

State Route 57/Lambert Road Interchange Improvement Project

ORANGE COUNTY, CALIFORNIA
DISTRICT 12 – ORA – 57 (PM 20.1/21.8)
EA 0C110_ (EFIS 1200000633)
SCH 2015031005

Initial Study with Mitigated Negative Declaration / Environmental Assessment with Finding of No Significant Impact



Prepared by the
State of California Department of Transportation
and
City of Brea

The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried-out by Caltrans under its assumption of responsibility pursuant to 23 USC 327.



October 2015

General Information about This Document

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Improve the State Route 57 (SR-57)/Lambert Road interchange from post mile (PM) 20.1 to PM 21.8.

**INITIAL STUDY with Mitigated Negative Declaration /
Environmental Assessment with Finding of No Significant Impact**

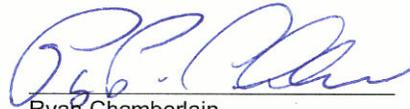
Submitted Pursuant to: (State) Division 12, California Public Resources Code
(Federal) 42 USC 4332(2)(C)

THE STATE OF CALIFORNIA
Department of Transportation

and

City of Brea

11/12/15
Date of Approval


Ryan Chamberlain
District Director
California Department of Transportation
NEPA Lead Agency/CEQA Lead Agency

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MITIGATED NEGATIVE DECLARATION

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans), in cooperation with the City of Brea (City), proposes to improve the State Route 57 (SR-57)/Lambert Road interchange from post mile (PM) 20.1 to PM 21.8. The SR-57/Lambert Road Interchange Improvement Project (proposed project) would improve traffic operations on SR-57 and Lambert Road, in the interchange area. Improvements would include widening the southbound SR-57 median shoulder, reconfiguring the northbound and southbound SR-57 on- and off-ramps, lowering the Lambert Road profile to provide 15-foot standard vertical clearance under the Lambert Road Undercrossing and widening Lambert Road from 1,000 feet west of State College Boulevard to Pointe Drive, and reconfiguring the north and southbound SR-57 on- and off-ramp/Lambert Road intersections.

Determination

Caltrans has prepared an Initial Study for this project, and following public review, has determined from this study that the proposed project would not have a significant effect on the environment for the following reasons:

The proposed project would have no effect on Agriculture and Forestry, Coastal Zone, Wild and Scenic Rivers, Mineral Resources, and Recreation.

In addition, the proposed project would have less than significant effects to Land Use, Growth, Utilities/Emergency Services, Traffic and Transportation/Pedestrian and Bicycle Facilities, Cultural Resources, Hydrology and Floodplain, Water Quality and Storm Water Runoff, Geology/Soils/Seismic/Topography, Hazardous Waste/Materials, and Air Quality.

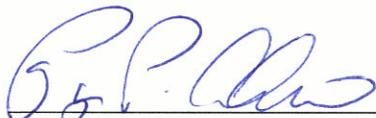
With the following mitigation measures incorporated, the proposed project would have less than significant effects to Community Impacts, Visual/Aesthetics, Paleontology, and Biological Resources:

- VIS-3 The proposed project shall install either an opaque perimeter wall or appropriate landscaping sufficient to screen direct views from the Country Woods Apartment Homes to the proposed project. This architectural feature shall be reviewed and approved by the District Landscape Architect during the Plans, Specifications, and Estimate (PS&E) phase.
- VIS-5 The proposed project shall consider implementation of a transparent soundwall, per the Caltrans Traffic Noise Analysis Protocol (TNAP), in order to maintain distant views from the outdoor patio of the El Torito Grill Restaurant. The soundwall design and long-term maintenance shall be approved by the Caltrans Landscape Architect and Caltrans Maintenance staff during the PS&E Phase.
- PALEO-1 Prior to final design, a monitoring program (Paleontological Mitigation Plan) will be developed by a qualified paleontologist for the excavation in the Alluvial Fan Deposits, the La Habra Formation, and the Fernando Formation to minimize effects on nonrenewable paleontological resources. It is possible that as details of

the proposed project, such as proposed excavation depths, are better refined, it will be determined that areas identified as having high sensitivity will in fact not require monitoring during excavation, as the ground disturbance will not extend deep enough below the surface to encounter paleontological resources.

TE-1

Habitat replacement and maintenance shall be provided at 1.5 acres for permanent effects and 1.4 acres (replaced in-kind or better after construction) for temporary effects to coastal sage scrub-grassland vegetation, consistent with USFWS standards. For permanent effects, the City will fund the enhancement of coastal CAGN habitat through off-site restoration and/or preservation of conservation lands. For temporary effects, the City will develop appropriate restoration plans for any temporarily affected areas within CAGN suitable habitat.



