and future population, employment, travel, and congestion.	<input type="checkbox"/>	<input type="checkbox"/>	NA	NA
§93.110(a)(b)	d) Regional emissions analysis used the most recent available vehicle registration data.	<input type="checkbox"/>	<input type="checkbox"/>	NA	NA
§93.110(a)(b)	e) Date that the conformity analysis was begun	<input type="checkbox"/>	<input type="checkbox"/>	NA	NA
USDOT/EPA guidance	f) Planning assumptions are less than 5 years old or justification for the use of older data.	<input type="checkbox"/>	<input type="checkbox"/>	NA	NA
§93.112	g) Use of the latest emissions model approved by EPA	<input type="checkbox"/>	<input type="checkbox"/>	NA	NA
§93.112	h) Interagency and public consultation requirements (outlined in a specific implementation plan according to §51.390 or, if a SIP revision has not been completed, according to NEPA requirements) have been conducted. If comments received, comments and responses to comments have been documented.	<input type="checkbox"/>	<input type="checkbox"/>	NA	NA
§93.113(a)(d)	i) Timely implementation of all TCMs in approved SIPs and that the project does not interfere with their implementation.	<input type="checkbox"/>	<input type="checkbox"/>	NA	NA
	If the answers to 10a through 10i are yes, the regional conformity analysis that was conducted includes the project and reasonably foreseeable regionally significant projects for at least 20 years. Interagency consultation and public participation were conducted. Based on the			NA	NA

40 CFR	Criteria	Yes	No	Air Quality Conformity Analysis (AQCA) Page #	Comments
	<p>analysis, the interim or emission budget conformity tests applicable to the area are met. Go to Step 11.</p> <ul style="list-style-type: none"> If the answer to any of these questions is no, revise the air quality technical report and/or AQCA to incorporate the required components. 				
	<p>Step 11. Is the project located in a CO nonattainment or maintenance area?</p> <ul style="list-style-type: none"> If no, go to Step 12. CO conformity analysis is not required. If yes, then the project is subject to hot-spot analysis requirements for CO per the CO Protocol (or EPA's modeling guidance using CAL3QHCR with EMFAC emission factors²). <p>6004 project: Does the air quality technical report contain the hot-spot analysis, and does it contain the following components?</p> <p>6005 project: Does the AQCA document the following required components of the hot-spot analysis?</p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11, 13, C-1 – C-9	The project is in a CO attainment/maintenance area. Additionally, the project is an HOV lane extension project that would improve traffic flow but would not create additional traffic. The project does not involve parking lots, and therefore would not increase the number of vehicles operating in cold start mode. Although the proposed project would improve traffic flow, it would not contribute to traffic volumes. Therefore, the proposed project would not satisfy the criteria that the project is likely to worsen air quality. As a result, the project would reduce the severity and number of local CO violations in the project area. A CO qualitative analysis was performed per the CO Protocol.
§93.109(f)(1)	a) The CO hot-spot analysis was conducted for this project.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	13, C-1 – C-9	A CO qualitative analysis was performed per the CO Protocol.
§93.116(a)	b) The project does not cause or contribute to a new localized CO violation at the most congested intersections affected by the project. ³	<input checked="" type="checkbox"/>	<input type="checkbox"/>	C-1 – C-9	The project is an HOV lane extension project that would improve traffic flow but would not create a significant amount of additional traffic. Therefore, the proposed project would not satisfy the criteria that the project is likely to worsen air quality. As a result, the project would reduce the severity and number of local CO violations in the project area.
§93.116(b)	c) In a nonattainment area, the project eliminates or reduces the severity and number of localized CO violations in areas substantially affected by the project.	<input type="checkbox"/>	<input type="checkbox"/>	NA	The project is in the SCAB which is a maintenance area for CO.
§93.123(a)	d) The CO analysis followed the Caltrans Project-Level CO Protocol (or EPA's modeling guidance using CAL3QHCR with EMFAC emission factors).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	13, C-1 – C-9	A CO qualitative analysis was performed per the CO Protocol.
§93.123(a)	e) The hot-spot analysis covered the most congested intersections affected by the project in the year representing the maximum CO contribution.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	C-1 – C-9	The CO analysis evaluated the most congested intersections affected by the project. As indicated in the analysis, implementation of the proposed project would alleviate several peak hour mainline and freeway ramp deficiencies and would reduce congestion. Also, refer to comments in Step 11a.

² Use of the CO Protocol is strongly recommended due to its use of screening methods to minimize the need for modeling. When modeling is needed, the Protocol simplifies the modeling approach.

³ As of October 1, 2007, there are no CO nonattainment areas in California. Therefore, the requirements to not worsen existing violations and to reduce/eliminate existing violations do not apply.

40 CFR	Criteria	Yes	No	Air Quality Conformity Analysis (AQCA) Page #	Comments
§93.123(c)(3)	f) The assumptions used in the hot-spot analysis are consistent with those used in the regional emissions analysis.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	19, B-1, C-1, C-6	The conformity analysis was based on assumptions from the 2007 AQMP, 2008 RTP, 2008 RTIP, and the cities' General Plans. These documents are the latest available and less than five years old. Therefore, the assumptions used in the hot-spot analysis are consistent with those used in the regional analysis.
§93.123(c)(5)	g) If the project includes more than five years of construction at any individual location, construction-related CO emissions have been included in the analysis.	<input type="checkbox"/>	<input type="checkbox"/>	23	NA. The project does not include more than five years of construction. Construction would begin in 2015 and end in 2019.
	<ul style="list-style-type: none"> If the answers to questions 11a-11g are yes, then go to Step 12. CO hot-spot analysis requirements per the CO Protocol (or per EPA's modeling guidance, CAL3QHCR can be used with EMFAC emission factors?) are met. If the answer to any of these questions is no, then revise the air quality technical report and/or AQCA to incorporate the required components. 			NA	NA
§93.109 (g)(1)(i)(1)	<p>Step 12. Is the project located in a PM10 and/or a PM2.5 nonattainment or maintenance area?</p> <ul style="list-style-type: none"> If no, PM2.5/PM10 conformity analysis is not required. Go to Step 15. If yes, go to Step 13. Hot-spot analysis must be performed for PM2.5 and/or PM10. 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11	The project is located in the SCAB which is nonattainment for ozone, PM ₁₀ , and PM _{2.5} .
§93.116(a)	<p>Step 13. Is the project considered to be a Project of Air Quality Concern (POAQC), as described in U.S. EPA Guidance of March 29, 2006?</p> <ul style="list-style-type: none"> If no, then the project is not a POAQC for PM10 and/or PM2.5. Interagency Consultation concurred with this determination on February 23, 2010. Go to Step 13a. If yes, then go to Step 14. 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13-23, B-1, E-1	The project was submitted to the TCWG on February 23, 2010 and was found not to be a POAQC for PM ₁₀ and PM _{2.5} .
§93.112	<p>a) 6004 and 6005 projects: Does the air quality technical report and/or AQCA document that the project is not a POAQC, as determined by Interagency Consultation?</p> <ul style="list-style-type: none"> If yes, PM conformity requirements have been met. Go to Step 15. If no, modify the air quality technical report and/or AQCA to document Interagency Consultation. 	<input checked="" type="checkbox"/>	<input type="checkbox"/>	13-23, B-1, E-1	Refer to above comment, Step 13.
§93.116(a)	Step 14. The project is a POAQC for PM10 and/or PM2.5. Interagency Consultation concurred with this determination on	<input type="checkbox"/>	<input type="checkbox"/>	NA	NA

40 CFR	Criteria	Yes	No	Air Quality Conformity Analysis (AQCA) Page #	Comments
	<p>answered "yes"?)</p> <ul style="list-style-type: none"> • If yes to 15a and/or 15b and 15c, a written commitment has been made to implement the identified mitigation or control measures for CO, PM10, and/or PM2.5 though construction or operation of this project. These mitigation or control measures are identified in the project's NEPA document and/or as conditions of the RTP or TIP conformity determination. STOP • If no to 15a, 15b, and 15 c. STOP • If yes to 15a and/or 15b, and no to 15c, modify the air quality technical report and/or AQCA to include the required written commitment. 				
<p>Notes: This checklist addresses ozone, carbon monoxide (CO), nitrogen dioxide (NO₂), PM₁₀, and PM_{2.5} because these are the pollutants for which areas of California are considered federal nonattainment or maintenance areas.</p> <p>NA = Not applicable</p>					

Name: Edwin

Date: July 1, 2010

Air Quality Conformity Analysis

Interstate 5 HOV Lane Extension Project

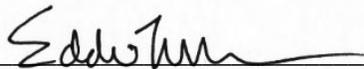
County of Orange

Caltrans District 12

EA: 0F9600

July 2010

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Section 1. Introduction and Project Description

This Air Quality Conformity Analysis contains the information that is required by the Federal Highway Administration (FHWA) to make an air quality conformity determination for the Interstate 5 (I-5) high-occupancy vehicle (HOV) Lane Extension project pursuant to Section 6005 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). This analysis has been prepared to be consistent with FHWA's June 21, 2007 guidance on Project-Level Conformity Determinations and National Environmental Policy Act (NEPA) Assumption and Conformity Analysis Documentation checklist.

1.1. Project Description

Project Location

The project is located between the cities of San Juan Capistrano and San Clemente, County of Orange, and State of California; refer to Exhibit 1 (Regional Vicinity). The proposed project's boundaries are from Post Mile (PM) 3.0 to PM 8.7. The total distance of the proposed project is approximately 5.7 miles.

Project Description

OCTA, in cooperation with Caltrans, the City of Dana Point, the City of San Clemente, and the City of San Juan Capistrano, is proposing to widen I-5 between Avenida Pico and San Juan Creek Road; refer to Exhibits 2a and 2b (Site Plan). The proposed project is designed to achieve the following objectives are to provide continuity of the I-5 mainline HOV network within the project limits; maximize overall performance within the project limits by minimizing weaving conflicts at the termini of the HOV lanes; maintain travel speeds for HOV lane users; provide intermittent auxiliary lanes, where needed, to relieve congestion at diverge and merge locations; minimize right-of-way acquisition; relieve congestion within interchange areas, on- and off-ramps, and local intersections; and reduce congestion on I-5 within the project limits. The proposed project limits on I-5 extend from 0.4 mile south of the Avenida Pico Undercrossing (UC) (PM 3.0) to 0.1 mile south of the San Juan Creek Road UC (PM 8.7). The proposed project would add one HOV lane in each direction on I-5 throughout the project limits, reestablish existing auxiliary lanes and construct new auxiliary lanes, and improve several existing on- and off-ramps.

Four alternatives, including the No Build Alternative, will be analyzed as part of the Draft Initial Study/Environmental Assessment (IS/EA). The proposed project alternatives are described below.



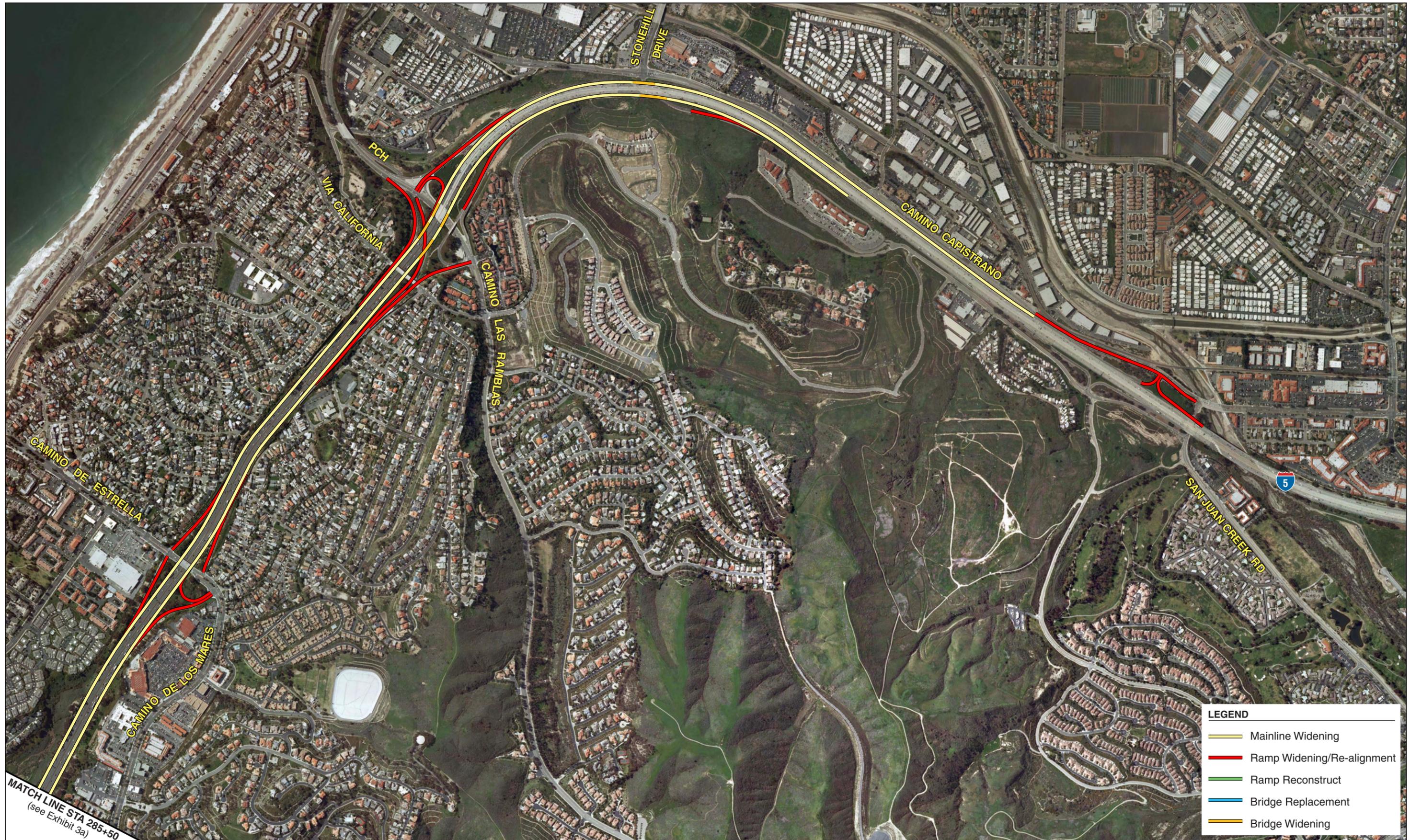
MATCH LINE STA 28+50
(see Exhibit 3)

- LEGEND**
- Mainline Widening
 - Ramp Widening
 - Ramp Reconstruct
 - Bridge Replacement
 - Bridge Widening

I-5 HOV LANE EXTENSION PROJECT
AIR QUALITY ASSESSMENT

Site Plan

Exhibit 2a



LEGEND	
	Mainline Widening
	Ramp Widening/Re-alignment
	Ramp Reconstruct
	Bridge Replacement
	Bridge Widening

I-5 HOV LANE EXTENSION PROJECT
AIR QUALITY ASSESSMENT

Site Plan

Exhibit 2b



Alternative 1 (No Build)

The No Build Alternative proposes no improvements to I-5, maintaining the existing four general purpose lanes throughout the project limits in the northbound and southbound directions. All freeway facilities would remain as-is, with the exception of proposed projects that are under development or currently in construction.

Alternative 2

Auxiliary Lanes. Alternative 2 proposes to remove the existing I-5 paved shoulders and construct a new travel way and new shoulder pavement to the outside of the northbound and southbound lanes to accommodate HOV lanes. This alternative proposes full standard widths, including a 10-foot inside shoulder, 12-foot HOV lane, 4-foot buffer, four 12-foot general purpose lanes, and a 10-foot outside shoulder throughout the majority of the project limits. Additionally, existing auxiliary lanes through the project limits are proposed to be reestablished, and new auxiliary lanes would be constructed at the following locations (at the specified lengths):

- To Avenida Vista Hermosa southbound off-ramp (1,300 feet);
- From Avenida Vista Hermosa northbound on-ramp (1,600 feet); and
- From Camino de Estrella southbound on-ramp (1,600 feet).

Avenida Pico Interchange Improvements. In addition to providing an HOV lane through the I-5/Avenida Pico interchange, the interchange configuration would also be improved. There are two options under consideration for reconfiguration of the interchange, both of which require replacement of the Avenida Pico Overcrossing structure.

- *Design Option A – Modified Tight Diamond Interchange.* Under this option, the on- and off-ramps at Avenida Pico would be realigned and the northbound on-ramp would be widened to three lanes. The overall configuration of the interchange would be similar to the existing configuration. Additionally, Avenida Pico would be improved under the structure to provide dual left-turn lanes to both the northbound and southbound on-ramps. This alternative would incorporate an interconnect line to optimize signal timing and operations for the closely spaced intersections at the interchange. The geometry of Avenida Pico would also be improved on the east side of I-5 to remove the existing reversing curves. Bicycle lanes and standard outside shoulders would be provided throughout the majority of the interchange in both the eastbound and westbound directions. A sidewalk would be provided through the interchange in the eastbound direction. In the westbound direction, space would be

provided to accommodate future construction of a 12-foot lane and sidewalk through the interchange.

- *Design Option B – Northbound Loop On-Ramp/Realigned Northbound Off-Ramp.* Under this option, a northbound loop on-ramp would be added to allow for the removal of the existing left-turn lane for traffic heading eastbound on Avenida Pico to access northbound I-5. (The existing directional on-ramp would remain in place for traffic heading westbound to access northbound I-5.) Additionally, the northbound off-ramp would be reconfigured around the loop resulting in a partial cloverleaf configuration. The southbound ramps would be realigned and the geometry of Avenida Pico would be improved as proposed in Design Option A. Dual left-turn lanes would be provided under the structure to the southbound on-ramp. Bicycle lanes and standard outside shoulders would be provided throughout the majority of the interchange in both the eastbound and westbound directions. A sidewalk would be provided through the interchange in the eastbound direction. In the westbound direction, space would be provided to accommodate future construction of a 12-foot lane and sidewalk through the interchange.

Ramps. All ramps within the project limits would be modified in order to accommodate the HOV lanes, which would include improvements ranging from restriping to complete reconstruction. Specifically, ramp modifications under this alternative would include the following:

Avenida Pico

- Modify ramps as described in Design Options A and B above.

Avenida Vista Hermosa

- Restripe the northbound and southbound loop on-ramps; and
- Restripe the northbound on- and off-ramps and southbound off-ramp.

Camino de Estrella

- Realign, reconstruct, and widen the southbound off-ramp to a two-lane ramp;
- Realign and reconstruct the northbound and southbound on-ramps and northbound loop on-ramp; and
- Realign the northbound off-ramp.