Ryan Chamberlain
District Director
District 12
California Department of Transportation



Date

**CALIFORNIA DEPARTMENT OF TRANSPORTATION
FINDING OF NO SIGNIFICANT IMPACT (FONSI)**

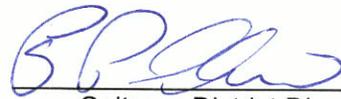
FOR

State Route 57/Lambert Road Interchange Improvement Project

The California Department of Transportation (Caltrans) in cooperation with the City of Brea (City) has determined that Build Alternative 7A (Preferred Alternative) will have no significant impact on the human environment. This Finding of No Significant Impact (FONSI) is based on the attached Environmental Assessment (EA) which has been independently evaluated by Caltrans and determined to adequately and accurately discuss the need, environmental issues, and impacts of the proposed project and appropriate mitigation measures. It provides sufficient evidence and analysis for determining that an Environmental Impact Statement (EIS) is not required. Caltrans takes full responsibility for the accuracy, scope, and content of the attached EA (and other documents as appropriate).

The environmental review, consultation, and any other action required in accordance with applicable Federal laws for this project is being, or has been, carried-out by Caltrans under its assumption of responsibility pursuant to 23 USC 327.

11/12/15
Date


Caltrans District Director

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Table of Contents

Chapter 1 – Proposed Project	1-1
1.1 INTRODUCTION	1-1
1.2 PURPOSE AND NEED.....	1-1
1.2.1 Purpose	1-1
1.2.2 Need	1-1
1.2.3 Independent Utility and Logical Termini.....	1-7
1.3 FACILITIES	1-8
1.3.1 Facilities and Operations.....	1-8
1.3.2 Accident Information	1-14
1.4 PROJECT DESCRIPTION	1-16
1.4.1 Build Alternatives	1-17
1.4.2 Transportation System Management (TSM) and Transportation Demand Management (TDM) Alternatives	1-51
1.4.3 No Build Alternative.....	1-51
1.5 COMPARISON OF ALTERNATIVES.....	1-51
1.6 IDENTIFICATION OF A PREFERRED ALTERNATIVE.....	1-52
1.7 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER DISCUSSION.....	1-53
1.7.1 Alternative 2/6	1-53
1.7.2 Alternative 4	1-53
1.7.3 Alternative 4A.....	1-54
1.7.4 Alternative 5.....	1-54
1.7.5 Alternative 7	1-54
1.7.6 Alternatives 8 and 8A.....	1-55
1.7.7 Diverging Diamond Interchange Alternative	1-55
1.8 PERMITS AND APPROVALS NEEDED.....	1-56
Chapter 2 – Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures	2.1.1-1
2.1 ENVIRONMENTAL ISSUES WITH NO IMPACTS.....	2.1.1-1
2.1.1 Coastal Zone.....	2.1.1-1
2.1.2 Wild and Scenic Rivers	2.1.1-1
2.1.3 Parks and Recreation.....	2.1.1-1
2.1.4 Farmlands/Timberlands.....	2.1.1-1
2.2 HUMAN ENVIRONMENT	2.2.1-1
2.2.1 Land Use	2.2.1-1
2.2.2 Growth	2.2.2-1
2.2.3 Community Impacts	2.2.3-1
2.2.4 Utilities/Emergency Services.....	2.2.4-1
2.2.5 Traffic and Transportation/Pedestrian and Bicycle Facilities.....	2.2.5-1
2.2.6 Visual/Aesthetics.....	2.2.6-1
2.2.7 Cultural Resources.....	2.2.7-1
2.3 PHYSICAL ENVIRONMENT.....	2.3.1-1
2.3.1 Hydrology and Floodplain.....	2.3.1-1
2.3.2 Water Quality and Storm Water Runoff	2.3.2-1
2.3.3 Geology/Soils/Seismic/Topography.....	2.3.3-1
2.3.4 Paleontology	2.3.4-1
2.3.5 Hazardous Waste/Materials	2.3.5-1

2.3.6	Air Quality	2.3.6-1
2.3.7	Noise.....	2.3.7-1
2.3.8	Energy	2.3.8-1
2.4	BIOLOGICAL ENVIRONMENT.....	2.4.1-1
2.4.1	Natural Communities.....	2.4.1-1
2.4.2	Wetlands and Other Waters	2.4.2-1
2.4.3	Plant Species	2.4.3-1
2.4.4	Animal Species	2.4.4-1
2.4.5	Threatened and Endangered Species.....	2.4.5-1
2.4.6	Invasive Species	2.4.6-1
2.5	CUMULATIVE IMPACTS.....	2.5-1
2.5.1	Regulatory Setting.....	2.5-1
2.5.2	Methodology	2.5-1
2.5.3	Cumulative Impacts.....	2.5-2
2.5.4	Projects Contributing to Cumulative Impacts	2.5-14
2.5.5	Measures to Minimize Harm.....	2.5-14
2.6	CLIMATE CHANGE.....	2.6-1
2.6.1	Regulatory Setting.....	2.6-1
2.6.2	Project Analysis	2.6-4
2.6.3	Construction Emissions.....	2.6-7
2.6.4	CEQA Conclusion	2.6-7
2.6.5	Greenhouse Gas Reduction Strategies	2.6-7
2.6.6	Adaptation Strategies.....	2.6-10
Chapter 3 – Comments and Coordination		3-1
3.1	CONSULTATION AND COORDINATION WITH PUBLIC AGENCIES.....	3-1
3.1.1	Cultural Resources.....	3-1
3.1.2	Hazards/Hazardous Materials	3-1
3.1.3	Biological Resources.....	3-1
3.2	PUBLIC PARTICIPATION	3-2
3.3	COMMENTS AND RESPONDING TO COMMENTS	3-5
3.3.1	List of Comments Received	3-5
3.3.2	Comments and Responses	3-6
Chapter 4 – List of Preparers		4-1
4.1	PREPARERS	4-1
4.2	SUBCONSULTANTS.....	4-2
4.3	CITY OF BREA.....	4-2
4.4	CALTRANS REVIEWERS	4-2
Chapter 5 – Distribution List		5-1
Chapter 6 – References		6-1

List of Appendices

Appendix A	CEQA Checklist
Appendix B	Title VI Policy Statement
Appendix C	Environmental Commitment Record
Appendix D	Acronyms
Appendix E	Summary of Relocation Benefits
Appendix F	Air Quality Conformity Determination
Appendix G	August 2015 IPAC Species List
Appendix H	USFWS Informal Section 7 Consultation Letter of Concurrence

List of Technical Studies (Bound Separately)

Air Quality Assessment (May 2013)
Archaeological Survey Report (October 2012)
Community Impact Assessment (October 2012)
Historic Property Survey Report (November 2012)
Natural Environment Study with Jurisdictional Delineation Report (November 2013)
Biological Assessment (May 2015)
Noise Abatement Decision Report (February 2014)
Noise Study Report (April 2013)
Paleontological Resources Identification and Evaluation Report (June 2012)
Phase I Initial Site Assessment (January 2013)
Phase II Subsurface Investigation Report, Brea Auto Spa, 1700 East Lambert Road, Brea, California, 92618 (August 2013)
Preliminary Storm Water Data Report (May 2012)
Relocation Impact Memorandum (June 2012)
Traffic Study (July 2012)
Visual Impact Assessment (January 2014)
Water Quality Assessment Report (June 2012)

List of Tables

Table 1-1	Freeway Mainline Peak Hour Volume and LOS for Existing Conditions	1-9
Table 1-2	Ramp Volume and Capacity Summary for Existing Conditions	1-9
Table 1-3	Ramp Merge/Diverge Summary for Existing Conditions.....	1-10
Table 1-4	Existing Conditions	1-10
Table 1-5	Freeway Mainline Peak Hour Volume and LOS for 2040 Conditions.....	1-12
Table 1-6	Ramp Volume and Capacity Summary for 2040 Conditions	1-12
Table 1-7	Ramp Merge/Diverge Summary for 2040 Conditions	1-13
Table 1-8	2040 Conditions	1-14
Table 1-9	TASAS SR-57 Mainline Collision Rates	1-15
Table 1-10	TASAS Ramp Collision Rates	1-16
Table 2.2.1-1	Development Projects in the City of Brea	2.2.1-9
Table 2.2.1-2	Consistency with State, Regional, and Local Plans and Programs.....	2.2.1-16
Table 2.2.3-1	Ethnic Composition 2010	2.2.3-5
Table 2.2.3-2	Housing Profiles 2010.....	2.2.3-5
Table 2.2.3-3	Population and Household Size 2010	2.2.3-6
Table 2.2.3-4	Housing Tenure	2.2.3-7
Table 2.2.3-5	Age Distribution.....	2.2.3-8
Table 2.2.3-6	Local, County, Regional, and State Demographic Summaries (ACS 2006-2010, Census 2010)	2.2.3-9
Table 2.2.3-7	2006-2010 Employment Percentages for the Census Tracts, the City of Brea, and the County	2.2.3-9
Table 2.2.3-8	Estimated Construction Employment under the Build Alternatives	2.2.3-14
Table 2.2.3-9	Estimated Annual Property Tax Loss	2.2.3-18
Table 2.2.3-10	Estimated Annual Sales Tax Revenue Loss for the City of Brea under the Build Alternatives.....	2.2.3-18
Table 2.2.3-11	Full and Partial Acquisitions under Build Alternative 7A (Preferred Alternative).....	2.2.3-21
Table 2.2.3-12	Estimated Employee Displacements.....	2.2.3-27
Table 2.2.3-13	Partial Acquisitions under Build Alternative 9	2.2.3-28
Table 2.2.3-14	Environmental Justice Populations.....	2.2.3-30
Table 2.2.4-1	Utility Impacts for Build Alternatives 7A and 9	2.2.4-3
Table 2.2.5-1	Caltrans Freeway Mainline Performance Criteria	2.2.5-9
Table 2.2.5-2	Freeway Mainline LOS Summary – Existing (2011) Conditions.....	2.2.5-9
Table 2.2.5-3	Ramp Performance Criteria.....	2.2.5-10
Table 2.2.5-4	Merge, Diverge, and Weaving Performance Criteria	2.2.5-11
Table 2.2.5-5	Ramp Volume and Capacity Summary – Existing (2011) Conditions	2.2.5-13
Table 2.2.5-6	Ramp Merge/Diverge Analysis Summary – Existing (2011) Conditions..	2.2.5-15
Table 2.2.5-7	Arterial Intersection Performance Criteria.....	2.2.5-15
Table 2.2.5-8	Existing (2011) Conditions ICU and Delay Summary	2.2.5-16
Table 2.2.5-9	ADT Volumes – Existing (2011) and 2040 Conditions.....	2.2.5-19
Table 2.2.5-10	Peak Hour Volumes Entering the Intersection – Existing and 2040	2.2.5-19
Table 2.2.5-11	Intersection Peak Hour Volumes – Existing and 2040	2.2.5-21