Camino Las Ramblas/Pacific Coast Highway (PCH)

- Realign, reconstruct, and widen the southbound on-ramp to a two-lane ramp;
- Realign and reconstruct the southbound loop on-ramp;
- Realign the southbound off-ramp and northbound on- and off-ramps; and
- Realign the northbound I-5 connector.

Camino Capistrano (Stonehill Drive)

- Realign and reconstruct the northbound on-ramp.

Structures.

Via California

- Reduced shoulder widths are proposed under the Via California structure in order to avoid replacement of the existing Via California Overcrossing (Bridge No. 55-225). The inside shoulder would be reduced to approximately four feet at the minimum location and the HOV buffer would be eliminated in the northbound direction.

Avenida Pico

- This alternative also proposes to replace the Avenida Pico UC structure (Bridge No. 55-205) to accommodate the HOV lane in each direction through the interchange. In order to achieve minimum vertical clearance for this structure, the I-5 mainline profile would be raised through the interchange area. Additionally, to ensure that all existing mainline lanes are open through construction, the I-5 centerline would be realigned westerly approximately 20 feet through the interchange.

Avenida Vaquero UC (Bridge No. 55-223)

- Structure widening.

Northbound I-5 to northbound PCH Connector (Bridge No. 55-226)

- Structure widening.

Route 5/Camino Las Ramblas UC (Bridge No. 55-510)

- Structure widening.

Camino Capistrano UC (Stonehill Drive) (Bridge No. 55-227L and 55-227R)

- Structure widening.

Other Improvements. Alternative 2 proposes to improve the existing compound curve between 0.3 mile south of Stonehill Drive and Pacific Coast Highway (PCH). This alternative would provide a wide inside shoulder (26 feet at the maximum width) throughout the southern portion of the curve, along with increasing the radius from 2,000 to 2,200 feet to accommodate full standard stopping sight distance in the southbound direction. For the northern portion of the curve, the existing radius would be increased from 3,200 to 3,300 feet, with a 16-foot shoulder, in order to achieve a standard stopping sight distance through this portion of the compound curve. To accommodate the improvements to this compound curve, the median would be reconstructed.

Alternative 3

Alternative 3 is very similar in nature to Alternative 2. The differences are noted below:

Auxiliary Lanes. New auxiliary lanes would be constructed at the same locations as noted in Alternative 2.

Avenida Pico Interchange Improvements. Design options for the Avenida Pico interchange reconfiguration would be the same as those noted under Alternative 2.

Ramps. Ramp modifications would be the same as those noted under Alternative 2, with the exception that the Camino Capistrano (Stonehill Drive) ramp would not be impacted.

Structures. Modifications and improvements to structures are the same as those noted under Alternative 2 with the exception that I-5 northbound Camino Capistrano UC (Stonehill Drive) (Bridge No. 55-227R) would not be widened.

Other Improvements. Unlike Alternative 2, in Alternative 3, for the northern portion of the compound curve, the existing radius would not be changed and a two-foot median shoulder would be provided, resulting in a non-standard stopping sight distance. To accommodate the improvements to this compound curve, the median would be reconstructed.

Alternative 4

Alternative 4 includes many of the improvements common to Alternatives 2 and 3, with a few modifications. Alternative 4 proposes no buffer instead of the four-foot buffer proposed in

Alternatives 2 and 3. Under the no buffer scenario, the HOV lane would accommodate continuous access throughout the project limits.

Auxiliary Lanes. New auxiliary lanes would be constructed at the same locations as noted in Alternatives 2 and 3.

Avenida Pico Interchange Improvements. Design options for the Avenida Pico interchange reconfiguration would be the same as those noted under Alternatives 2 and 3.

Ramps. Ramp modifications would be the same as those noted under Alternative 3.

Structures. Modifications and improvements to structures are the same as those noted under Alternative 3.

Other Improvements. Unlike Alternatives 2 and 3, for the northern portion of the compound curve, the existing radius would not be changed and a standard 10-foot median shoulder would be provided, which would minimize impacts but result in a non-standard stopping sight distance condition. To accommodate the improvements to this compound curve, the median would be reconstructed.

Project Purpose

The purpose of the proposed project is to improve existing and future traffic operations on I-5 from San Juan Creek Road to Avenida Pico while minimizing environmental and economic impacts. The following key issues represent general deficiencies of I-5 within the project limits, and the potential solutions/opportunities for improvements:

- Achieve higher person carrying capacity within the corridor by increasing the vehicle occupancy rate;
- Reduce pollution and improve air quality along this corridor;
- Promote ride sharing and the use of HOVs such as carpools, vanpools, and bus services;
- Provide another lane option allowing for more consistent and predictable travel times for carpools, vanpools, buses, transit services, and emergency vehicles during peak periods;
- Relieve congestion due to the merge and diverge points for successive on- and off-ramps in both directions;
- Reduce delay due to the existing HOV termini location;
- Improve the capacity of the on- and off-ramps within the project limits, where needed; and

- Relieve congestion between successive ramps at several interchanges.

The project objectives include the following:

- Provide continuity of the I-5 mainline HOV network within the project limits;
- Maximize overall performance within the project limits by minimizing weaving conflicts at the termini of the HOV lanes and maintaining travel speeds for HOV lane users;
- Provide intermittent auxiliary lanes, where needed, to relieve congestion at diverge and merge locations;
- Minimize right-of-way acquisition;
- Relieve local street congestion within interchange areas, on- and off-ramps, and local intersections; and
- Reduce congestion on I-5 within the project limits.

Project Need

Without this proposed project, the efficiency of the regional HOV system would be reduced because HOV traffic would be required to merge into mixed-flow traffic lanes. Delay in completion of this project would contribute to traffic congestion on I-5 within the cities of San Clemente, Dana Point, and San Juan Capistrano. The proposed project is needed to address:

- A high level of traffic during the weekdays as well as weekends/holidays through this section;
- Congestion due to the termination of the existing HOV lane in both directions;
- Delay due to weaving and merging of HOV at the current termini in both directions;
- Congestion at the on/off ramps due to high traffic demands at the ramps; and
- Congestion due to weaving and merging between the successive ramps at several interchanges.

1.2. Air Quality Regulatory Framework

The project is located in Orange County in the South Coast Air Basin. Table 1 (Project Area Attainment Status) shows that the proposed project is located in an area that is nonattainment for O₃, PM₁₀, and PM_{2.5}, attainment/maintenance for CO and NO₂, and attainment for SO₂. This analysis focuses on these criteria pollutants.

**Table 1
Project Area Attainment Status**

Pollutant	Federal
Carbon Monoxide (CO)	Attainment/Maintenance
Ozone (O ₃) (1-hour standard)	Revoked June 2005
Ozone (O ₃) (8-hour standard)	Severe 17 Nonattainment ¹
Nitrogen Dioxide (NO ₂)	Attainment/Maintenance
Sulfur Dioxide (SO ₂)	Attainment
Particulate Matter <10 microns (PM ₁₀)	Serious Nonattainment ²
Particulate Matter <2.5 microns (PM _{2.5})	Nonattainment ³
Notes:	
1. The SCAQMD has requested that the federal 8-hour ozone attainment status be changed to extreme with an attainment date of 2023.	
2. The U.S. EPA eliminated the annual PM ₁₀ standard in its final rule revision in October 2006.	
3. The PM _{2.5} nonattainment designation is based on the 1997 standard. In 2006, the EPA revised the 24-hour standard. The 2006 new PM _{2.5} standard of 35 µg/m ³ applies one year after the effective date of the new designation (April 2010).	
Source: U.S. Environmental Protection Agency, <i>The Green Book Nonattainment Areas for Criteria Pollutants</i> , accessed November 2009. (http://www.epa.gov/air/oaqps/greenbk).	

1.3. Public Review Comments Related to Air Quality Conformity

The NEPA action for the project is Environmental Assessment/Finding of No Significant Impact (EA/FONSI). However, public circulation for the proposed project has not yet occurred. Also refer to Appendix A (Public Review Comments and Responses Related to Air Quality Conformity).

Section 2. Regional Conformity

The I-5 HOV Lane Extension project was included in the regional emissions analysis conducted by the Southern California Association of Governments (SCAG) for the conforming 2008 Regional Transportation Plan (RTP) (RTP ID: ORA2H01143)¹. The 2008 RTP includes the following project description: *Interstate 5 from Coast Highway to Avenida Pico – Add 1 HOV lane each direction*. The project’s design concept and scope have not changed significantly from what was analyzed in the 2008 RTP. This analysis found that the plan and, therefore, the individual projects contained in the plan, are conforming projects, and will have air quality impacts consistent with those identified in the state implementation plans (SIPs) for achieving the National Ambient Air Quality Standards (NAAQS). FHWA determined the RTP to conform to the SIP on June 5, 2008. Additional documentation related to the regional emissions analysis is contained in Appendix B (Additional Documentation Related to Regional Conformity).

The I-5 HOV Lane Extension project is also included in the federal 2008 Regional Transportation Improvement Program (RTIP) (Project ID ORA990929), prepared by SCAG.² The 2008 RTIP includes the following project description: *I-5 at Avenida Pico to Pacific Coast Highway – Add 1 HOV lane each direction and Avenida Pico Interchange Improvement*. The project’s open to the public year is consistent with (within the same regional emission analysis period as) the construction completion date identified in the federal RTIP and/or RTP. The federal RTIP gives priority to eligible Transportation Control Measures (TCMs) identified in the SIP and provides sufficient funds to provide for their implementation. FHWA determined the RTIP to conform to the SIP on November 17, 2008. Documentation related to the public and interagency consultation process conducted to develop the RTIP is contained in Appendix B.

¹ Southern California Association of Governments, *2008 Regional Transportation Plan: Making the Connections*, Adopted May 2008. (<http://www.scag.ca.gov/rtp2008>)

² Southern California Association of Governments, *2008 Regional Transportation Improvement Program*, Adopted 2008. (<http://www.scag.ca.gov/RTIP/Index.HTM>)

Section 3. Project-Level Conformity

3.1. Carbon Monoxide Hot-Spot Analysis

The California Project-Level Carbon Monoxide Protocol³ (CO Protocol) was used to analyze CO impacts for the I-5 HOV Lane Extension project. The hot-spot analysis covered the most congested intersections affected by the project in 2007. Also refer to Appendix C (Carbon Monoxide Hot-Spot Analysis Modeling Procedures).

The ambient air quality effects of traffic emissions were evaluated qualitatively according to the CO Protocol. The project screens out at Level 7 of the flow chart at Figure 3 in the CO Protocol, and therefore will not have the potential for causing or worsening violation of the National Ambient Air Quality Standards for CO.

The NEPA document for this project does not identify specific mitigation, minimization, or avoidance measures for CO. A written commitment to implement such control measures is therefore not required.

The approved RTP and TIP for the project area has no CO mitigation or control measures that relate to the project's construction or operation. Therefore, a written commitment to implement CO control measures is not required.

3.2. PM_{2.5}/PM₁₀ Hot-Spot Analysis

The proposed project is not considered a project of air quality concern for PM₁₀ and/or PM_{2.5} (POAQC) because it does not meet the definition of a POAQC as defined in EPA's Transportation Conformity Guidance.

The EPA Transportation Conformity Guidance (final Rule), March 10, 2006, identified five types of projects that are considered POAQC. The following discussion addresses the Interstate 5 HOV Lane Extension project and each project type. The project (under Alternatives 2, 3, and 4) does not qualify as a POAQC because of the following reasons:

- i. The proposed project is not a new highway project that would have a significant number of, or increase in, diesel vehicles. The project would widen I-5 to extend the HOV lane in the northbound and southbound direction in order to achieve a higher person carrying capacity and to improve air quality along this corridor.

³ CAL3QHCR can also be used, with EMFAC emission factors, per EPA's modeling guidance in place of the CO Protocol.

Implementation of the proposed project would achieve the objectives to improve overall performance within the project limits and to relieve local street congestion within the interchange areas. Table 2 (Existing Traffic Volumes) depicts the existing traffic volumes along each segment within the project limits. As shown in Table 4, existing traffic volumes range from 184,000 to 241,200 average daily trips (ADT), which includes truck⁴ volumes that range from 7,388 to 9,648 ADT. The criteria in 40 CFR 93.123(b)(1) focus on a significant increase in diesel vehicles to determine particulate matter hot-spot impacts. The March 2006 Final Rule indicates that projects may be of concern where total traffic is over 125,000, and diesel trucks are eight percent or more of that traffic. Therefore, truck trip volumes are presented in Table 4.

**Table 2
Existing Traffic Volumes**

Location	Existing Conditions (2009)		
	ADT	% Trucks	# Trucks
I-5 Mainline			
South of Avenida Pico	184,700	4	7,388
South of Vista Hermosa	192,600	4	7,704
South of Camino de Los Mares	209,800	4	8,392
South of PCH/Camino Las Ramblas	228,500	4	9,140
South of Camino Capistrano/Stonehill	221,400	4	8,856
South of San Juan Creek	241,200	4	9,648
ADT = Average Daily Traffic; PCH = Pacific Coast Highway			
Source: Austin-Foust Associates, Inc., <i>I-5 HOV Lane Extension PA/ED Traffic Study</i> , December 2009.			

Table 3 (Future Year 2040 Traffic Volumes) compares the “2040 No Build” and “2040 Build” traffic volumes along each freeway segment. As shown in Table 3, traffic volumes within the project limits exceed 125,000 vehicles daily. The 2006 Guidelines have two criteria to identify a “significant volume of diesel traffic,” which include facilities with greater than 125,000 ADT and eight percent or more of said traffic volumes (i.e., approximately 10,000 vehicles or more). However, the percentage of trucks along this corridor is four percent, which is below the national average of eight percent⁵. Based on the Caltrans document entitled *California Statewide PM Hot Spot Procedures* (dated October 19, 2007), a “significant increase” of diesel vehicles (trucks)

⁴ For the purposes of the particulate matter hot-spot analysis and pursuant to the requirements in 40 CFR 93.123(b)(1), the analysis of diesel vehicles focuses on truck trips, which primarily use diesel fuel. California truck traffic counts are in terms of axles rather than weight or fuel type and are based on all trucks (2 or more axle). While heavy-duty trucks, typically with 3 or more axles, are almost exclusively diesel-powered, many 2-axle trucks (for instance, delivery trucks) are not. Therefore, using only 2 or more axle truck volume as a screening criterion is conservative.

⁵ Federal Highway Administration, *Highway Statistics 2004*, March 2006.

is 5 percent when comparing Build with No Build alternatives. As depicted in Table 3, the greatest increase in truck volumes would be 3.25 percent. The average increase among all segments within the project limits would be 1.22 percent. As a result, the proposed project would not result in a significant increase of diesel vehicles.

**Table 3
Future Year 2040 Traffic Volumes**

Location	2040 No Build			2040 Build			# Trucks Percent Change
	ADT	% Trucks	# Trucks	ADT	% Trucks	# Trucks	
I-5 Mainline							
South of Avenida Pico	246,000	4	9,840	254,000	4	10,160	3.25%
South of Vista Hermosa	256,000	4	10,240	260,000	4	10,400	1.56%
South of Camino de Los Mares	267,000	4	10,680	270,000	4	10,800	1.12%
South of PCH/Camino Las Ramblas	293,000	4	11,720	296,000	4	11,840	1.02%
South of Camino Capistrano/Stonehill	279,000	4	11,160	280,000	4	11,200	0.36%
South of San Juan Creek	300,000	4	12,000	300,000	4	12,000	0.00%
ADT = Average Daily Traffic; PCH = Pacific Coast Highway							
Source: Austin-Foust Associates, Inc., <i>I-5 HOV Lane Extension PA/ED Traffic Study</i> , December 2009.							

- ii. The proposed project does not affect intersections that are at Level of Service (LOS) D, E, or F with a significant number of diesel vehicles. As noted above, implementation of the project would enhance traffic flow along this segment of I-5. Based on the traffic data in Table 3, the proposed project would not result in significant changes in traffic volume, vehicle mix, or other factors that would cause an increase in emissions compared to the no-build conditions.

Table 4 (Intersection LOS Summary - Interchanges) depicts the LOS for the study intersections in the project area for the existing and forecast future year 2040 Build and No Build conditions. As shown in Table 4, implementation of the proposed project would not change interchange LOS significantly between Build and No Build conditions. Additionally, Table 5 (Intersection LOS Summary – City Locations) depicts the intersection LOS for various city locations in the proposed project study area. As shown in Table 5, the majority of intersections would not experience a significant change in LOS between Build and No Build conditions.

Additionally, Table 6 (Freeway Segment and Ramp Peak-Hour Volume and Capacity Analysis) summarizes the existing and forecast future year 2040 peak-hour volume to capacity analysis for the project limits on I-5. As shown in Table 6, implementation of the proposed project would alleviate several peak-hour mainline and freeway ramp deficiencies, thereby reducing congestion.