Table 2.2.5-12	Freeway Mainline LOS Summary – 2040 Conditions, No Build and Build Alternatives 7A and 9.....	2.2.5-35
Table 2.2.5-13	Ramp Volume and Capacity Summary – 2040 Conditions, No Build and Build Alternatives 7A and 9.....	2.2.5-36
Table 2.2.5-14	Ramp Merge/Diverge Analysis Summary – 2040 Conditions, No Build and Build Alternatives 7A and 9.....	2.2.5-37
Table 2.2.5-15	2040 Intersection Delay and LOS Summary.....	2.2.5-38
Table 2.2.5-16	2040 ICU and LOS Summary for No Build and Build Alternatives.....	2.2.5-39
Table 2.2.5-17	2040 Peak Hour Performance – Build Alternative 7A (Preferred Alternative).....	2.2.5-39
Table 2.2.5-18	2040 Peak Hour Performance – Build Alternative 9.....	2.2.5-40
Table 2.2.5-19	Ramp Metering.....	2.2.5-41
Table 2.2.6-1	Existing Wall Features.....	2.2.6-12
Table 2.2.6-2	Narrative Ratings for Each Key View.....	2.2.6-47
Table 2.3.2-1	Water Quality Data from Monitoring Station FCVA03, Fullerton Creek Channel, Fiscal Year 2009-2010.....	2.3.2-7
Table 2.3.2-2	Summary of 303(d) Listed Constituents and TMDL Constituents.....	2.3.2-8
Table 2.3.2-3	Summary of Build Alternative-Specific Impacts.....	2.3.2-8
Table 2.3.2-4	LID BMPs by Category.....	2.3.2-11
Table 2.3.5-1	Summary of Property Acquisition Impacts for Build Alternative 7A (Preferred Alternative).....	2.3.5-12
Table 2.3.5-2	Summary of Property Acquisition Impacts for Build Alternative 9.....	2.3.5-14
Table 2.3.6-1	National and California Ambient Air Quality Standards.....	2.3.6-2
Table 2.3.6-2	Local Air Quality Levels.....	2.3.6-6
Table 2.3.6-3	Criteria Air Pollutants.....	2.3.6-7
Table 2.3.6-4	Attainment Status.....	2.3.6-7
Table 2.3.6-5	MSAT Emissions.....	2.3.6-16
Table 2.3.7-1	Activity Categories and Noise Abatement Criteria.....	2.3.7-2
Table 2.3.7-2	Short-Term Ambient Noise Monitoring Results.....	2.3.7-6
Table 2.3.7-3	Long-Term Ambient Noise Level Measurement Results.....	2.3.7-7
Table 2.3.7-4	Typical Construction Equipment Noise Levels.....	2.3.7-9
Table 2.3.7-5	Predicted Traffic Noise Levels, dBA L _{eq}	2.3.7-15
Table 2.3.7-6	Noise Levels and Noise Barrier Modeling for Build Alternative 7A (Preferred Alternative) (dBA L _{eq}).....	2.3.7-21
Table 2.3.7-7	Noise Levels and Noise Barrier Modeling for Build Alternative 9 (dBA L _{eq}).....	2.3.7-25
Table 2.3.7-8	Feasible Noise Barriers.....	2.3.7-29
Table 2.3.7-9	Total Reasonable Allowance per Noise Barrier.....	2.3.7-30
Table 2.3.8-1	Annual Electric Consumption in Orange County (2010).....	2.3.8-7
Table 2.3.8-2	Natural Gas Consumption in Orange County (2010) in Millions of Therms.....	2.3.8-7
Table 2.3.8-3	Alternative Fuel Vehicles in Use by Fuel Type 2009.....	2.3.8-9
Table 2.3.8-4	Estimated Consumption of Alternative Fuels in California by Fuel Type, 2009 (Thousand Gasoline Equivalent Gallons).....	2.3.8-9

Table 2.3.8-5	Operational Daily VMT	2.3.8-10
Table 2.3.8-6	Study Area Energy Consumption – Annual	2.3.8-10
Table 2.3.8-7	Operational Energy Consumption – Percent Change	2.3.8-11
Table 2.3.8-8	SR-57/Lambert Road Study Area Indirect Energy Comparison	2.3.8-12
Table 2.4.2-1	Potentially Jurisdictional Drainage Feature Length and Area Measurements	2.4.2-12
Table 2.4.2-2	Potentially Non-Jurisdictional Drainage Feature Length and Area Measurements	2.4.2-15
Table 2.4.3-1	Listed, Proposed, and Special-Status Plant Species and Critical Habitat Potentially Occurring or Known to Occur within and in the Vicinity of the BSA.....	2.4.3-5
Table 2.4.4-1	Listed, Proposed, and Special-Status Wildlife Species Potentially Occurring or Known to Occur within and in the Vicinity of the BSA.....	2.4.4-3
Table 2.4.5-1	List of Federal Special-Status Wildlife Species Potentially Occurring or Known to Occur within and in the Vicinity of the BSA.....	2.4.5-5
Table 2.5-1	Cumulative Projects	2.5-15
Table 2.6-1	Daily Greenhouse Gas Emissions.....	2.6-6
Table 2.6-2	Caltrans Climate Change Strategies	2.6-9
Table 3.2-1	March 25, 2015 Public Meeting Summary of Issues Raised.....	3-2
Table 3.3.2-1	Southwest Quadrant Neighborhood Predicted Traffic Noise Levels, dBA Leq.....	3-9

List of Figures

Figure 1-1	Project Vicinity	1-3
Figure 1-2	Project Location	1-5
Figure 1-3	Project Limits	1-19
Figure 1-4a	Site Plan – Alternative 7A – Index.....	1-23
Figure 1-4b	Site Plan – Alternative 7A – Sheet A	1-25
Figure 1-4c	Site Plan – Alternative 7A – Sheet B	1-27
Figure 1-4d	Site Plan – Alternative 7A – Sheet C.....	1-29
Figure 1-4e	Site Plan – Alternative 7A – Sheet D.....	1-31
Figure 1-4f	Site Plan – Alternative 7A – Sheet E.....	1-33
Figure 1-5	Existing Wall Features	1-35
Figure 1-6a	Site Plan – Alternative 9 – Index	1-39
Figure 1-6b	Site Plan – Alternative 9 – Sheet A	1-41
Figure 1-6c	Site Plan – Alternative 9 – Sheet B	1-43
Figure 1-6d	Site Plan – Alternative 9 – Sheet C	1-45
Figure 1-6e	Site Plan – Alternative 9 – Sheet D	1-47
Figure 1-6f	Site Plan – Alternative 9 – Sheet E	1-49
Figure 2.2.1-1	Existing Land Use	2.2.1-3
Figure 2.2.1-2	General Plan Land Use Designations	2.2.1-7
Figure 2.2.3-1	Study Area Census Tracts	2.2.3-3