**Table 4
Intersection LOS Summary – Interchanges**

Location	Existing				No Build				Build			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
I-5 SB Ramps & Junipero Serra Road	16.2	B	19.6	B	20.9	C	42.0	D	21.5	C	41.8	D
I-5 NB Ramps & Junipero Serra Road	16.0	B	16.5	B	14.5	B	19.7	B	18.2	B	17.5	B
I-5 SB Ramps & Ortega Highway	37.3	D	59.1	E	26.4	C	36.2	D	27.6	C	34.8	C
I-5 NB Ramps & Ortega Highway	33.5	C	25.8	C	25.3	C	19.2	B	23.4	C	19.1	B
Camino Capistrano & I-5 SB Ramps	18.7	B	27.0	C	78.8	E	152.0	F	78.9	E	151.4	F
Valle Road & I-5 NB Ramps	11.6 ¹	B ¹	16.4 ¹	C ¹	22.5 ¹	C ¹	40.0 ¹	E ¹	21.2 ¹	C ¹	40.0 ¹	E ¹
I-5 SB Ramps & Camino Las Ramblas	2.6	A	3.3	A	3.2	A	5.2	A	3.7	A	6.0	A
I-5 NB Ramps & Camino Las Ramblas	3.9	A	4.0	A	6.5	A	6.9	A	4.4	A	8.4	A
I-5 SB Ramps & Camino De Estrella	16.4	B	25.6	C	18.6	B	33.0	C	18.7	B	33.0	C
I-5 NB Ramps & Camino De Estrella	11.1	B	13.1	B	13.7	B	15.5	B	13.5	B	15.6	B
I-5 SB Ramps & Avenida Vista Hermosa	9.6	A	8.4	A	18.0	B	17.6	B	18.4	B	15.4	B
I-5 NB Ramps & Avenida Vista Hermosa	6.7	A	5.9	A	8.9	A	7.3	A	8.2	A	7.1	A
I-5 SB Ramps & Avenida Pico	25.4	C	24.6	C	19.4	B	17.8	B	19.1	B	17.9	B
I-5 NB Ramps & Avenida Pico	11.5	B	15.9	B	9.5	A	13.3	B	9.3	A	12.3	B
I-5 SB Ramps & Avenida Palizada	8.3	A	8.5	A	8.9	A	9.0	A	8.8	A	9.2	A
I-5 NB Ramp & Avenida Palizada	52.2 ²	F ²	33.3 ²	D ²	67.1 ²	F ²	40.6 ²	E ²	63.8 ²	F ²	35.9 ²	E ²
I-5 SB Ramps & Avenida Presidio	17.0 ³	C ³	17.1 ³	C ³	74.8 ³	F ³	36.7 ³	E ³	74.8 ³	F ³	36.7 ³	E ³
I-5 NB Ramps & Avenida Presidio	15.1	B	16.8	B	15.7	B	16.7	B	16.0	B	16.9	B
I-5 SB Ramps & El Camino Real/Avenida Valencia	14.3	B	19.9	B	14.3	B	19.3	B	14.3	B	19.3	B
I-5 NB Ramps & El Camino Real	5.2	A	5.3	A	5.2	A	5.9	A	5.2	A	5.9	A
S. El Camino Real & I-5 NB Ramps	38.2 ³	E ³	39.0 ³	E ³	n/a	F ³	189.7 ³	F ³	n/a	F ³	153.6 ³	F ³
Avenida Presidente & Avenida Calafia	9.6 ¹	A ¹	11.0 ¹	B ¹	12.8 ¹	B ¹	31.5 ¹	D ¹	12.8 ¹	B ¹	33.4 ¹	D ¹
I-5 NB Ramps & Cristianitos Road	15.7 ³	C ³	16.2 ³	C ³	28.7 ³	D ³	42.4 ³	E ³	28.7 ³	D ³	42.4 ³	E ³
I-5 SB Ramps & Cristianitos Road	10.8 ³	B ³	16.7 ³	C ³	32.1 ³	D ³	288.5 ³	F ³	32.1 ³	D ³	288.5 ³	F ³

Bold = exceeds performance standard of level of service (LOS) "D"; NB = northbound; SB = southbound; LOS = level of service

Notes:
1. All-way stop – delay represents the intersections average vehicle delay
2. Yield – delay represents the yielding movement with highest approach delay
3. Two-way stop – delay represents the movement with highest control delay

Source: Austin Foust Associates, *I-5 HOV Lane Extension PA/ED Traffic Study*, December 2009.

**Table 5
Intersection LOS Summary – City Locations**

Location	Existing				No Build				Build			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	ICU	LOS										
Camino Capistrano & Junipero Serra Road	0.42	A	0.39	A	0.52	A	0.54	A	0.52	A	0.54	A
Rancho Viejo & Junipero Serra Road	0.53	A	0.64	B	0.88	D	0.78	C	0.90	D	0.81	D
Del Obispo Street & Ortega Highway	0.5	A	0.53	A	0.55	A	0.67	B	0.55	A	0.67	B
Rancho Viejo & Ortega Highway	0.72	C	0.83	D	0.77	C	0.94	E	0.77	C	0.94	E
La Pata & Ortega Highway	0.80	C	0.68	B	0.74	C	0.73	C	0.74	C	0.74	C
Camino Capistrano & Del Obispo Street	0.68	B	0.79	C	0.95	E	0.90	D	0.95	E	0.89	D
Camino Capistrano & San Juan Creek Road	0.36	A	0.40	A	0.65	B	0.70	B	0.65	B	0.70	B
Valle Road & San Juan Creek Road	0.68	B	0.65	B	0.75	C	0.79	C	0.75	C	0.79	C
La Novia Avenue & San Juan Creek Road	0.48	A	0.37	A	0.77	C	0.74	C	0.76	C	0.73	C
Del Obispo Street & Stonehill Road	0.69	B	0.65	B	0.79	C	0.72	C	0.79	C	0.72	C
Camino Capistrano & Stonehill Road	0.64	B	0.68	B	0.90	D	0.84	D	0.90	D	0.84	D
Camino Mira Costa & Camino Estrella	0.33	A	0.33	A	0.35	A	0.36	A	0.35	A	0.36	A
Avenida Vaquero & Camino De Los Mares	0.36	A	0.38	A	0.44	A	0.41	A	0.44	A	0.41	A
Camino Vera Cruz & Camino De Los Mares	0.32	A	0.36	A	0.34	A	0.34	A	0.34	A	0.34	A
Camino Del Rio & Camino De Los Mares	0.25	A	0.20	A	0.38	A	0.32	A	0.38	A	0.32	A
Camino Vera Cruz & Avenida Vista Hermosa	0.70	B	0.73	C	0.74	C	0.73	C	0.73	C	0.72	C
Avenida La Pata & Avenida Vista Hermosa	0.46	A	0.35	A	0.58	A	0.58	A	0.57	A	0.58	A
N. El Camino Real & Avenida Pico	0.44	A	0.46	A	0.55	A	0.70	B	0.57	A	0.71	C
Avenida La Pata & Avenida Pico	0.25	A	0.38	A	0.46	A	0.47	A	0.45	A	0.48	A
Avenida Vista Hermosa & Avenida Pico	0.24	A	0.23	A	0.44	A	0.60	A	0.44	A	0.60	A
N. El Camino Real & Avenida Palizada	0.49	A	0.59	A	0.56	A	0.70	B	0.55	A	0.68	B
Camino Estrella & Avenida Palizada	0.46	A	0.55	A	0.53	A	0.59	A	0.52	A	0.60	A
N. El Camino Real & Avenida Presidio/Victoria	0.38	A	0.41	A	0.44	A	0.46	A	0.44	A	0.47	A
Bold = exceeds performance standard of level of service (LOS) "D"; ICU = Intersection Capacity Utilization; LOS = Level of Service												
Source: Austin Foust Associates, I-5 HOV Lane Extension PA/ED Traffic Study, December 2009.												

**Table 6
Freeway Segment and Ramp Peak-Hour Volume and Capacity Analysis**

Location	Existing		2040 No Build		2040 Build	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
	V/C - LOS	V/C - LOS	V/C - LOS	V/C - LOS	V/C - LOS	V/C - LOS
I-5 Mainline – Northbound						
South of Avenida Pico	0.70 – C	0.69 – C	0.92 – E	0.84 – D	0.93 – E	0.85 – D
South of Vista Hermosa	0.74 – C	0.75 – D	0.97 – E	0.92 – E	0.87 – D	0.84 – D
South of Camino de Los Mares	0.83 – D	0.81 – D	1.11 – F	1.00 – E	0.99 – E	0.92 – E
South of PCH/Camino Las Ramblas	0.92 – E	0.88 – D	1.27 – F	1.04 – F	1.15 – F	0.95 – E
South of Camino Capistrano/Stonehill	0.75 – D	0.66 – C	1.07 – F	0.82 – D	1.06 – F	0.82 – D
South of San Juan Creek	0.92 – E	0.78 – D	1.24 – F	1.01 – F	1.23 – F	1.01 – F
I-5 Mainline – Southbound						
South of Avenida Pico	0.51 – B	0.62 – C	0.70 – C	0.84 – D	0.70 – C	0.84 – D
South of Vista Hermosa	0.69 – C	0.80 – D	0.93 – E	1.06 – F	0.85 – D	0.91 – E
South of Camino de Estrella	0.74 – C	0.89 – D	1.02 – F	1.21 – F	0.87 – D	0.99 – E
South of PCH/Camino Las Ramblas	0.73 – C	0.89 – D	0.99 – E	1.16 – F	0.87 – D	1.01 – F
South of Camino Capistrano/Stonehill	0.59 – B	0.81 – D	0.79 – D	1.00 – F	0.83 – D	1.08 – F
South of San Juan Creek	0.59 – B	0.81 – D	0.79 – D	1.00 – F	0.83 – D	1.08 – F
I-5 Freeway Ramps – Northbound						
Avenida Pico Off Ramp	0.53 – B	0.51 – B	0.55 – B	0.60 – C	0.55 – C	0.59 – C
Avenida Pico On Ramp	0.74 – C	0.91 – E	0.85 – D	1.05 – F	0.72 – C	0.88 – D
Vista Hermosa Off Ramp	0.22 – A	0.28 – A	0.35 – B	0.40 – B	0.34 – B	0.39 – B
Vista Hermosa Loop On Ramp	0.05 – A	0.05 – A	0.20 – A	0.21 – A	0.20 – A	0.21 – A
Vista Hermosa Direct On Ramp	0.69 – C	0.56 – C	0.94 – E	0.69 – C	0.95 – E	0.69 – C
Camino de Los Mares Off Ramp	0.26 – A	0.35 – B	0.31 – B	0.55 – C	0.31 – A	0.55 – C
Camino de Los Mares Loop On Ramp	0.42 – B	0.33 – B	0.52 – B	0.37 – B	0.52 – B	0.37 – B
Camino de Los Mares Direct On Ramp	0.53 – B	0.53 – B	0.92 – E	0.55 – C	0.91 – E	0.54 – C
PCH/Camino Las Ramblas Off Ramp	0.54 – C	0.72 – C	0.63 – C	0.73 – C	0.63 – C	0.73 – C
PCH/Camino Las Ramblas On Ramp	0.52 – B	0.37 – B	0.54 – C	0.43 – B	0.53 – B	0.42 – B
Camino Capistrano/Stonehill On Ramp	0.84 – D	0.58 – C	0.85 – D	0.93 – E	0.84 – C	0.93 – E
San Juan Creek Off Ramp	0.04 – A	0.07 – A	0.46 – B	0.37 – B	0.45 – B	0.37 – B
San Juan Creek On	0.21 – A	0.02 – A	0.53 – B	0.32 – A	0.52 – B	0.32 – A
I-5 Freeway Ramps – Southbound						
Avenida Pico On Ramp	0.37 – B	0.53 – B	0.49 – B	0.64 – C	0.49 – B	0.63 – C
Avenida Pico Off Ramp	0.44 – B	0.45 – B	0.56 – C	0.49 – B	0.56 – C	0.49 – B
Vista Hermosa On Ramp	0.28 – A	0.26 – A	0.35 – B	0.29 – A	0.34 – B	0.28 – A
Vista Hermosa Off Ramp	0.57 – C	0.80 – D	0.87 – D	1.13 – F	0.58 – C	0.76 – D
Camino de Estrella On Ramp	0.32 – A	0.35 – B	0.39 – B	0.51 – B	0.39 – B	0.51 – B
Camino de Estrella Off Ramp	0.49 – B	0.95 – E	0.55 – C	0.99 – D	0.36 – B	0.67 – C
PCH/Camino Las Ramblas On Ramp	0.99 – E	1.19 – F	1.31 – F	1.53 – F	0.92 – E	0.97 – E
PCH/Camino Las Ramblas Loop On Ramp	0.13 – A	0.10 – A	0.26 – A	0.21 – A	0.26 – A	0.23 – A
PCH/Camino Las Ramblas Off Ramp	0.34 – B	0.56 – C	0.37 – B	0.57 – C	0.36 – B	0.57 – C
San Juan Creek Off Ramp	0.23 – A	0.29 – A	0.51 – B	0.41 – B	0.51 – B	0.41 – B
San Juan Creek On Ramp	0.49 – B	0.77 – D	0.71 – C	0.96 – E	0.72 – C	0.95 – E
V/C = vehicle to capacity ratio; LOS = Level of Service; PCH = Pacific Coast Highway						
Source: Austin-Foust Associates, Inc., I-5 HOV Lane Extension PA/ED Traffic Study, December 2009.						

- iii. The proposed project does not involve new bus or rail terminals or transfer points with a significant number of diesel vehicles congregating at a single location. The proposed project would alleviate the existing and projected traffic congestion occurring along I-5.
- iv. The proposed project does not involve expanded bus or rail terminals or transfer points with a significant number of diesel vehicles congregating at a single location. As stated above, the proposed project involves an HOV lane extension and would alleviate existing and projected traffic congestion.
- v. The proposed project is included in the Southern California Association of Governments (SCAG) *2008 Regional Transportation Plan (RTP)* and the adopted *2008 Regional Transportation Improvement Program (RTIP)*. The 2008 RTP was found by FHWA/FTA to conform to the SIP on June 15, 2008, and the 2008 RTIP was found conforming on November 17, 2008. This hot-spot analysis is based on assumptions from the 2008 RTP and RTIP, the *City of San Juan Capistrano General Plan*, the *City of Dana Point General Plan*, and the *City of San Clemente General Plan*. The Regional Transportation Model produced by SCAG predicts ADT volumes based upon socio-economic data received from all of the counties and cities within their jurisdiction. The traffic volumes and peak-hour demand are derived from the number of households, population, and number of jobs in the region. The ADT is derived by iterative model runs designed to determine the shortest route for travelers in time and distance. The Build alternatives would improve traffic flow and relieve congestion. As shown in Table 3, the proposed project would not significantly increase traffic volumes in the project area and the redistribution of traffic and impacts on other facilities is not anticipated. Additionally, as shown in Table 6, implementation of the proposed project would alleviate several peak-hour mainline and freeway ramp deficiencies and would reduce congestion.

In order to implement the hot-spot analysis requirements of the March 10, 2006 final rule, the *Transportation Conformity Guidance for Qualitative Hot-Spot Analyses in PM_{2.5} and PM₁₀ Non-attainment and Maintenance Areas* (2006 Guidelines) was developed by the EPA and the FHWA. "Conformity" in an air quality context is the FCAA requirement that all Federal actions conform to the letter and spirit of the SIP. The SIP is the State's plan for attaining and maintaining attainment of the NAAQS. Conformity requirements are set forth in Section 176(c) of the Clean Air Act, which is codified in 42 USC 7506(c). Specific criteria and procedures for carrying out the conformity process are in the Code of Federal Regulations (CFR) at 40 CFR 93

Subparts A (Highways and Transit) and B (General Federal Actions). Essentially, all projects that are funded or approved by FHWA or FTA must follow the procedures and criteria specified in Subpart A. This "Transportation Conformity Rule" specifies that projects that are not fully exempt from conformity requirements must have a project-level conformity analysis. The conformity analysis must address whether or not the project comes from a conforming regional transportation plan and transportation improvement program, or has an equivalent regional analysis in nonattainment or maintenance areas that do not have a Metropolitan Planning Organization (MPO), and includes hot-spot analysis and related commitments where applicable. A hot-spot analysis is required in nonattainment and maintenance areas for CO, PM₁₀, and PM_{2.5}.

The 2006 Guidelines references a two-step criteria to identify "a significant volume of diesel truck traffic." The first criterion is facilities with greater than 125,000 ADT. If the first criterion is met, the second criterion is that eight percent or more of said traffic volumes (i.e., approximately 10,000 vehicles or more) are diesel truck traffic volumes. With respect to traffic volumes along the project limits of I-5, horizon year (2040) ADT volumes are forecast to be above the screening-level threshold criteria of 125,000 total ADT traffic volumes. The maximum heavy truck ADT volumes during the horizon year (2040) would be only four percent of the ADT. Due to the future Build and No Build traffic volumes along this corridor, the four percent of trucks would be above the threshold screening criteria of approximately 10,000 daily truck trips. As such, the proposed project may result in a substantial number of diesel vehicles within the project area (i.e., the project limits of I-5). However, based on the Caltrans *California Statewide PM Hot Spot Procedures* (dated October 19, 2007), a "significant increase" of diesel vehicles is 5 percent comparing Build with No Build alternatives. As shown in Table 3, the greatest increase in truck volumes would be 3.25 percent. The average increase among all segments within the project limits would be 1.22 percent. As a result, the proposed project would not result in a significant increase of diesel vehicles. According to the 2006 Guidelines, this project would not be considered a POAQC under 40 CFR 93.123(b)(1).

Under NEPA Delegation, FHWA has assigned its NEPA responsibilities to Caltrans for highway projects. There are two forms of assignment: Section 6004, which covers most Categorical Exclusion (CE) determinations, and Section 6005, the broader Pilot Program. Projects covered under Section 6004 are processed using certain NEPA CEs only, and the conformity determination is made along with NEPA approval by Caltrans. Projects covered under Section 6005 include some that use a NEPA CE, and all that use a higher level document leading to a Finding of No Significant Impact (FONSI) or Record of Decision (ROD). Air quality conformity determinations were expressly excluded from the Pilot Program assignment by

statute. Therefore, Section 6005 projects continue to require a conformity determination from FHWA, although all other NEPA-related actions are assigned to Caltrans.

Projects that are approved under the Section 6005 or Pilot Program NEPA assignment must include evidence in the project file that one of the three following situations applies:

1. Conformity does not apply to the project area. This would be true if the area is "attainment/unclassifiable" for all NAAQS (i.e., it has never been nonattainment for any of the current NAAQS). As of August 2007, this was true in all of Districts 1, 2, and 5, and parts of Districts 3, 4, 8, 9, and 10. The official source of area designation information is the U.S EPA's "Green Book" and the area designation regulations at 40 CFR 81.305 California.
2. The project is exempt from all conformity analysis requirements. This would be true if the project fits one of the categories listed in "Table 2" of the conformity regulations at 40 CFR 93.126, or is a signal synchronization project using only existing signals covered by 40 CFR 93.128. In areas subject to conformity requirements, these projects do not require a project-level analysis or conformity determination. If the project area is designated "attainment/unclassifiable" for CO, PM₁₀, and PM_{2.5}, or if the project type is listed in "Table 3" of the conformity rule at 40 CFR 93.127, the project would also be considered exempt from conformity analysis requirements.
3. The project is subject to project-level conformity analysis requirements, and meets the criteria for a conformity determination. This is true if all relevant conformity procedures have been completed, including interagency consultation if a particulate matter hot-spot analysis [including finding that the project is not a POAQC for PM₁₀ or PM_{2.5}] is needed, and the project is found to meet all hot-spot and regional (if applicable) conformity criteria.

The proposed project is located within District 12, which is a Federally designated nonattainment area for PM₁₀ and PM_{2.5}; thus, situation 1 would not apply. "Table 2" of 40 CFR 93.126 describes the projects that are exempt from the requirement to determine conformity. Such projects may proceed toward implementation even in the absence of a conforming transportation plan and TIP. The proposed project does not fall under any of the classifications outlined under "Table 2"; thus, situation 2 would not apply.

Criterion 3 requires interagency consultation to meet all hot-spot conformity criteria. The proposed project was submitted to stakeholders at a Transportation Conformity Working Group (TCWG) meeting on February 23, 2010, pursuant to the interagency consultation requirement of 40 CFR 93.105 (c)(1)(i). Caltrans, EPA, CARB, SCAQMD, and other interagency consultation participants reviewed additional information including the detailed particulate matter analysis and CT-EMFAC model outputs. Upon further review, the TCWG members concurred with the finding that the proposed project was not a POAQC due to the nominal differences in diesel truck volumes between the Build and No Build scenarios, the HOV lane extension would not add significant diesel truck capacity, and the Auxiliary lanes and interchange modifications would not be a major truck traffic generator. Additionally, the proposed project represents the implementation of a Transportation Control Measure (TCM) and would reduce congestion as well as merging and weaving conflicts; refer to Appendix D (PM Interagency Consultation). Therefore, the proposed project would not be considered a POAQC and would be considered exempt under 40 CFR 93.126, as it would not create a new, or worsen an existing, PM_{2.5} or PM₁₀ violation.

PM hot-spot analysis is not required. The project has undergone Interagency Consultation (IAC). IAC participants concurred that the project is not a POAQC (see Appendix D). A PM hot-spot analysis has been conducted for the project, as described in Appendix E (PM Hotspot Analysis). The project is expected to reduce the severity and number of localized PM_{2.5} and PM₁₀ violations in the project area. There is no approved PM₁₀ SIP for the project area. Therefore, a written commitment to implement PM₁₀ control measures is not required.

The project is programmed within the 2008 RTIP which includes transportation control measures such as traffic flow improvements, public transit projects, and high occupancy vehicle lanes. Approval of the NEPA document for this project will be considered a written commitment to implement the identified control measures. In addition to implementation of applicable Best Available Control Measures (BACMs) from the SCAQMD Rule 403 (section [d2] and Table 1), the following avoidance and minimization measures shall be utilized to reduce and otherwise address particulate emissions:

AQ1 During clearing, grading, earth moving, or excavation operations, excessive fugitive dust emissions shall be controlled by regular watering or other dust preventive measures using the following procedures, as specified in South Coast Air Quality Management District Rule 403.

- All material excavated or graded shall be sufficiently watered to prevent excessive amounts of dust. Watering shall occur at least twice daily with

complete coverage, preferably in the late morning and after work is done for the day.

- All material transported on-site or off-site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust.
- The area disturbed by clearing, grading, earth moving, or excavation operations shall be minimized so as to prevent excessive amounts of dust.
- Visible dust beyond the property line emanating from the project shall be prevented to the maximum extent feasible.
- These control techniques shall be indicated in project specifications.

AQ2 Project grading plans shall show the duration of construction. Ozone precursor emissions from construction equipment vehicles shall be controlled by maintaining equipment engines in good condition and in proper tune per manufacturer's specifications.

AQ3 All trucks that are to haul excavated or graded material on-site shall comply with State Vehicle Code Section 23114, with special attention to Sections 23114(b)(F), (e)(2) and (e)(4) as amended, regarding the prevention of such material spilling onto public streets and roads.

AQ4 The contractor shall adhere to Caltrans Standard Specifications for Construction (Sections 10 and 18 [Dust Control] and Section 39-3.06 [Asphalt Concrete Plant Emissions]).

AQ5 Should the project geologist determine that asbestos-containing materials (ACMs) are present at the project study area during final inspection prior to construction, the appropriate methods shall be implemented to remove ACMs.

3.3. Construction-Related Hot-Spot Emissions

Construction of the proposed project would commence in 2015 and be completed by February 2019. As construction of the project is expected to last less than 5 years, construction-related emissions were not considered in the hot-spot analysis.

Appendix A. Public Review Comments and Responses Related to Air Quality Conformity

The NEPA action for the project is an EA/FONSI. The EA/FONSI document is currently being prepared and has not yet been circulated for public review. Therefore, public comments have not been received yet.

Appendix B. Additional Documentation Related to Regional Conformity

Regional Emissions Analysis Conducted for Conforming RTP

The regional emissions analysis found that regional emissions will not exceed the SIP's emission budgets for mobile sources in the build year, a horizon year at least 20 years from when conformity analysis started, and additional years meeting conformity regulation requirements for periodic analysis. The regional emissions analysis was based on the latest population and employment projections for the six county regions in Southern California including Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial counties that were adopted by the Southern California Association of Governments at the time the conformity analysis was started on March 6, 2008. These assumptions are less than five years old. The modeling was conducted using current and future population, employment, traffic, and congestion estimates. The traffic data, including the fleet mix data, were based on the most recently available vehicle registration data included in the EMFAC2007 model. The EMFAC2007 model, developed by the California Air Resources Board, is the most recent emissions model approved for use in California by the U.S. EPA.

Public and Interagency Consultation Process for TIP

The federal TIP was developed in accordance with Southern California Association of Government's policies for community input and interagency consultation procedures. These procedures ensure that the public has adequate opportunity to be informed of the federal TIP development process and encourages public participation and comment.

The proposed project was discussed among stakeholders at a TCWG meeting on February 23, 2010, pursuant to the interagency consultation requirement of 40 CFR 93.105 (c)(1)(i) as an important tool to collectively evaluate this project. FHWA, EPA, CARB, SCAQMD, and other Interagency Consultation participants concurred with the finding that the project was not a POAQC. The TCWG reviewed the detailed particulate matter analysis and CT-EMFAC model outputs for the project and concurred with the finding that the proposed project was not a POAQC due to the nominal differences in diesel truck volumes between the Build and No Build scenarios, the HOV lane extension would not add much diesel truck capacity, and the Auxiliary lanes and interchange modifications would not be major truck traffic generator; refer to Appendix D (PM Interagency Consultation). The NEPA action for the project is an EA/FONSI, and has not been circulated for public review yet (refer to Appendix A). Additionally, the TCWG determined that the project is not a POAQC for PM₁₀ and PM_{2.5}.

2008 RTP AMENDMENT #3 AND 2008 RTIP AMENDMENT #08-34
 MODELED PROJECTS

CO	SYS*	LEAD AGENCY	RTP ID	RTIP ID	RTE	BEG PM	END PM	STREET	FROM	TO	DESCRIPTION	ADDITIONAL DETAILS, IF AVAILABLE	2008 RTIP	NO BUILD	NETWORK YR (PROJECT COMPLETION)										
															2008	2009	2010	2012	2014	2020	2030	2035			
LA	T	SAN FERNANDO	LAE0127	LAE0127	0	0.0	0.0	BUS PURCHASE			PROCUREMENT OF (3) CNG TRANSIT VEHICLES AND RELATED INFRASTRUCTURE EQUIPMENT FOR FIXED ROUTE PUBLIC TRANSPORTATION.	*The City of San Fernando proposes a fixed route system operating on two separate routes. The North Loop is approximately seven miles in length while the South Loop is approximately five miles in length. We intend to run our trolleys six days a week, Monday through Saturday, 10 hours per day, with three turns (loops) completed each hour. The trolley's CNG consumption rate is estimated to be 3.5 miles per gallon and 16,000 gallons per trolley year each. The basic arithmetic supporting fuel consumption is as follows: 12 miles/loop x 3 loops/hour x 10 hours/day = 360 miles/day; 36 miles/day x 6 days/week x 52 weeks/year = 112,000 miles/year; 112,000 miles/year ÷ 3.5 miles/gallon ÷ 2 trolleys = 16,000 gallons/year each trolley	√	√											
LA	T	SANTA CLARITA	LA0C8371	LA0C8371	0	0.0	0.0	BUS PURCHASE			SANTA CLARITA TRANSIT EXPANSION BUSES; WILL ALLOW PHASE 1 OF 5 YEAR MASTER PLAN TO BE IMPLEMENTED WITH NINE LOCAL BUSES AND TWO COMMUTER BUSES.		√	√	√										
LA	T	SANTA CLARITA	LA0D363	LA0D363	0	0.0	0.0	BUS PURCHASE			SANTA CLARITA TRANSIT PHASE 2 - EXPANSION BUSES - 2 OVER THE ROAD COMMUTER BUSES.		√	√											
LA	T	SANTA CLARITA	LAF1424	LAF1424	0	0.0	0.0				McBean Regional Transit Center Park and Ride. Purchase land, design, and construct a regional park-and-ride lot adjacent to the McBean Regional Transit Center in the City of Santa Clarita	Add 300 parking spaces Location: McBean Regional Transit Center Park and Ride, Santa Clarita	√												
LA	T	SANTA FE SPRINGS	1TR1008		0	0.0	0.0	NORWALK/SANTA FE SPRINGS TRANSPORTATION CTR PARKING			NORWALK/SANTA FE SPRINGS TRANSPORTATION CTR PHASE II PARKING. CONSTRUCT A TOTAL OF APPROX. 150 PARKING SPACES ON A SITE ADJACENT TO THE METROLINK STATION.													√	
LA	T	SANTA MONICA MUNICIPAL BUS	LAE0364	LAE0364	0	0.0	0.0	SOUTH BUNDDY DRIVE	NEAR AIRPORT AVENUE		CONSTRUCT INTERMODAL PARK AND RIDE FACILITY AT SANTA MONICA COLLEGE CAMPUS ON SOUTH BUNDDY DRIVE NEAR AIRPORT AVENUE		√												
LA	T	SCRRA / LACMTA / SANBAG	LA0C8232	LA0C8232	0	0.0	0.0	METROLINK COMMUTER RAIL			ANTELOPE VALLEY LINE CHANGES AT SANTA CLARITA-ALIGNMENT CHANGES WILL PERMIT HIGHER SPEEDS OF OPERATION AND REDUCE MAINTENANCE COST- (SCRRA). (PNO 3202).		√	√											√
LA & SB	T	TBD	HSRT0703 & HSRT0704		0	0.0	0.0	EXTENDED IOS	LAX	SAN BERNARDINO	HIGH SPEED REGIONAL TRANSPORT: EXTENDED IOS FROM LAX TO SAN BERNARDINO	STATIONS AT LAX, WEST LA, UNION STATION, WEST COVINA IN LA COUNTY, ONTARIO AND SAN BERNARDINO IN SAN BERNARDINO COUNTY													√
LA	T	TORRANCE	LA000666	LA000666	0	0.0	0.0	BLUE LINE FEEDER SERVICE			LINE #6 - BLUE LINE FEEDER SERVICE	THE FOLLOWING TRIPS ARE BEING ADDED - 8:30AM, 10:30AM, 11:30AM, AND 1:00PM. THERE WILL BE 84 NEW SERVICE REVENUE MILES AND 5.14 REVENUE SERVICE HOURS WITH 90 MINUTE HEADWAYS.	√	√		√									
OR	S	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA020111	ORA020111	5	3.4	3.6	I-5	AVENIDA PICO	VISTA HERMOSA	I-5 AT AVENIDA PICO SOUTHBOUND OFF RAMP WIDENING FROM 1 TO 2 LANES AND EXTEND THE EXISTING AUX LANE TO CONNECT WITH S/B AUX LANE AT VISTA HERMOSA ON RAMP.	WIDEN SOUTHBOUND OFF RAMP FROM 1 TO 2 LANES. EXTEND EXISTING AUXILIARY LANE TO CONNECT WITH THE SOUTHBOUND AUXILIARY LANE AT VISTA HERMOSA ON RAMP.	√	√	√										
OR	S	ORANGE COUNTY TRANS AUTHORITY (OCTA)	2M0714		5	3.4	0.0	I-5	AVENIDA PICO		WIDEN ON/OFF RAMP TO 2 LANES														√
*OR	S	CALTRANS	2H01143	ORA080912	5	3.4	6.8	I-5	Coast Highway	Avenida Pico	ADD 1 HOV LANE EACH DIRECTION	Existing Configuration: No HOV Lanes													√
OR	S	SAN CLEMENTE	10287	10287	5	4.1	0.0	I-5	AVENIDA VISTA HERMOSA	AT ROUTE 5 INTERCHANGE	AVENIDA VISTA HERMOSA @ I-5 NEW INTERCHANGE FROM 0 TO 5 LANES ON OVERPASS (2 LANES WEST & 3 LANES EAST)..	FROM 1 TO 5 LANES ON OVERPASS (2 WB & 3 EB)	√	√	√										
OR	S	CALTRANS	ORA030602	ORA030602	5	5.8	0.0	I-5	Camino de Estrella		IN SAN CLEMENTE - SB CAMINO DE ESTRELLA - WIDEN OFF-RAMP FROM 1 TO 2 LANES AND WIDEN OVERCROSSING FROM 5 TO 7 LANES (1 WB LEFT TURN LANE AND 1 EB LANE)		√												
OR	S	CALTRANS	2M04109A		5	7.3	0.0	I-5	Stonehill Dr		ADD SOUTHBOUND I-5 OFF-RAMP AT STONEHILL	Existing Config: No SB off-ramp													√
OR	S	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA020109	ORA020109	5	8.4	8.7	I-5	AT CAMINO CAPISTRANO INTERSECTION		I-5 AT CAMINO CAPISTRANO INTERSECTION IMPROVEMENT. WIDEN S/B OFFRAMP FROM 2 TO 3 LANES.	WIDEN SOUTHBOUND OFFRAMP FROM 2 TO 3 LANES	√	√											
OR	S	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA120326	ORA120326	5	9.6	0.0	I-5	SR-74		NB/SB AT I-5/SR-74 SEPARATION. REBUILD INTERCHANGE INCLUDING WIDENING OF SR-74 OVERCROSSING		√	√											√
OR	S	CALTRANS	2M0730		5	12.6	18.7	I-5	AVERY PKWY	ALICIA PKWY	ADD 1 MF LANE EACH DIRECTION	Existing Config: 4 to 5 lanes each direction													√
OR	S	CALTRANS	2M01111		5	12.9	0.0	I-5	Avery Parkway		AVERY PARKWAY RAMP RELOCATION, RECONFIGURATION, UPGRADES	Existing Config: 1 to 2 lane on- and off-ramps													√
OR	S	CALTRANS	ORA030604	ORA030604	5	13.7	15.0	I-5	Crown Valley		IN THE CITY OF MISSION VIEJO SB OFFRAMP AT CROWN VALLEY PARKWAY - WIDEN OFFRAMP FROM 4 TO 5 LANES		√												√
OR	S	ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA020112	ORA020112	5	15.1	16.3	I-5	AT OSO PARKWAY EXIT LANE AND NORTHBOUND ON RAMP		I-5 SOUTHBOUND AT OSO PARKWAY EXIT LANE AND INTERCHANGE IMPROVEMENTS. WIDEN FROM 1 TO 2 LANES AND ADD AN EXIT/STORAGE LANE. PLUS SIGHT DISTANCE IMPROV. TO NB OFF RAMP.	WIDEN FROM 1 TO 2 LANES AND ADD AN EXIT/STORAGE LANE PLUS SIGHT DISTANCE IMPROVEMENT TO NORTHBOUND ON RAMP	√	√		√									
OR	S	CALTRANS	2M01108		5	15.2	16.5	I-5 SB	La Paz Road	Oso Parkway	EXTEND AUXILIARY LANE THROUGH INTERCHANGE	Existing Configuration: aux drops at La Paz, and resumes south of La Paz													√

* S = State Hwy, L = Local Hwy, T = Transit

** The actual completion date may vary, e.g. a project completed in 2016 would have a network year of 2020.

2008 RTIP

ProjectID	County	Air Basin	RTP ID	Program	Route	Begin	End	System	Conformity Category	Amend		
ORA010200	Orange	SCAB	ORA010200	NCRH1	1	4.32	4.32	S	EXEMPT	0		
						PTC	1,417	Agency	DANA POINT			
PACIFIC COAST HWY @ DEL OBISPO, WIDEN INTERSECTION, ADD ADDITIONAL THRU LANE IN EACH DIRECTION, ADD BUS TURNOUT AND ALL ASSOCIATED IMPROVEMENTS. (00-DPNT-IIP-3059)												
Fund	ENG	R/W	CON	Total	Prior	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	Total
ORANGE M - IIP			1,417	1,417	1,417							1,417
ORA010200 Total			1,417	1,417	1,417							1,417
ProjectID	County	Air Basin	RTP ID	Program	Route	Begin	End	System	Conformity Category	Amend		
ORA120326	Orange	SCAB	ORA120326	NCRT3	5	.01	1.6	S	NON-EXEMPT	24		
						PTC	84,514	Agency	SAN JUAN CAPISTRANO			
RECONSTRUCT I-5/SR-74 INTERCHANGE (IN SAN JUAN CAPISTRANO, ON ROUTE 74 FROM ROUTE 5 TO EAST OF THE CITY LIMIT. RECONSTRUCT THE ROUTE 74 AND ROUTE 5 INTERCHANGE) PPNO 4102 DUAL LEAD SJC CALTRANS												
Fund	ENG	R/W	CON	Total	Prior	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	Total
CITY FUNDS			20,000	20,000						20,000		20,000
ORANGE M - REG I/C	2,500			2,500	2,500							2,500
STATE CASH - RIP	4,873	31,753	25,388	62,014		36,626				25,388		62,014
ORA120326 Total	7,373	31,753	45,388	84,514	2,500	36,626				45,388		84,514
ProjectID	County	Air Basin	RTP ID	Program	Route	Begin	End	System	Conformity Category	Amend		
ORA120402	Orange	SCAB	ORA120402	NCR42	5	1.4	1.6	S	EXEMPT	0		
						PTC	3,196	Agency	ORANGE COUNTY TRANS AUTHORITY (OCTA)			
IN SAN CLEMENTE NORTHBOUND INTERSTATE 5 AT AVENIDA VAQUERO - SOUNDWALL DESIGN AND CONSTRUCTION PPNO 2580A. DUAL LEAD AGENCY. OCTA FOR PA&ED AND PS&E CALTRAN LEAD FOR ROW CON												
Fund	ENG	R/W	CON	Total	Prior	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	Total
STATE CASH - RIP	620	30	2,546	3,196	650	2,546						3,196
ORA120402 Total	620	30	2,546	3,196	650	2,546						3,196
ProjectID	County	Air Basin	RTP ID	Program	Route	Begin	End	System	Conformity Category	Amend		
*ORA990929	Orange	SCAB	2M0714	CAY69	5	3.3	8.7	S	NON-EXEMPT	33		
						PTC	21,108	Agency	ORANGE COUNTY TRANS AUTHORITY (OCTA)			
I-5 Avenida Pico to Pacific Coast Highway - Add 1 HOV lane in each direction and Avenida Pico Interchange Improvement EA#0F960K, 2M0714												
Fund	ENG	R/W	CON	Total	Prior	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	Total
INTERSTATE MAINTENANC - EARMARK	1,173			1,173			935	238				1,173
ORANGE M2 - FREEWAY	19,000			19,000			2,000	2,000	5,000	5,000	5,000	19,000
ORA990929 Total	20,173			20,173			2,935	2,238	5,000	5,000	5,000	20,173
ProjectID	County	Air Basin	RTP ID	Program	Route	Begin	End	System	Conformity Category	Amend		
ORA020111	Orange	SCAB	--no data--	NCRH3	5	3.4	3.6	S	NON-EXEMPT	0		
						PTC	7,276	Agency	ORANGE COUNTY TRANS AUTHORITY (OCTA)			
I-5 AT AVENIDA PICO SOUTHBOUND OFF RAMP WIDENING FROM 1 TO 2 LANES AND EXTEND THE EXISTING AUX LANE TO CONNECT WITH S/B AUX LANE VISTA HERMOSA ON RAMP.												
Fund	ENG	R/W	CON	Total	Prior	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013	2013/2014	Total
NATIONAL HWY SYSTEM - RIP	1,918		5,358	7,276	7,276							7,276

Appendix C. Carbon Monoxide Hot-Spot Analysis Modeling Procedures

In California, the procedures of the local analysis for CO are modified pursuant to 40 CFR 93.123(a)(1) of the Transportation Conformity Rule. Sub-paragraph (a)(1) states the following:

CO hot-spot analysis. (1) The demonstrations required by 40 CFR 93.116 (“Localized CO and PM₁₀ violations”) must be based on a quantitative analysis using the applicable air quality models, data bases, and other requirements specified in 40 CFR part 51, Appendix W (Guideline on Air Quality Models). These procedures shall be used in the following cases, unless different procedures developed through the interagency consultation process required in 40 CFR 93.105 and approved by the EPA Regional Administrator are used:

The sub-paragraph allows for an alternative identified in the *Transportation Project-Level Carbon Monoxide Protocol* (CO Protocol) developed by the Institute of Transportation Studies at the University of California, Davis (UC Davis). The CO Protocol outlines the procedure for performing a CO analysis, which was approved by David P. Howekamp, Director of the Air Division of the U.S. EPA Region IX, in October 1997. The U.S. EPA deemed the CO Protocol as an acceptable option to the mandated quantitative analysis. The CO Protocol incorporates 40 CFR 93.115 through 93.117, and 40 CFR 93.126 through 93.128 into its rules and procedures.