Figure 2.2.3-2	Alternative 7A Temporary Construction Easements and Partial and Full Parcel Acquisitions.....	2.2.3-23
Figure 2.2.3-3	Alternative 9 Temporary Construction Easements and Partial Parcel Acquisitions.....	2.2.3-25
Figure 2.2.5-1	Study Area	2.2.5-3
Figure 2.2.5-2	Signalized Intersection LOS	2.2.5-5
Figure 2.2.5-3	Freeway Mainline LOS.....	2.2.5-7
Figure 2.2.5-4	Existing ADT and Peak Hour Volumes.....	2.2.5-17
Figure 2.2.5-5	2040 ADT and Peak Hour Volumes No Build Alternative	2.2.5-23
Figure 2.2.5-6	2040 ADT and Peak Hour Volumes Build Alternative 7A.....	2.2.5-25
Figure 2.2.5-7	2040 ADT and Peak Hour Volumes Build Alternative 9.....	2.2.5-27
Figure 2.2.6-1	Visual Assessment Unit	2.2.6-3
Figure 2.2.6-2a	Viewshed Map – Alternative 7A	2.2.6-5
Figure 2.2.6-2b	Viewshed Map – Alternative 9.....	2.2.6-7
Figure 2.2.6-3	Existing Wall Features	2.2.6-13
Figure 2.2.6-4	Key View Locations Map.....	2.2.6-17
Figure 2.2.6-5	Key View 1 – Existing Condition.....	2.2.6-19
Figure 2.2.6-6	Key View 2 – Existing Condition.....	2.2.6-21
Figure 2.2.6-7	Key View 3 – Existing Condition.....	2.2.6-23
Figure 2.2.6-8	Key View 4 – Existing Condition.....	2.2.6-27
Figure 2.2.6-9	Key View 1 – Proposed Condition, Alternatives 7A and 9.....	2.2.6-29
Figure 2.2.6-10	Key View 2 – Proposed Condition, Alternative 7A.....	2.2.6-33
Figure 2.2.6-11	Key View 2 – Proposed Condition, Alternative 9	2.2.6-35
Figure 2.2.6-12	Key View 3 – Proposed Condition, Alternative 7A.....	2.2.6-39
Figure 2.2.6-13	Key View 3 – Proposed Condition, Alternative 9	2.2.6-43
Figure 2.2.6-14	Key View 4 – Proposed Condition, Alternatives 7A and 9.....	2.2.6-45
Figure 2.2.6-15	Proposed Soundwall Rendering.....	2.2.6-51
Figure 2.3.1-1	San Gabriel River Watershed.....	2.3.1-3
Figure 2.3.1-2	Floodplain Map	2.3.1-5
Figure 2.3.1-3	Flood Hazard Areas.....	2.3.1-7
Figure 2.3.3-1	Geologic and Seismic Hazards	2.3.3-5
Figure 2.3.4-1	Paleontological Resource Sensitivity.....	2.3.4-5
Figure 2.3.5-1	Regulatory Properties Within One Mile of the Project Site.....	2.3.5-5
Figure 2.3.7-1	Noise Levels of Common Activities	2.3.7-3
Figure 2.3.7-2a	Monitoring and Modeled Receptor Locations (Sheet 1 of 4).....	2.3.7-31
Figure 2.3.7-2b	Monitoring and Modeled Receptor Locations (Sheet 2 of 4).....	2.3.7-33
Figure 2.3.7-2c	Monitoring and Modeled Receptor Locations (Sheet 3 of 4).....	2.3.7-35
Figure 2.3.7-2d	Monitoring and Modeled Receptor Locations (Sheet 4 of 4).....	2.3.7-37
Figure 2.3.7-3a	Alternative 7A - Modeled Noise Barriers and Receptor Locations (Sheet 1 of 4).....	2.3.7-39
Figure 2.3.7-3b	Alternative 7A - Modeled Noise Barriers and Receptor Locations (Sheet 2 of 4).....	2.3.7-41
Figure 2.3.7-3c	Alternative 7A - Modeled Noise Barriers and Receptor Locations (Sheet 3 of 4).....	2.3.7-43