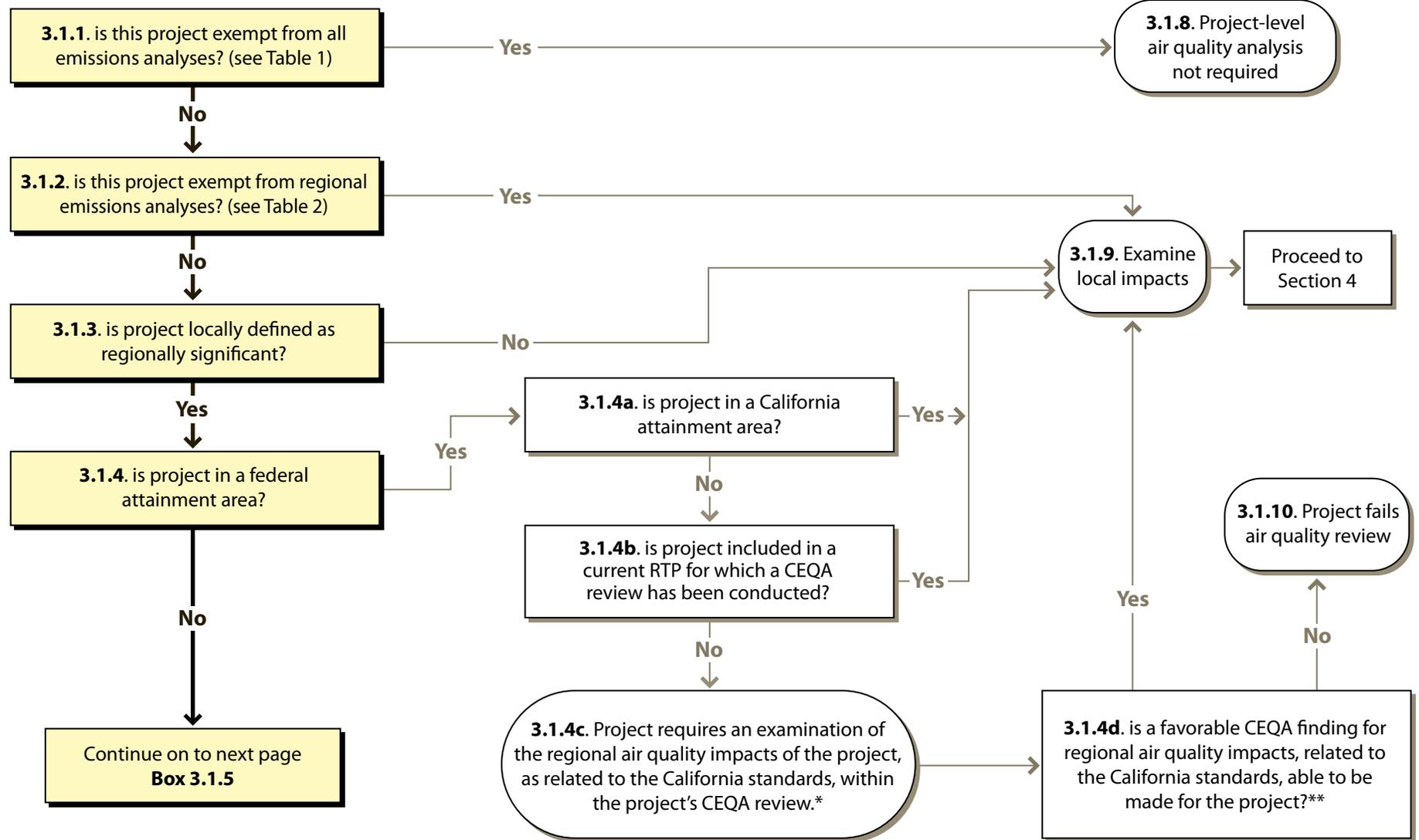
Alternative 1 (No Build)

Alternative 1 (No Build) proposes no improvements to I-5, maintaining the existing four general purpose lanes throughout the project limits. As a result, no modifications to I-5 would occur and a CO hot-spot analysis would not be required. Therefore, Alternative 1 would not have impacts regarding CO hot-spots.

Alternative 2

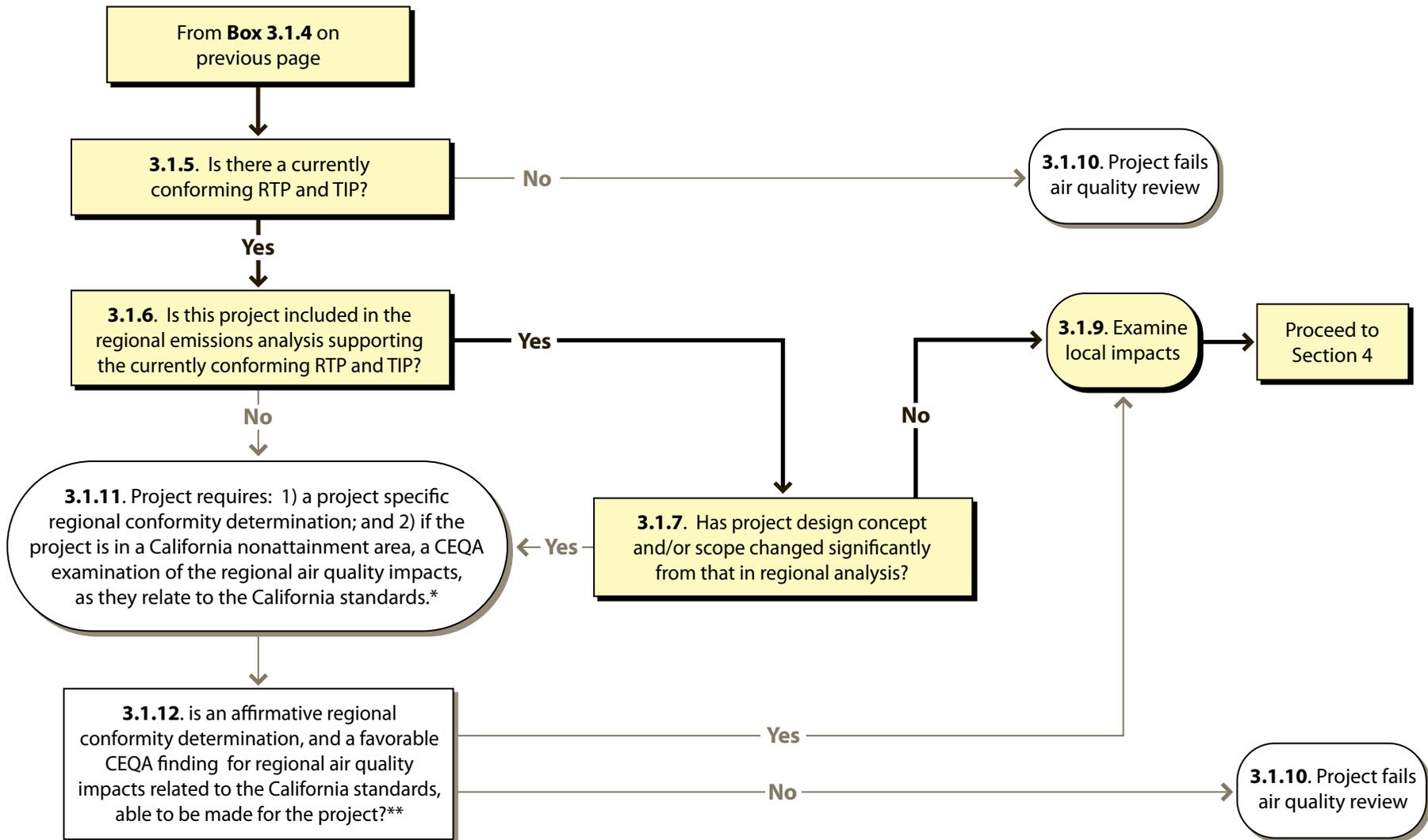
Alternative 2 would remove the existing I-5 paved shoulders to construct a new travel way and shoulder pavement to the outside of the northbound and southbound lanes to accommodate an HOV lane. Additionally, Alternative 2 would improve the Avenida Pico interchange. The scope required for CO local analysis is summarized in the CO Protocol, Section 3 (Determination of Project Requirements); refer to Exhibit 3 (Caltrans CO Protocol Figure 1 – Part 1) and Exhibit 4 (Caltrans CO Protocol Figure 1 [Continued]). Section 4 (Local Analysis) is illustrated in Exhibit 5 (Caltrans CO Protocol Figure 3 – Part 1) and Exhibit 6 (Caltrans CO Protocol Figure 3 – Part 2).

REQUIREMENTS FOR NEW PROJECTS



Indicates Selected Choice in Worksheet Methodology.

REQUIREMENTS FOR NEW PROJECTS



* In consultation w/MPO and Caltrans

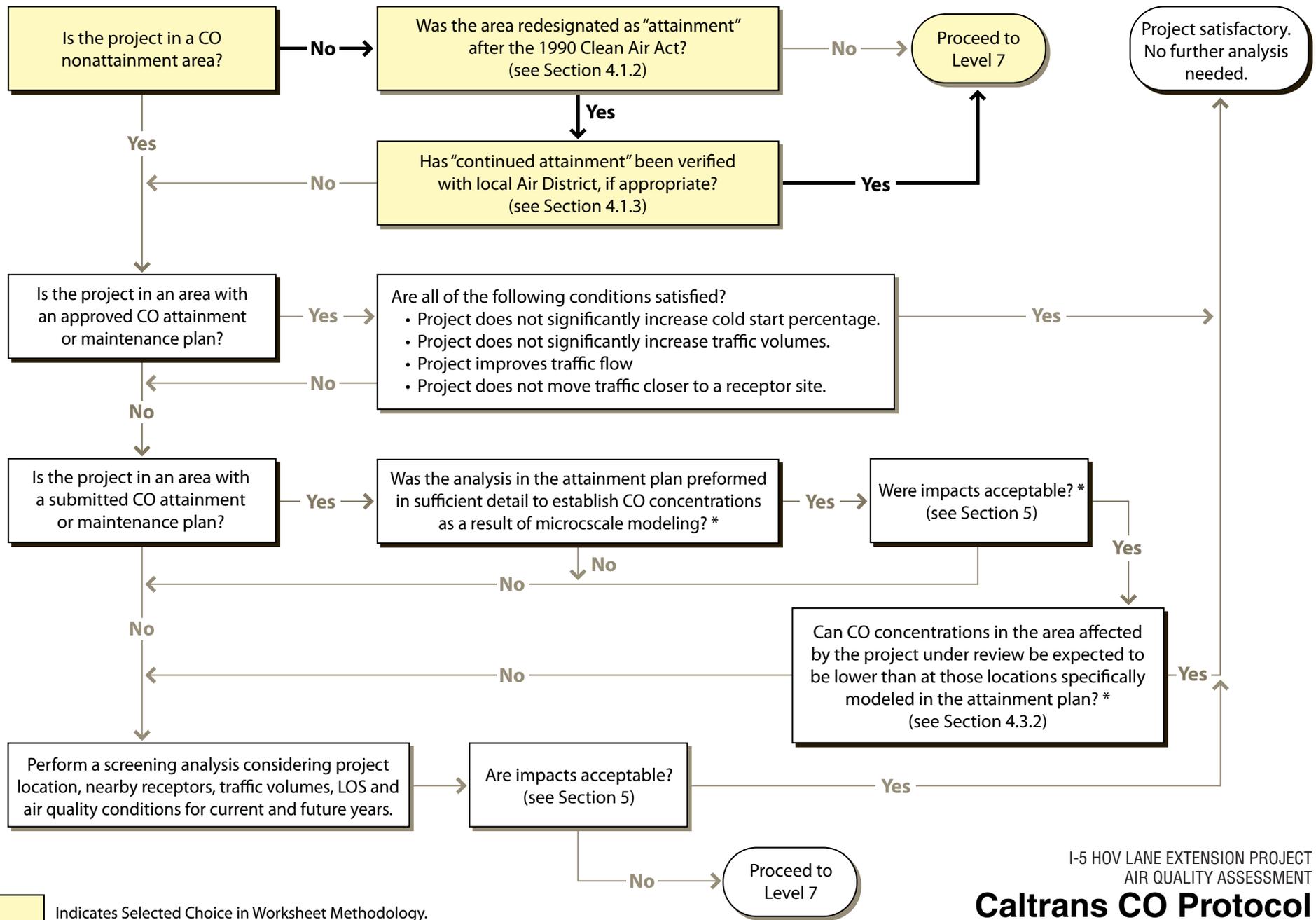
** In consultation w/MPO, local air district, CARB and Caltrans

Indicates Selected Choice in Worksheet Methodology.

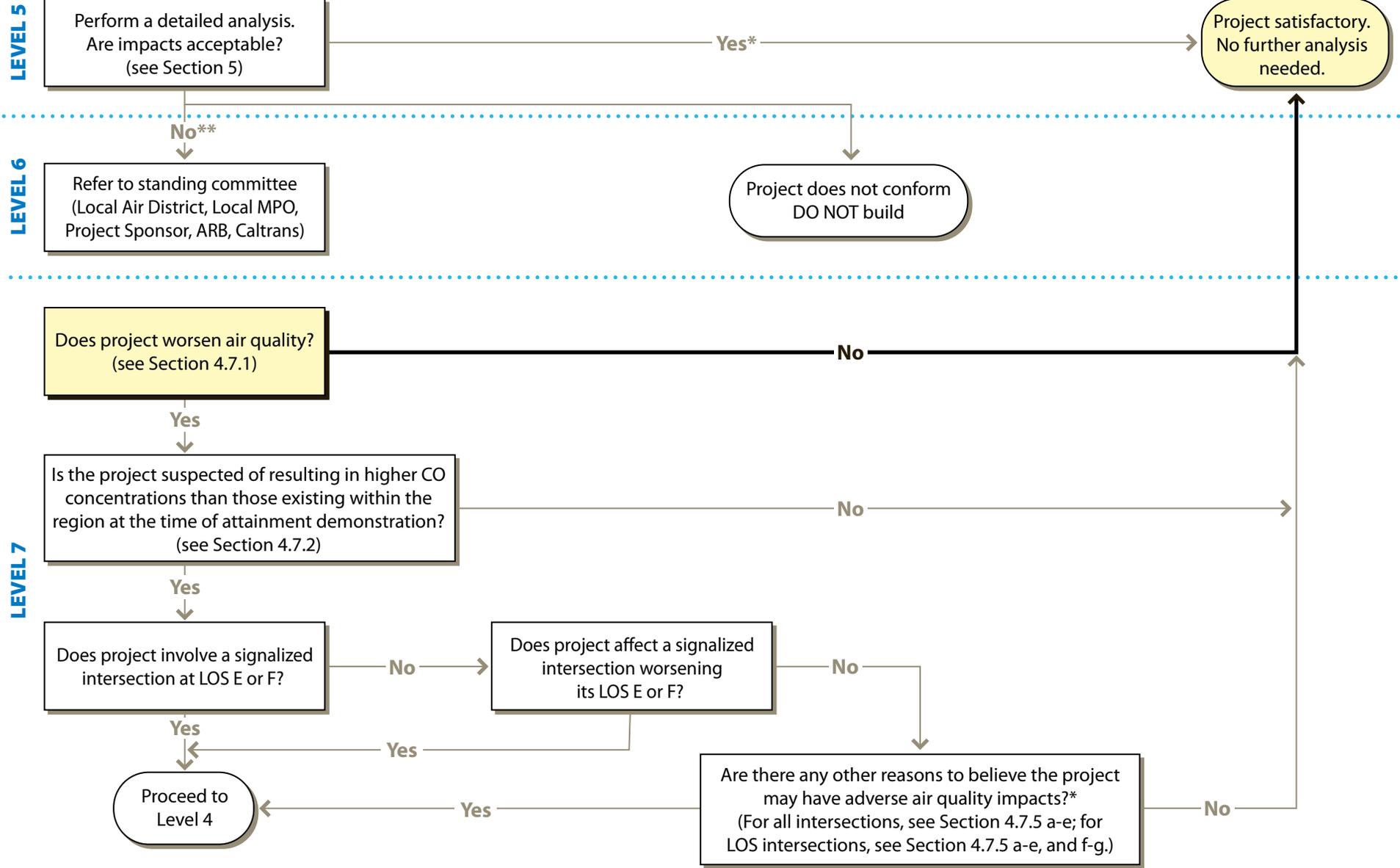
I-5 HOV LANE EXTENSION PROJECT
AIR QUALITY ASSESSMENT

Caltrans CO Protocol
FIGURE 1 - PART 1 (continued)

LOCAL CO ANALYSIS



LOCAL CO ANALYSIS



* Consultation with MPO and Local Air District required in addition to normal NEPA/CEQA requirements.
 ** Consultation with MPO, Local Air District, CARB and Caltrans (District & Headquarters) required in addition to normal NEPA/CEQA.

Indicates Selected Choice in Worksheet Methodology.