Figure 2.3.7-3d	Alternative 7A - Modeled Noise Barriers and Receptor Locations (Sheet 4 of 4)	2.3.7-45
Figure 2.3.7-4a	Alternative 9 - Modeled Noise Barriers and Receptor Locations (Sheet 1 of 4)	2.3.7-47
Figure 2.3.7-4b	Alternative 9 - Modeled Noise Barriers and Receptor Locations (Sheet 2 of 4)	2.3.7-49
Figure 2.3.7-4c	Alternative 9 - Modeled Noise Barriers and Receptor Locations (Sheet 3 of 4)	2.3.7-51
Figure 2.3.7-4d	Alternative 9 - Modeled Noise Barriers and Receptor Locations (Sheet 4 of 4)	2.3.7-53
Figure 2.3.8-1	Energy Analysis Study Area	2.3.8-5
Figure 2.4-1a	Vegetation Communities	2.4.1-3
Figure 2.4-1b	Vegetation Communities	2.4.1-5
Figure 2.4-1c	Vegetation Communities	2.4.1-7
Figure 2.4-1d	Vegetation Communities	2.4.1-9
Figure 2.4-2a	Potential Jurisdictional Areas	2.4.2-3
Figure 2.4-2b	Potential Jurisdictional Areas	2.4.2-5
Figure 2.4-2c	Potential Jurisdictional Areas	2.4.2-7
Figure 2.4-2d	Potential Jurisdictional Areas	2.4.2-9
Figure 2.4-3	Surface Waters	2.4.2-13
Figure 2.4-4a	Impacted Waters – Alternative 7A	2.4.2-17
Figure 2.4-4b	Impacted Waters – Alternative 7A	2.4.2-19
Figure 2.4-4c	Impacted Waters – Alternative 7A	2.4.2-21
Figure 2.4-4d	Impacted Waters – Alternative 7A	2.4.2-23
Figure 2.4-5a	Impacted Waters – Alternative 9	2.4.2-25
Figure 2.4-5b	Impacted Waters – Alternative 9	2.4.2-27
Figure 2.4-5c	Impacted Waters – Alternative 9	2.4.2-29
Figure 2.4-5d	Impacted Waters – Alternative 9	2.4.2-31
Figure 2.4-6a	Impacts to Habitat Communities – Alternative 7A	2.4.5-13
Figure 2.4-6b	Impacts to Habitat Communities – Alternative 7A	2.4.5-15
Figure 2.4-6c	Impacts to Habitat Communities – Alternative 7A	2.4.5-17
Figure 2.4-6d	Impacts to Habitat Communities – Alternative 7A	2.4.5-19
Figure 2.4-7a	Impacts to Habitat Communities – Alternative 9	2.4.5-21
Figure 2.4-7b	Impacts to Habitat Communities – Alternative 9	2.4.5-23
Figure 2.4-7c	Impacts to Habitat Communities – Alternative 9	2.4.5-25
Figure 2.4-7d	Impacts to Habitat Communities – Alternative 9	2.4.5-27
Figure 2.6-1	California Greenhouse Gas Forecast	2.6-4
Figure 2.6-2	Possible Effect of Traffic Operation Strategies in Reducing On-Road CO ₂ Emission	2.6-5
Figure 2.6-3	Mobility Pyramid	2.6-8

CHAPTER 1 – PROPOSED PROJECT

1.1 INTRODUCTION

The California Department of Transportation District 12 (Caltrans), in cooperation with the City of Brea, proposes to improve the State Route 57 (SR-57)/Lambert Road interchange from post mile (PM) 20.1 to PM 21.8. The SR-57/Lambert Road Interchange Improvement Project (proposed project) would improve traffic operations on SR-57 and Lambert Road, in the interchange area. Figure 1-1, Project Vicinity, and Figure 1-2, Project Location, show the proposed project location and vicinity, respectively. Caltrans is lead agency for both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), as assigned by the Federal Highway Administration (FHWA).

The proposed project is included in the Southern California Association of Governments (SCAG) 2008 Regional Transportation Plan (RTP) (RTP IDs ORA000107 and 2M0724). The 2008 RTP was founded by the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) to conform to the State Implementation Plan (SIP) on June 15, 2008. It should be noted that the SCAG 2012 RTP has recently been adopted; however, it has not yet been determined to conform by FHWA and FTA. The project is also included in SCAG financially constrained 2013 Federal Transportation Improvement Program (FTIP). The SCAG FTIP was determined to conform by FHWA and FTA on December 14, 2012 (FTIP ID ORA120320). The design concept and scope of the proposed project is consistent with the project description in the 2008 RTP and the 2013 FTIP and is intended to meet the traffic needs in the area based on local land use plans. The proposed project is being funded through the following programs:

- The Orange County Transportation Authority (OCTA) M2 Streets and Roads Program: Regional Capacity Program (RCP) – Freeway Arterial/Streets Transition (FAST) funds;
- Federal-aid Demo TEA-21 funds; and
- Local City of Brea funds.

1.2 PURPOSE AND NEED

1.2.1 PURPOSE

The purpose of the proposed project is to provide congestion relief to improve the traffic flow within the interchange. The proposed project would reduce the current congestion, increase signal queue capacity, and better accommodate anticipated traffic increases, thereby minimizing delays and potential safety hazards.

1.2.2 NEED

The proposed project is needed because the interchange presently experiences heavy congestion during both the AM and PM peak periods stemming from conflicting traffic movements and inadequate signal queue capacity. Without the proposed project, the congestion within the interchange would continue to increase with the forecasted 20 percent increase in traffic by the year 2040.