In Section 3, the CO Protocol provides two conformity requirement decision flowcharts that are designed to assist the project sponsor(s) in evaluating the requirements that apply to specific projects. The flowchart in Figure 1 of the CO Protocol applies to new projects and was used in this local analysis conformity decision. Below is a step-by-step explanation of the flow chart.

Each level cited is followed by a response, which would determine the next applicable level of the flowchart for the project. The flowchart begins with Section 3.1.1:

3.1.1. Is this project exempt from all emissions analyses? **No.** Table 1 of the CO Protocol is Table 2 of §93.126. Section 3.1.1 is inquiring if the project is exempt. Such projects appear in Table 1 of the CO Protocol. The proposed project does not appear in Table 1. It is not exempt from all emissions analyses.

3.1.2. Is this project exempt from regional emissions analyses? **No.** Although the proposed project is included in the 2008 RTIP, it is not exempt since it includes improvements necessary to extend HOV lanes, which is not included in Table 2 of the CO Protocol. As a result, it is not exempt from regional analyses.

3.1.3. Is the project locally defined as regionally significant? **No.** The proposed project is considered regionally significant, as it is included in the 2008 RTIP.

3.1.4. Is the project in a Federal attainment area? **No.** The proposed project is within the South Coast Air Basin, which has been designated as an attainment/maintenance area for the Federal CO standards effective June 11, 2007. As the South Coast Air Basin is designated attainment/maintenance, it is not in attainment. The flowchart continues to Box 3.1.5.

3.1.5. Is there a currently conforming RTP and TIP? **Yes.** The proposed project is located in the SCAG region which has a currently conforming RTP and TIP. SCAG's currently conforming RTP is entitled *2008 Regional Transportation Plan (RTP): Making the Connections*, and was adopted on May 8, 2008. FHWA determined the RTP to conform to the SIP on June 5, 2008.⁶ Additionally, SCAG has prepared the 2008 Regional Transportation Improvement Program (RTIP) to implement projects and programs listed in the RTP.⁷ FHWA determined the RTIP to conform to the SIP on November 17, 2008.

⁶ Southern California Association of Governments, *2008 Regional Transportation Plan: Making the Connections*, Adopted May 2008. (<http://www.scag.ca.gov/rtp2008>)

⁷ Southern California Association of Governments, *2008 Regional Transportation Improvement Program*, Adopted 2008. (<http://www.scag.ca.gov/RTIP/Index.HTM>)

3.1.6. Is the project included in the regional emissions analysis supporting the currently conforming RTP and TIP? **Yes.** The proposed project is included in the regional emissions analysis conducted by SCAG for the conforming 2008 RTP. Therefore, the individual projects contained in the plan are conforming projects, and will have air quality impacts consistent with those identified in the SIP.

3.1.7. Has the project design concept and/or scope changed significantly from that in the regional analysis? **No.** The project design concept refers to the type of facility identified by the proposed project. The project design scope refers to the design aspects that affect the proposed facility's impact on emissions, usually as they related to carrying capacity and control. The proposed project's RTIP listing is in the process of being amended to adjust the postmiles. However, this change would not alter the design concept (i.e., HOV extension), nor would it alter the design scope, because these changes would not impact traffic volumes. Additionally, the proposed project would conform to the SIP once the amendment has been incorporated into the RTIP.

3.1.9. Examine local impacts. Section 3.1.9 of the flowchart directs the project evaluation to Section 4 (Local Analysis) of the CO Protocol. This concludes Figure 1.

Likewise, Section 4 contains Figure 3 (Local CO Analysis). This flowchart is used to determine the type of CO analysis required for the proposed project. Below is a step-by-step explanation of the flowchart. Each level cited is followed by a response, which would determine the next applicable level of the flowchart for the proposed project. The flowchart begins at level 1:

Level 1. Is the project in a CO non-attainment area? **No.** As stated in 3.1.4, the proposed project is within the South Coast Air Basin, which has been designated as an attainment/maintenance area for the Federal CO standards effective June 11, 2007. Additionally, a summary of the most recent 3 years of the 4-highest monitored CO data is presented below. Data from the Mission Viejo air-monitoring station was used for the years 2007 to 2009; refer to Table 7 (Highest Four Daily Maximum 8-Hour CO [ppm] Averages).

Mission Viejo – 26081 Via Pera

AIRS Number: 060592022

Latitude = 33°37'49"

Longitude = 117°40'30"

26081 Via Pera

Mission Viejo, CA 92691

**Table 7
Highest Four Daily Maximum 8-Hour CO (ppm) Averages**

4 Highest Daily CO	2007	2008	2009
High	2.16	1.10	1.00
2 nd High	1.99	1.04	0.89
3 rd High	1.44	1.02	0.81
4 th High	1.43	0.96	0.81
# Days above National Standard	0	0	0
# Days above State Standard	0	0	0
Source: California Air Resources Board, <i>ADAM Air Quality Data Statistics</i> , http://www.arb.ca.gov/adam/welcome.html .			

The State and Federal standard for CO is 9.0 parts per million (ppm), averaged over eight hours. State and Federal standards were not exceeded between 2007 and 2009. On-road mobile source CO emissions have declined 24 percent between 1989 to 1998 despite a 23 percent rise in motor vehicle miles traveled (VMT) over the same 10 years. California trends have been consistent with national trends; CO emissions declined 20 percent in California from 1985 through 1997 while VMT increased 18 percent in the 1990's. Three major control programs have contributed to the reduced per-vehicle CO emissions: exhaust standards, cleaner burning fuels, and motor vehicle inspection and maintenance (I/M) programs. The data presented in Table 7 reinforces that CO emissions are well below State and Federal Standards.

Level 2. Was the area redesignated as “attainment” after the 1990 Clean Air Act? **Yes.** The proposed project is located in the South Coast Air Basin, under the jurisdiction of the SCAQMD, and was classified nonattainment after the 1990 FCAA. The South Coast Air Basin has been granted Federal redesignation to attainment/maintenance effective June 11, 2007.

Level 2a. Has “continued attainment” been verified with local Air District, if appropriate? **Yes.** As stated above, the South Coast Air Basin has been recently redesignated as an attainment/maintenance area for the Federal CO standards effective June 11, 2007. Additionally, the Mission Viejo Monitoring Station has not recorded an exceedance for CO in the past three years.

This concludes Figure 3 – Part 1. The flowchart continues with Figure 3 – Part 2 (Local CO Analysis) at Level 7.

Level 7. Does the project worsen air quality? **No.** Although the Basin is designated as an attainment/maintenance area for CO, it is necessary to determine project contributions to local air quality. Intersections where air quality may be getting worse are of primary concern. Section 4.7.1 of the *CO Protocol* provides criteria to determine whether a project is likely to worsen air

quality. These criteria include increases in vehicles operating in cold start mode, increases in traffic volumes, and a worsening of traffic flow.

As previously stated in Table 4, implementation of the proposed project would alleviate several peak hour mainline and freeway ramp deficiencies and would reduce congestion. Additionally, the proposed project does not involve parking lots, and therefore would not increase the number of vehicles operating in cold start mode. As a result, the proposed project has sufficiently addressed the CO impact and no further analysis is needed.

Alternative 3

Alternative 3 would follow the same path as Alternative 2 in the CO Protocol's conformity requirement decision flowcharts. Additionally, Alternative 3 would not change the traffic volumes, fleet mixes, or level of service from what was analyzed in Alternative 2, thereby resulting in similar CO emissions. Thus, the impacts of Alternative 3 would be less than significant.

Alternative 4

Alternative 4 has similar improvements as Alternative 2 and Alternative 3. As with Alternative 3, Alternative 4 would not change the traffic volumes, fleet mixes, or level of service from what was analyzed in Alternative 2, thereby resulting in similar CO emissions. Thus, CO hot-spot impacts of Alternative 4 would be less than significant.

Appendix D. PM Interagency Consultation

PROGRAMS & PROJECTS
Compass Blueprint
Environment
Air Quality
Energy
Environmental Impact Reports
Environmental Justice
Intergovernmental Review
Solid & Hazardous Waste Management
Water
Housing
Local Profiles
Overall Work Program
Regional Comprehensive Plan
Regional Transportation Improvement Program
Regional Transportation Plan
SB 375 Regional Implementation Process
State of the Region
Strategic Plan
Transportation
REGIONAL COUNCIL
Districts & Representatives
Executive Officers
Governing Structure
LEGISLATION
State & Federal Programs
Find Your Representative
DATA SERVICES
Demographics, Trends & Statistics
Emergency Information Network
Goods Movement Database
Integrated Growth Forecast
Mapping & GIS
Modeling
MEDIA & COMMUNICATIONS
Press Room
Publications & Reports
SCAG TV - Streaming Videos

TCWG Project-Level PM Hot Spot Analysis Project Lists

Review of PM Hot Spot Interagency Review Forms

February 2010	Determination
ORA020109	Not a POAQC
ORA020109 Figures	
* ORA2H01143	Not a POAQC
ORA2H01143 Exhibit 1a	
ORA2H01143 Exhibit 1b	
RIV070710	Not a POAQC
RIV071259	Not a POAQC
RIV071259 Figure 1	
RIV071259 Figure 2	
RIV071259 Figure 3	
RIV071262	Not a POAQC
RIV520109	The project sponsor will provide additional information on the truck traffic analysis in each intersection and how it would affect operations.
RIV520109 Attachment 1	
RIV520109 Attachment 2	

From: Rongsheng Luo <LUO@scag.ca.gov>
To: 'Eddie Torres' <EGTORRES@rbf.com>
CC: Achilles Malisos <AMALISOS@rbf.com>, Bo Burick <BURICK@rbf.com>, 'Mana' ...
Date: 4/9/2010 11:10 AM
Subject: I-5 HOV Extension POAQC Determination (ORA2H01143)

Hi Eddie,

As you may be aware, Project ORA2H01143 has been determined by TCWG to be not a project of air quality concern. The conformity determination for the project has been updated on the TCWG website (<http://www.scag.ca.gov/tcwg/projectlist/february10.htm>). If you have any questions, please let me know.

Rongsheng Luo

Program Manager
Transportation Modeling, Air Quality and Conformity Division
Department of Transportation Planning
Southern California Association of Governments
Telephone: (213) 236-1994
Fax: (213) 236-1963
Email: luo@scag.ca.gov

Don't miss the SCAG Regional Conference and General Assembly, May 5 – 7, 2010, at the La Quinta Resort & Club! Register now at www.scag.ca.gov.

From: Mike Brady <mike_brady@dot.ca.gov>
To: Rongsheng Luo <LUO@scag.ca.gov>
CC: Achilles Malisos <AMALISOS@rbf.com>, Bo Burick <BURICK@rbf.com>, 'Eddie ...
Date: 3/29/2010 9:01 AM
Subject: Re: FW: I-5 HOV Extension POAQC Determination (ORA2H01143)

I'd recommend proceeding as Not a POAQC - differences Build/No Build are small to none, and as primarily an HOV lane project it doesn't add much in the way of diesel truck capacity. Aux. lanes and interchange modifications don't appear to be oriented to major truck traffic generators like distribution centers and industrial areas - primarily operational in nature for light-medium duty vehicles.

Michael Brady
California Department of Transportation
DOTP-ORIP
Air Quality/Conformity Coordinator
Phone: (916) 653-0158
Fax: (916) 653-1447
Cell: (916) 804-2747

Rongsheng Luo <LUO@scag.ca.gov>
03/26/2010 02:19 PM

To
"OConnor.Karina@epamail.epa.gov" <OConnor.Karina@epamail.epa.gov>, 'Mike Brady' <mike_brady@dot.ca.gov>, "Stew.Sonnenberg@dot.gov" <Stew.Sonnenberg@dot.gov>
cc
'Eddie Torres' <EGTORRES@rbf.com>, Achilles Malisos <AMALISOS@rbf.com>, Bo Burick <BURICK@rbf.com>, 'Mana' <msangka@gmail.com>, Rongsheng Luo <LUO@scag.ca.gov>
Subject
FW: I-5 HOV Extension POAQC Determination (ORA2H01143)

Hi Karina, Mike, and Stew,
As a follow-up to the TCWG meeting on February 23, 2010, the project sponsor has provided responses (see the email below and the attached files) to your comments and questions regarding project ORA2H01143. For your information, the approved February TCWG meeting minutes states that "the project sponsor will provide additional information on the truck traffic analysis in each intersection and how it would affect operations."
Would you please review the sponsor's responses and let me know your comments and determination by the end of next week (4/2)? If you have any questions, please let me know. Thanks.
Rongsheng

Rongsheng Luo
Program Manager

Transportation Modeling, Air Quality and Conformity Division
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From: Eddie Torres [mailto:EGTORRES@rbf.com]
Sent: Monday, March 22, 2010 2:26 PM
To: Rongsheng Luo
Cc: Achilles Malisos; Bo Burick
Subject: I-5 HOV Extension POAQC Determination (ORA2H01143)

Rongsheng -

I was checking on the status of our project which was submitted to the TCWG in February and noticed that a determination had not yet been made. Mike Brady indicated that Amy Kratovil with FHWA may have some additional questions or concerns. I was hoping you could forward this e-mail to her, as it has some additional information from our Air Quality Assessment (AQA). I have attached the following:

- Excerpt of the Particulate Matter, VMT/VHT, and modeling analyses from the AQA
- Outputs from the CT-EMFAC model
- TCWG submittal form (the same form that you reviewed at the meeting)

Although the mainline volumes are high, this segment of I-5 does not have a high percentage of truck traffic. It is 4 percent or less under existing conditions and will remain the same under build conditions. It should be noted that there are no ports, railyards, or other sources of heavy truck traffic in the study area.

In certain segments within the project area, this missing segment of the HOV lane has contributed to high accident rates due to the bottleneck. The other accessory improvements are meant to bring this segment under current safety standards and to reducing queuing at the current on- and off-ramps. Currently, traffic builds up on these existing access points and results in multiple failures. Our analysis has shown that there would be a negligible increase in VMT, a decrease in VHT, and an improvement at each of the study intersections/ramps. I hope that you can review this data and concur with our opinion that this project would improve air quality in the area and not be a POAQC.

If Amy has any questions or concerns, she can feel free to contact me directly. Thank you so much for your help.

=====
Eddie Torres, INCE, REA
RBF Consulting
Phone (949) 855-3612
FAX (949) 837-4122

<http://www.rbf.com>

=====
[attachment "EMFAC Model Run.pdf" deleted by Mike
Brady/HQ/Caltrans/CAGov] [attachment "I-5 HOV.pdf" deleted by Mike
Brady/HQ/Caltrans/CAGov] [attachment "I-5 HOV - PM Interagency
Consultation.pdf" deleted by Mike Brady/HQ/Caltrans/CAGov]

Achilles Malisos - RE: FW: I-5 HOV Extension POAQC Determination (ORA2H01143)

From: <OConnor.Karina@epamail.epa.gov>
To: <Stew.Sonnenberg@dot.gov>
Date: 4/9/2010 9:34 AM
Subject: RE: FW: I-5 HOV Extension POAQC Determination (ORA2H01143)
CC: <LUO@scag.ca.gov>, <mike_brady@dot.ca.gov>, <AMALISOS@rbf.com>, <BURICK@rbf.com>, <EGTORRES@rbf.com>, <msangka@gmail.com>, <Emily.Biondi@dot.gov>

I also concur that the project is not a POAQC
 -----<Stew.Sonnenberg@dot.gov> wrote: -----

To: <LUO@scag.ca.gov>
 From: <Stew.Sonnenberg@dot.gov>
 Date: 04/09/2010 08:44AM
 cc: <mike_brady@dot.ca.gov>, <AMALISOS@rbf.com>, <BURICK@rbf.com>, <EGTORRES@rbf.com>, <msangka@gmail.com>, Karina OConnor/R9/USEPA/US@EPA, <Emily.Biondi@dot.gov>
 Subject: RE: FW: I-5 HOV Extension POAQC Determination (ORA2H01143)

Hi Rongsheng, for reasons similar to Mike's, I also recommend that ORA2H01143 be Not a POAQC.

Thanks,

Stew Sonnenberg
 Air Quality Specialist
 Federal Highway Administration
 916.498.5889

-----Original Message-----

From: Rongsheng Luo [<mailto:LUO@scag.ca.gov>]
 Sent: Wednesday, April 07, 2010 5:44 PM
 To: OConnor.Karina@epamail.epa.gov; Sonnenberg, Stew (FHWA)
 Cc: 'Mike Brady'; Achilles Malisos; Bo Burick; 'Eddie Torres'; 'Mana'; Rongsheng Luo
 Subject: RE: FW: I-5 HOV Extension POAQC Determination (ORA2H01143)
 Importance: High

Hi Karina and Stew,

Have you completed your review of the additional information provided by the project sponsor regarding project ORA2H01143 (see my email to you on 03/26/2010 02:19 PM)? If yes, would you please let me know your comments and/or determination as soon as possible? If not, would you please let me know when you will be able to complete your review because the project sponsor has asked about the status? For your information, Mike Brady recommended the project to be Not a POAQC (see his email below). If you have any questions, please let me know. Thanks.

Rongsheng

Rongsheng Luo
 Program Manager
 Transportation Modeling, Air Quality and Conformity Division

Department of Transportation Planning
 Southern California Association of Governments
 Telephone: (213) 236-1994
 Fax: (213) 236-1963
 Email: luo@scag.ca.gov

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-----Original Message-----

From: Mike Brady [mailto:mike_brady@dot.ca.gov]
 Sent: Monday, March 29, 2010 9:01 AM
 To: Rongsheng Luo
 Cc: Achilles Malisos; Bo Burick; 'Eddie Torres'; Rongsheng Luo; 'Mana'; OConnor.Karina@epamail.epa.gov; 'Stew.Sonnenberg@dot.gov'
 Subject: Re: FW: I-5 HOV Extension POAQC Determination (ORA2H01143)

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Michael Brady
 California Department of Transportation
 DOTP-ORIP
 Air Quality/Conformity Coordinator
 Phone: (916) 653-0158
 Fax: (916) 653-1447
 Cell: (916) 804-2747

Rongsheng Luo <LUO@scag.ca.gov>
 03/26/2010 02:19 PM

To
 "OConnor.Karina@epamail.epa.gov" <OConnor.Karina@epamail.epa.gov>, 'Mike Brady' <mike_brady@dot.ca.gov>, "'Stew.Sonnenberg@dot.gov'" <Stew.Sonnenberg@dot.gov>
 cc
 'Eddie Torres' <EGTORRES@rbf.com>, Achilles Malisos <AMALISOS@rbf.com>, Bo Burick <BURICK@rbf.com>, 'Mana' <msangka@gmail.com>, Rongsheng Luo <LUO@scag.ca.gov>
 Subject
 FW: I-5 HOV Extension POAQC Determination (ORA2H01143)

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"the project sponsor will provide additional information on the truck traffic analysis in each intersection and how it would affect operations."

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Rongsheng Luo
Program Manager
Transportation Modeling, Air Quality and Conformity Division
Department of Transportation Planning
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From: Eddie Torres [<mailto:EGTORRES@rbf.com>]
Sent: Monday, March 22, 2010 2:26 PM
To: Rongsheng Luo
Cc: Achilles Malisos; Bo Burick
Subject: I-5 HOV Extension POAQC Determination (ORA2H01143)

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- Excerpt of the Particulate Matter, VMT/VHT, and modeling analyses from the AQA
- Outputs from the CT-EMFAC model
- TCWG submittal form (the same form that you reviewed at the meeting)

Although the mainline volumes are high, this segment of I-5 does not have a high percentage of truck traffic. It is 4 percent or less under existing conditions and will remain the same under build conditions. It should be noted that there are no ports, railyards, or other sources of heavy truck traffic in the study area.

In certain segments within the project area, this missing segment of the HOV lane has contributed to high accident rates due to the bottleneck. The other accessory improvements are meant to bring this segment under current safety standards and to reducing queuing at the current on- and off-ramps.

Currently, traffic builds up on these existing access points and results in multiple failures. Our analysis has shown that there would be a negligible increase in VMT, a decrease in VHT, and an improvement at each

of the study intersections/ramps. I hope that you can review this data and concur with our opinion that this project would improve air quality in the area and not be a POAQC.

If Amy has any questions or concerns, she can feel free to contact me directly. Thank you so much for your help.

=====
Eddie Torres, INCE, REA
RBF Consulting
Phone (949) 855-3612
FAX (949) 837-4122
<http://www.rbf.com>
=====

[attachment "EMFAC Model Run.pdf" deleted by Mike Brady/HQ/Caltrans/CAGov] [attachment "I-5 HOV.pdf" deleted by Mike Brady/HQ/Caltrans/CAGov] [attachment "I-5 HOV - PM Interagency Consultation.pdf" deleted by Mike Brady/HQ/Caltrans/CAGov]

From: <Stew.Sonnenberg@dot.gov>
To: <LUO@scag.ca.gov>
CC: <mike_brady@dot.ca.gov>, <AMALISOS@rbf.com>, <BURICK@rbf.com>, <EGTORRES...>
Date: 4/9/2010 8:45 AM
Subject: RE: FW: I-5 HOV Extension POAQC Determination (ORA2H01143)

Hi Rongsheng, for reasons similar to Mike's, I also recommend that ORA2H01143 be Not a POAQC.

Thanks,

Stew Sonnenberg
Air Quality Specialist
Federal Highway Administration
916.498.5889

-----Original Message-----

From: Rongsheng Luo [mailto:LUO@scag.ca.gov]
Sent: Wednesday, April 07, 2010 5:44 PM
To: OConnor.Karina@epamail.epa.gov; Sonnenberg, Stew (FHWA)
Cc: 'Mike Brady'; Achilles Malisos; Bo Burick; 'Eddie Torres'; 'Mana'; Rongsheng Luo
Subject: RE: FW: I-5 HOV Extension POAQC Determination (ORA2H01143)
Importance: High

Hi Karina and Stew,

Have you completed your review of the additional information provided by the project sponsor regarding project ORA2H01143 (see my email to you on 03/26/2010 02:19 PM)? If yes, would you please let me know your comments and/or determination as soon as possible? If not, would you please let me know when you will be able to complete your review because the project sponsor has asked about the status? For your information, Mike Brady recommended the project to be Not a POAQC (see his email below). If you have any questions, please let me know. Thanks.

Rongsheng

Rongsheng Luo
Program Manager
Transportation Modeling, Air Quality and Conformity Division
Department of Transportation Planning
Southern California Association of Governments
Telephone: (213) 236-1994
Fax: (213) 236-1963
Email: luo@scag.ca.gov
Don't miss the SCAG Regional Conference and General Assembly, May 5 - 7, 2010, at the La Quinta Resort & Club! Register now at www.scag.ca.gov.

-----Original Message-----

From: Mike Brady [mailto:mike_brady@dot.ca.gov]
Sent: Monday, March 29, 2010 9:01 AM
To: Rongsheng Luo
Cc: Achilles Malisos; Bo Burick; 'Eddie Torres'; Rongsheng Luo; 'Mana'; OConnor.Karina@epamail.epa.gov; 'Stew.Sonnenberg@dot.gov'
Subject: Re: FW: I-5 HOV Extension POAQC Determination (ORA2H01143)

I'd recommend proceeding as Not a POAQC - differences Build/No Build are small to none, and as primarily an HOV lane project it doesn't add much in

the way of diesel truck capacity. Aux. lanes and interchange modifications don't appear to be oriented to major truck traffic generators like distribution centers and industrial areas - primarily operational in nature for light-medium duty vehicles.

Michael Brady
California Department of Transportation
DOTP-ORIP
Air Quality/Conformity Coordinator
Phone: (916) 653-0158
Fax: (916) 653-1447
Cell: (916) 804-2747

Rongsheng Luo <LUO@scag.ca.gov>
03/26/2010 02:19 PM

To
"OConnor.Karina@epamail.epa.gov" <OConnor.Karina@epamail.epa.gov>, 'Mike Brady' <mike_brady@dot.ca.gov>, "'Stew.Sonnenberg@dot.gov'" <Stew.Sonnenberg@dot.gov>
cc
'Eddie Torres' <EGTORRES@rbf.com>, Achilles Malisos <AMALISOS@rbf.com>, Bo Burick <BURICK@rbf.com>, 'Mana' <msangka@gmail.com>, Rongsheng Luo <LUO@scag.ca.gov>
Subject
FW: I-5 HOV Extension POAQC Determination (ORA2H01143)

Hi Karina, Mike, and Stew,
As a follow-up to the TCWG meeting on February 23, 2010, the project sponsor has provided responses (see the email below and the attached files) to your comments and questions regarding project ORA2H01143. For your information, the approved February TCWG meeting minutes states that "the project sponsor will provide additional information on the truck traffic analysis in each intersection and how it would affect operations."
Would you please review the sponsor's responses and let me know your comments and determination by the end of next week (4/2)? If you have any questions, please let me know. Thanks.
Rongsheng

Rongsheng Luo
Program Manager
Transportation Modeling, Air Quality and Conformity Division
Department of Transportation Planning
Southern California Association of Governments
Telephone: (213) 236-1994
Fax: (213) 236-1963
Email: luo@scag.ca.gov
Don't miss the SCAG Regional Conference and General Assembly, May 5 - 7, 2010, at the La Quinta Resort & Club! Register now at www.scag.ca.gov.

From: Eddie Torres [mailto:EGTORRES@rbf.com]
Sent: Monday, March 22, 2010 2:26 PM
To: Rongsheng Luo
Cc: Achilles Malisos; Bo Burick
Subject: I-5 HOV Extension POAQC Determination (ORA2H01143)

Rongsheng -

I was checking on the status of our project which was submitted to the TCWG in February and noticed that a determination had not yet been made. Mike Brady indicated that Amy Kratovil with FHWA may have some additional questions or concerns. I was hoping you could forward this e-mail to her, as it has some additional information from our Air Quality Assessment (AQA). I have attached the following:

- Excerpt of the Particulate Matter, VMT/VHT, and modeling analyses from the AQA
- Outputs from the CT-EMFAC model
- TCWG submittal form (the same form that you reviewed at the meeting)

Although the mainline volumes are high, this segment of I-5 does not have a high percentage of truck traffic. It is 4 percent or less under existing conditions and will remain the same under build conditions. It should be noted that there are no ports, railyards, or other sources of heavy truck traffic in the study area.

In certain segments within the project area, this missing segment of the HOV lane has contributed to high accident rates due to the bottleneck. The other accessory improvements are meant to bring this segment under current safety standards and to reducing queuing at the current on- and off-ramps. Currently, traffic builds up on these existing access points and results in multiple failures. Our analysis has shown that there would be a negligible increase in VMT, a decrease in VHT, and an improvement at each of the study intersections/ramps. I hope that you can review this data and concur with our opinion that this project would improve air quality in the area and not be a POAQC.

If Amy has any questions or concerns, she can feel free to contact me directly. Thank you so much for your help.

=====
 Eddie Torres, INCE, REA
 RBF Consulting
 Phone (949) 855-3612
 FAX (949) 837-4122
<http://www.rbf.com>
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<p>RTIP ID# (required): 2H01143</p>
<p>TCWG Consideration Date: February 23, 2010</p>
<p>Project Description (clearly describe project)</p> <p>The Orange County Transportation Authority (OCTA), in cooperation with the California Department of Transportation (Caltrans), the cities of San Clemente, Dana Point, and San Juan Capistrano, is proposing to widen Interstate 5 (I-5) between Avenida Pico and San Juan Creek Road; refer to Exhibits 1a and 1b (Site Plan). The project objectives are to provide continuity of the I-5 mainline high-occupancy vehicle (HOV) network within the project limits; maximize overall performance within the project limits by minimizing weaving conflicts at the termini of the HOV lanes; maintaining travel speeds for HOV lane users; provide intermittent auxiliary lanes, where needed, to relieve congestion at diverge and merge locations; minimize right-of-way acquisition; relieve congestion within interchange areas, on- and off-ramps, and local intersections; and reduce congestion on I-5 within the project limits. The project limits on I-5 extend from 0.4 mile south of the Avenida Pico Undercrossing (UC) (PM 3.0) to 0.1 mile south of the San Juan Creek Road UC (PM 8.7). The proposed project would add one HOV lane in each direction on I-5 throughout the project limits, reestablish existing auxiliary lanes and construct new auxiliary lanes, and improve several existing on- and off-ramps.</p> <p>Four alternatives, including the No Build Alternative, will be analyzed as part of the Draft Initial Study/Environmental Assessment (IS/EA). The project alternatives are described below.</p> <p>Alternative 1 (No Build)</p> <p>The no-build alternative proposes no improvements to I-5, maintaining the existing four general purpose lanes throughout the project limits in the northbound and southbound directions. All freeway facilities would remain as-is with the exception of proposed projects that are under development or currently in construction.</p> <p>Alternative 2</p> <p><u>Auxiliary Lanes.</u> Alternative 2 proposes to remove the existing I-5 paved shoulders and construct a new travel way and new shoulder pavement to the outside of the northbound and southbound lanes to accommodate HOV lanes. This alternative proposes full standard widths, including a 10-foot inside shoulder, 12-foot HOV lane, four-foot buffer, four 12-foot general purpose lanes, and a 10-foot outside shoulder throughout the majority of the project limits. Additionally, existing auxiliary lanes through the project limits are proposed to be reestablished, and new auxiliary lanes would be constructed at the following locations:</p> <ul style="list-style-type: none"> • To Avenida Vista Hermosa southbound off-ramp; • From Avenida Vista Hermosa northbound on-ramp; and • From Camino de Estrella southbound on-ramp. <p>Avenida Pico Interchange Improvements. In addition to providing an HOV lane through the I-5/Avenida Pico interchange, the interchange configuration would also be improved. There are two options under consideration for reconfiguration of the interchange, both of which require replacement of the Avenida Pico Overcrossing structure.</p> <ul style="list-style-type: none"> • Design Option A – Modified Tight Diamond Interchange. Under this option, the on- and off-ramps at Avenida Pico would be realigned and the northbound on-ramp would be widened to three lanes. The overall configuration of the interchange would be similar to the existing configuration. Additionally, Avenida Pico would be improved under the structure to provide dual left-turn lanes to both the northbound and southbound on-ramps. This alternative would incorporate an interconnect line to optimize signal timing and operations for the closely spaced intersections at the interchange. The geometry of Avenida Pico would also be improved on the east side of I-5 to remove the existing reversing curves. Bicycle lanes and standard outside shoulders would be provided throughout the majority of the interchange in both the eastbound and westbound directions. A sidewalk would be provided through the interchange in the eastbound direction. In the westbound direction, space would be provided to accommodate future construction of a sidewalk through the interchange.

- Design Option B – Northbound Loop On-Ramp/Realigned Northbound Off-Ramp. Under this option, a northbound loop on-ramp would be added to allow for the removal of the existing left-turn lane for traffic heading eastbound on Avenida Pico to access northbound I-5. (The existing directional on-ramp would remain in place for traffic heading westbound to access northbound I-5.) Additionally, the northbound off-ramp would be reconfigured around the loop resulting in a partial cloverleaf configuration. The southbound ramps would be realigned and the geometry of Avenida Pico would be improved as proposed in Design Option A. Dual left-turn lanes would be provided under the structure to the southbound on-ramp. Bicycle lanes and standard outside shoulders would be provided throughout the majority of the interchange in both the eastbound and westbound directions. A sidewalk would be provided through the interchange in the eastbound direction. In the westbound direction, space would be provided to accommodate future construction of a sidewalk through the interchange.

Ramps. All ramps within the project limits would be modified in order to accommodate the HOV lanes, which include improvements ranging from restriping to complete reconstruction. Specifically, ramp modifications under this alternative include:

Avenida Pico

- Modify ramps as described in Design Options A and B above.

Avenida Vista Hermosa

- Restripe the northbound and southbound loop on-ramps; and
- Restripe the northbound on- and off-ramps and southbound off-ramp.

Camino de Estrella

- Realign, reconstruct, and widen the southbound off-ramp to a two-lane ramp;
- Realign and reconstruct the northbound and southbound on-ramps and northbound loop on-ramp; and
- Realign the northbound off-ramp.

Camino Las Ramblas/Pacific Coast Highway (PCH)

- Realign, reconstruct, and widen the southbound on-ramp to a two-lane ramp;
- Realign and reconstruct the southbound loop on-ramp;
- Realign the southbound off-ramp and northbound on- and off-ramps; and
- Realign the northbound I-5 connector.

Camino Capistrano (Stonehill Drive)

- Realign and reconstruct the northbound on-ramp with a lower profile under the bridge to provide a standard vertical clearance.

Structures

Via California

- Reduced shoulder widths are proposed under the Via California structure in order to avoid replacement of the existing Via California Overcrossing (Bridge No. 55-225). The inside shoulder would be reduced to approximately four feet at the minimum location and the HOV buffer would be eliminated in the northbound direction.

Avenida Pico

- This alternative also proposes to replace the Avenida Pico UC structure (Bridge No. 55-205) to accommodate the HOV lane in each direction through the interchange. In order to achieve minimum vertical clearance for this structure, the I-5 mainline profile would be raised through the interchange area. Additionally, to ensure that all existing mainline lanes are open through construction, the I-5 centerline would be realigned westerly approximately 20 feet through the interchange.

Avenida Vaquero UC (Bridge No. 55-223)

- Structure widening.

Northbound I-5 to northbound PCH Connector (Bridge No. 55-226)

- Structure widening.

Route 5/Camino Las Ramblas UC (Bridge No. 55-510)

- Structure widening.

Camino Capistrano UC (Stonehill Drive) (Bridge No. 55-227L and 55-227R)

- Structure widening.

Other Improvements. Alternative 2 proposes to improve the existing compound curve between 0.3 mile south of Stonehill Drive and Pacific Coast Highway (PCH). This alternative would provide a wide inside shoulder (26 feet at the maximum width) throughout the southern portion of the curve along with increasing the radius from 2,000 to 2,200 feet to accommodate full standard stopping sight distance in the southbound direction. For the northern portion of the curve, the existing radius would be increased from 3,200 to 3,300 feet, with a 16-foot shoulder, in order to achieve a standard stopping sight distance through this portion of the compound curve. To accommodate the improvements to this compound curve, the median would be reconstructed.

Alternative 3

Alternative 3 is very similar in nature to Alternative 2. The differences are noted below:

Auxiliary Lanes. New auxiliary lanes would be constructed at the same locations as noted in Alternative 2.

Avenida Pico Interchange Improvements. Design options for the Avenida Pico interchange reconfiguration would be the same as those noted under Alternative 2.

Ramps. Ramp modifications would be the same as those noted under Alternative 2 with the exception of the following:

Camino Capistrano (Stonehill Drive)

- Realign and reconstruct the northbound on-ramp with a lower profile under the bridge to provide standard vertical clearance.

Structures. Modifications and improvements to structures are the same as those noted under Alternative 2 with the exception that I-5 northbound Camino Capistrano UC (Stonehill Drive) (Bridge No. 55-227R) would not be widened.

Other Improvements. Unlike Alternative 2, in Alternative 3, for the northern portion of the compound curve, the existing radius would not be changed and a two-foot median shoulder would be provided, resulting in a non-standard stopping sight distance. To accommodate the improvements to this compound curve, the median would be reconstructed.

Alternative 4

Alternative 4 includes many of the improvements common to Alternatives 2 and 3, with a few modifications. Alternative 4 proposes no buffer instead of the four-foot buffer proposed in Alternatives 2 and 3. Under the no buffer scenario, the HOV lane would either accommodate limited access, with ingress/egress points for the interchanges, or continuous access throughout the project limits.

Auxiliary Lanes. New auxiliary lanes would be constructed at the same locations as noted in Alternatives 2 and 3.

Avenida Pico Interchange Improvements. Design options for the Avenida Pico interchange reconfiguration would be the same as those noted under Alternative 2.

PM Conformity Hot Spot Analysis – Project Summary for Interagency Consultation

Ramps: Ramp modifications would be the same as those noted under Alternative 3.

Structures: Modifications and improvements to structures are the same as those noted under Alternatives 2 and 3.

Other Improvements: Unlike Alternatives 2 and 3, for the northern portion of the compound curve, the existing radius would not be changed and a standard 10-foot median shoulder would be provided, which would minimize impacts but results in a non-standard stopping sight distance condition. To accommodate the improvements to this compound curve, the median would be reconstructed.

Type of Project (use Table 1 on instruction sheet)
Change to existing state highway.

County: Orange	Narrative Location/Route & Postmiles: Interstate 5, PM 3.0/8.7 Caltrans Projects – EA# 0F9600
--------------------------	--

Lead Agency: California Department of Transportation

Contact Person Reza Aurasteh, Ph.D., Chief	Phone# 949.724.2738	Fax# 949-724-2591	Email reza_aurasteh@dot.ca.gov
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Hot Spot Pollutant of Concern (check one or both) **PM2.5 X** **PM10 X**

Federal Action for which Project-Level PM Conformity is Needed (check appropriate box)

Categorical Exclusion (NEPA)	X	EA or Draft EIS	FONSI or Final EIS	PS&E or Construction	Other
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Scheduled Date of Federal Action:

NEPA Delegation – Project Type (check appropriate box)

Exempt	Section 6004 –Categorical Exemption	X	Section 6005 – Non-Categorical Exemption
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Current Programming Dates (as appropriate)

	PE/Environmental	ENG	ROW	CON
Start	2009	2011	2012	2015
End	2011	2014	2014	2019

Project Purpose and Need (Summary): (attach additional sheets as necessary)

Purpose

The purpose of the project is to improve existing and future traffic operations on I-5 from San Juan Creek Road to Avenida Pico while minimizing environmental and economic impacts. The following key issues represent general deficiencies of I-5 within the project limits, and the potential solutions/opportunities for improvements:

- Achieve higher person carrying capacity within the corridor by increasing the vehicle occupancy rate;
- Reduce pollution and improve air quality along this corridor;
- Promote ride sharing and the use of HOVs such as carpools, vanpools, and bus services;
- Provide another lane option allowing for more consistent and predictable travel times for carpools, vanpools, buses, transit services, and emergency vehicles during peak periods;
- Relieve congestion due to the merge and diverge points for successive on- and off-ramps in both directions;
- Reduce delay due to the existing HOV termini location;
- Improve the capacity of the on- and off-ramps within the project limits, where needed; and
- Relieve congestion between successive ramps at several interchanges.

PM Conformity Hot Spot Analysis – Project Summary for Interagency Consultation

The project objectives include the following:

- Provide continuity of the I-5 mainline HOV network within the project limits;
- Maximize overall performance within the project limits by minimizing weaving conflicts at the termini of the HOV lanes and maintaining travel speeds for HOV lane users;
- Provide intermittent auxiliary lanes, where needed, to relieve congestion at diverge and merge locations;
- Minimize right-of-way acquisition;
- Relieve local street congestion within interchange areas, on- and off-ramps, and local intersections; and
- Reduce congestion on I-5 within the project limits.
- Congestion due to weaving and merging between the successive ramps at several interchanges.

Need

Without this project, the efficiency of the regional HOV system would be reduced because HOV traffic would be required to merge into mixed-flow traffic lanes. Delay in completion of this project would contribute to traffic congestion on I-5 within the cities of San Clemente, Dana Point, and San Juan Capistrano. The proposed project is needed to address:

- A high level of traffic during the weekdays as well as the weekends/holidays through this section;
- Congestion due to the termination of the existing HOV lane in both directions;
- Delay due to weaving and merging of HOV at the current termini in both directions;
- Congestion at the on/off ramps due to high traffic demands at the ramps; and
- Congestion due to weaving and merging between the successive ramps at several interchanges.

Surrounding Land Use/Traffic Generators (especially effect on diesel traffic)

The proposed project site is within the cities of San Clemente, Dana Point, and San Juan Capistrano. Within the City of San Juan Capistrano, the project site is immediately surrounded by commercial uses. However, within the City of Dana Point and the City of San Clemente, the project site is surrounded by mostly residential uses. Five local arterial interchanges are within the project limits: Avenida Pico; Avenida Vista Hermosa; Camino de Estrella; Camino Las Ramblas/Pacific Coast Highway (PCH); and Camino Capistrano/San Juan Creek Road. Additionally, diesel truck traffic currently makes up four percent of the total traffic volumes within the project limits. The proposed project would extend HOV lanes and would not significantly change the number of trucks or the characteristics of trucks in the project area.

Opening Year: Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility

The project would involve removal of the existing I-5 paved shoulders and constructing a new travel way and new shoulder pavement to the outside of the northbound and southbound lanes to accommodate HOV lanes. Project construction would commence in 2015 and would be completed in 2019. The traffic analysis utilized existing 2009 traffic data and horizon year (2040) traffic data. As a result, existing conditions traffic data and operations have been presented in lieu of "Opening Year Conditions" traffic data. Table 1 (Existing Traffic Volumes), depicts the existing traffic volumes along each segment within the project limits. As shown in Table 1, existing traffic volumes range from 184,000 to 241,200 average daily trips (ADT), which includes truck volumes that range from 7,388 to 9,648 ADT.

**Table 1
Existing Traffic Volumes**

Location	Existing Conditions (2009)		
	ADT	% Trucks	# Trucks
I-5 Mainline			
South of Avenida Pico	184,700	4	7,388
South of Vista Hermosa	192,600	4	7,704
South of Camino de Los Mares	209,800	4	8,392
South of PCH/Camino Las Ramblas	228,500	4	9,140
South of Camino Capistrano/Stonehill	221,400	4	8,856
South of San Juan Creek	241,200	4	9,648
ADT = Average Daily Traffic; PCH = Pacific Coast Highway			
Source: Austin-Foust Associates, Inc., I-5 HOV Lane Extension PA/ED Data, December 2009.			

PM Conformity Hot Spot Analysis – Project Summary for Interagency Consultation

The Caltrans performance standard for Freeway Mix-Flow (General Purpose) Lanes is a vehicle to capacity ratio (V/C) of less than or equal to 1.00. For freeway HOV Lanes, the standard is less than or equal to 1,600 vehicles per hour (vph) (1 lane), or 1,750 vph (2 lanes). Table 2 (Existing Conditions Level of Service) summarizes the existing V/C and corresponding Level of Service (LOS) along I-5 within the project area. As shown in Table 2, freeway segments along the I-5 mainline currently operate at an acceptable LOS.

Table 2
Existing Conditions Level of Service

Location	Existing	
	AM Peak Hour	PM Peak Hour
	V/C - LOS	V/C - LOS
I-5 Mainline - Northbound		
South of Avenida Pico	0.70 - C	0.69 - C
South of Vista Hermosa	0.74 - C	0.75 - D
South of Camino de Los Mares	0.83 - D	0.81 - D
South of PCH/Camino Las Ramblas	0.92 - E	0.88 - D
South of Camino Capistrano/Stonehill	0.75 - D	0.66 - C
South of San Juan Creek	0.92 - E	0.78 - D
I-5 Mainline - Southbound		
South of Avenida Pico	0.51 - B	0.62 - C
South of Vista Hermosa	0.69 - C	0.80 - D
South of Camino de Estrella	0.74 - C	0.89 - D
South of PCH/Camino Las Ramblas	0.73 - C	0.89 - D
South of Camino Capistrano/Stonehill	0.59 - B	0.81 - D
South of San Juan Creek	0.59 - B	0.81 - D
V/C = vehicle to capacity ratio; LOS = Level of Service; PCH = Pacific Coast Highway		
Source: Austin-Foust Associates, Inc., <i>I-5 HOV Lane Extension PA/ED Data</i> , December 2009.		

RTP Horizon Year / Design Year: Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility

Table 3 (Future Year 2040 Traffic Volumes) compares the horizon year “2040 No Build” and “2040 Build” traffic volumes along each freeway segment. As shown in Table 3, traffic volumes within the project limits exceed 125,000 vehicles daily. However, the percentage of trucks along this corridor is four percent, which is below the national average of eight percent¹. Based on the Caltrans document entitled *California Statewide PM Hot Spot Procedures* (dated October 19, 2007), a “significant increase” of diesel vehicles (trucks) is 5 percent when comparing Build with No Build alternatives. As depicted in Table 3, the greatest increase in truck volumes would be 3.25 percent. The average increase among all segments within the project limits would be 1.22 percent. The proposed continuation of HOV lanes would not affect truck travel along in the project area. As a result, the proposed project would not result in a significant increase of diesel vehicles. The increase in truck volumes between No Build and Build conditions can be attributed to the increase in overall traffic volumes. As total ADTs increase, the volume of trucks would increase proportionally.

Table 3
Future Year 2040 Traffic Volumes

Location	2040 No Build			2040 Build			# Trucks Percent Change
	ADT	% Trucks	# Trucks	ADT	% Trucks	# Trucks	
I-5 Mainline							
South of Avenida Pico	246,000	4	9,840	254,000	4	10,160	3.25%
South of Vista Hermosa	256,000	4	10,240	260,000	4	10,400	1.56%
South of Camino de Los Mares	267,000	4	10,680	270,000	4	10,800	1.12%
South of PCH/Camino Las Ramblas	293,000	4	11,720	296,000	4	11,840	1.02%
South of Camino Capistrano/Stonehill	279,000	4	11,160	280,000	4	11,200	0.36%
South of San Juan Creek	300,000	4	12,000	300,000	4	12,000	0.00%
ADT = Average Daily Traffic; PCH = Pacific Coast Highway							

¹ Federal Highway Administration, *Highway Statistics 2004*, March 2006.

PM Conformity Hot Spot Analysis – Project Summary for Interagency Consultation

Additionally, Table 4 (Horizon Year Level of Service) summarizes the existing and forecast future year 2040 peak hour volume to capacity analysis for the project limits on I-5. As shown in Table 4, implementation of the proposed project would alleviate several peak hour mainline deficiencies thereby reducing congestion.

Table 4
Horizon Year Level of Service

Location	2040 No Build		2040 Build	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
	V/C - LOS	V/C - LOS	V/C - LOS	V/C - LOS
I-5 Mainline - Northbound				
South of Avenida Pico	0.92 – E	0.84 – D	0.93 – E	0.85 – D
South of Vista Hermosa	0.97 – E	0.92 – E	0.87 – D	0.84 – D
South of Camino de Los Mares	1.11 – F	1.00 – E	0.99 – E	0.92 – E
South of PCH/Camino Las Ramblas	1.27 – F	1.04 – F	1.15 – F	0.95 – E
South of Camino Capistrano/Stonehill	1.07 – F	0.82 – D	1.06 – F	0.82 – D
South of San Juan Creek	1.24 – F	1.01 – F	1.23 – F	1.01 – F
I-5 Mainline - Southbound				
South of Avenida Pico	0.70 – C	0.84 – D	0.70 – C	0.84 – D
South of Vista Hermosa	0.93 – E	1.06 – F	0.85 – D	0.91 – E
South of Camino de Estrella	1.02 – F	1.21 – F	0.87 – D	0.99 – E
South of PCH/Camino Las Ramblas	0.99 – E	1.16 – F	0.87 – D	1.01 – F
South of Camino Capistrano/Stonehill	0.79 – D	1.00 – F	0.83 – D	1.08 – F
South of San Juan Creek	0.79 – D	1.00 – F	0.83 – D	1.08 – F
V/C = vehicle to capacity ratio; LOS = Level of Service; PCH = Pacific Coast Highway				
Source: Austin-Foust Associates, Inc., I-5 HOV Lane Extension PA/ED Data, December 2009.				

Opening Year: If facility is an interchange(s) or intersection(s), Build and No Build cross-street AADT, % and # trucks, truck AADT

See Above.

RTP Horizon Year / Design Year: If facility is an interchange (s) or intersection(s), Build and No Build cross-street AADT, % and # trucks, truck AADT

See Above.

Describe potential traffic redistribution effects of congestion relief (impact on other facilities)

The Regional Traffic Model produced by SCAG predicts ADT volumes based upon socio-economic data received from all of the counties and cities within their jurisdiction. The traffic volumes and peak hour demand are derived from the number of households, population, and number of jobs in the region. The ADT is derived by iterative model runs designed to determine the shortest route for travelers in time and distance. The proposed HOV lane extension would provide continuity of the I-5 mainline HOV network and maximize overall performance within the project limits. Extending the HOV lane would maintain travel speeds and minimize weaving conflicts that occur at the termini of the HOV lanes. The HOV Extension project would not divert to other routes, and the travel demand volume is not predicted to vary significantly between the build and no-build conditions.

Comments/Explanation/Details (attach additional sheets as necessary)

The EPA's March 2006 guidance document *Transportation Guidance for Qualitative Hot-spot Analysis in PM_{2.5} and PM₁₀ Nonattainment and Maintenance Areas* references a two step criteria to identify "a significant volume of diesel truck traffic." The first criterion is facilities with greater than 125,000 ADT volumes. If the first criterion is met, the second criterion is that 8 percent or more of said traffic volumes (i.e., 10,000 vehicles or more) are diesel truck traffic volumes.

As discussed above, traffic volumes within the project limits exceed 125,000 vehicles daily. However, the percentage of trucks along this corridor is four percent, which is below the national average of eight percent. A "significant increase" of diesel vehicles (trucks) is considered to be 5 percent when comparing Build with No Build alternatives. **The average increase among all segments within the project limits would be 1.22 percent.** As a result, the proposed project would not result in a significant increase of diesel vehicles. As such, the project would not result in a substantial increase in the number of diesel vehicles within the project area (i.e., the project limits of I-5). According to the *Transportation Conformity Guidance for Qualitative Hot-spot Analyses in PM_{2.5} and PM₁₀ Nonattainment and Maintenance Areas*, this project is not a project of air quality concern under 40 CFR 93.123(b)(1).

The proposed project would not conflict with an applicable plan, policy, or regulation of an agency with jurisdiction over the project. The proposed project is also consistent with Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP) (RTP ID 2H01143) and Regional Transportation Improvement Program (RTIP) (RTIP ID ORA080912) and is intended to meet the traffic needs in the area based on local land use plans.



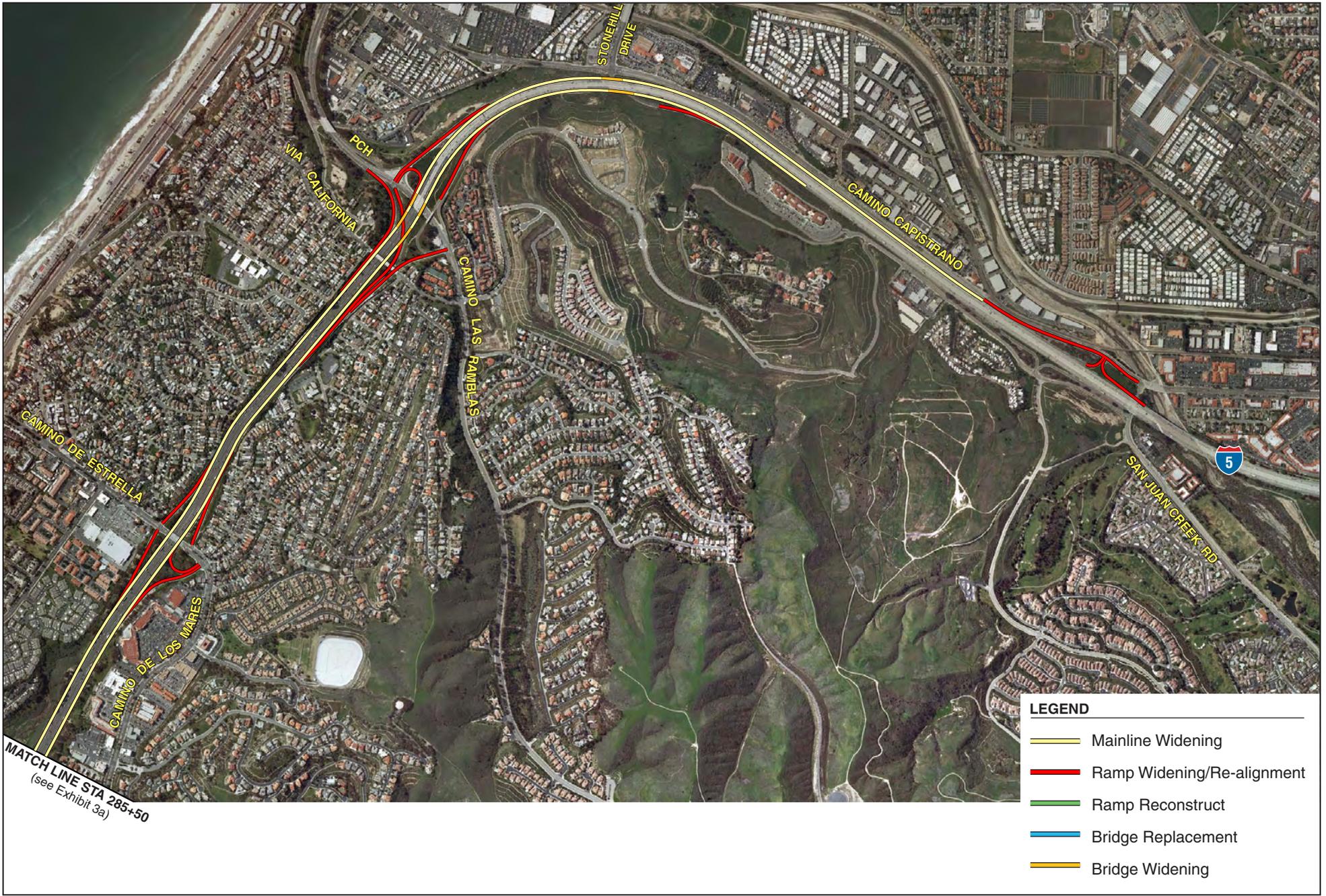
- LEGEND**
- Mainline Widening
 - Ramp Widening
 - Ramp Reconstruct
 - Bridge Replacement
 - Bridge Widening

I-5 HOV LANE EXTENSION PROJECT • RTIP ID# 2H01143
 TRANSPORTATION CONFORMITY WORKING GROUP SUBMITTAL

Site Plan

Exhibit 1a

not to scale



LEGEND

- Mainline Widening
- Ramp Widening/Re-alignment
- Ramp Reconstruct
- Bridge Replacement
- Bridge Widening

I-5 HOV LANE EXTENSION PROJECT • RTIP ID# 2H01143
 TRANSPORTATION CONFORMITY WORKING GROUP SUBMITTAL

Site Plan

Exhibit 1b

not to scale

Appendix E. PM Hot-Spot Analysis

Nonattainment areas are subject to the Transportation Conformity Rule, which requires local transportation and air quality officials to coordinate planning to ensure that transportation projects, such as road construction, do not affect an area's ability to reach its clean air goals. Transportation conformity requirements become effective one year after an area is designated as non-attainment.

On the macroscale, the proposed project would reduce congestion and localized idling levels and thus would not cause or contribute to a violation of NAAQS for PM₁₀ or PM_{2.5}. The proposed project would be located in Orange County. For year 2009 (the latest year data is available), the worst-case background 24-hour average PM₁₀ was 41.0 µg/m³, and the national annual average concentration was 22.6 µg/m³. The worst-case background 24-hour average PM_{2.5} was 39.2 µg/m³; the national annual average concentration was not measured at the Mission Viejo Monitoring Station.

The proposed project was discussed among stakeholders at a TCWG meeting on February 23, 2010, pursuant to the interagency consultation requirement of 40 CFR 93.105 (c)(1)(i) as an important tool to collectively evaluate this project. The FHWA, EPA, CARB, SCAQMD, and other Interagency Consultation participants concurred with the finding that the project was not a Project of Air Quality Concern (POAQC). The TCWG reviewed the detailed particulate matter analysis and CT-EMFAC model outputs for the project and concurred with the finding that the proposed project was not a POAQC due to the nominal differences in diesel truck volumes between the Build and No Build scenarios, the HOV lane extension would not add much diesel truck capacity, and the Auxiliary lanes and interchange modifications would not be major truck traffic generator; refer to Appendix D (PM Interagency Consultation). The TCWG determined that the project is not a POAQC for PM₁₀ and PM_{2.5}.