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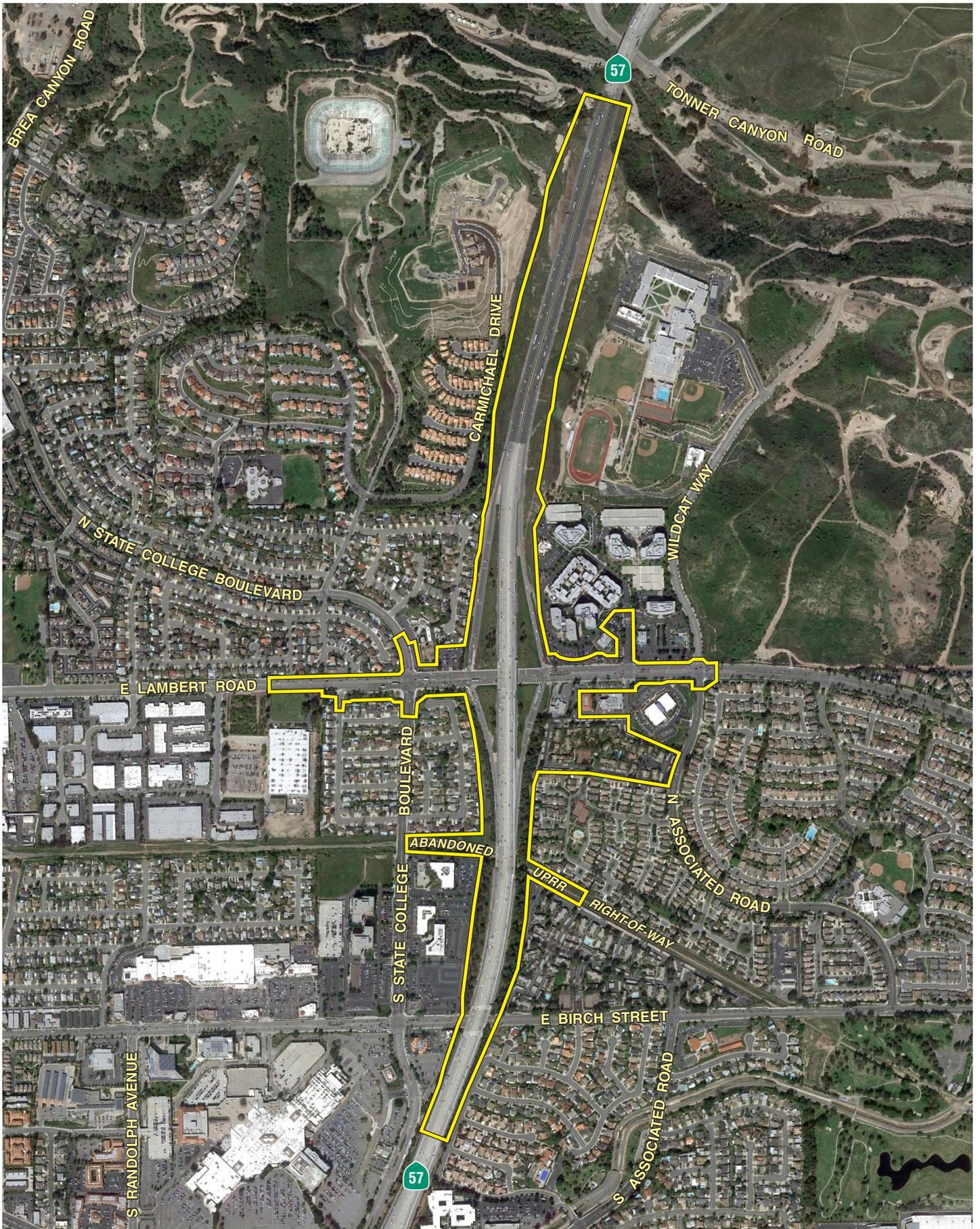


 Subject Site

 not to scale

SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA
Project Vicinity

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SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA

Project Location

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The heavy congestion at the SR-57/Lambert Road interchange can be attributed to a combination of high traffic volumes on the SR-57 mainline and surrounding arterials, conflicting traffic turn-movements, and limitations on interchange improvement alternatives due to the close proximity of major intersections to the SR-57/Lambert Road interchange (Refer to Tables 1-1 through 1-4, above). The accident rate data provided in Tables 1-5 and 1-6 show that collision rates are higher than the state average, for similar facilities, on four SR-57 mainline segments and two Lambert Road ramps, as follows: northbound SR-57 segment PM 20.9 to PM 21.15 and segment PM 21.65 to PM 21.90; southbound SR-57 segment PM 20.65 to PM 20.90 and PM 20.90 to PM 21.15; Lambert Road southbound SR-57 on-ramp; and Lambert Road southbound SR-57 off-ramp. The following traffic movements within the immediate surrounding area of the SR-57/Lambert Road interchange reflect the deficiencies of the interchange and its interaction with the surrounding road system:

- Southbound SR-57 off-ramp to eastbound Lambert Road (AM peak period) experiences intersection blocking and ramp queuing onto the freeway mainline. This is due to the off-ramp traffic volumes (1,380 vehicles) being near capacity of 1,500 vehicles. It is also due to high intersection capacity utilization due to conflicting high volume southbound SR-57 left-turn movements onto eastbound Lambert Road and westbound Lambert Road through traffic movements.
- Northbound and southbound SR-57 off-ramps to westbound Lambert Road continuing to southbound State College Boulevard (AM peak period) experiences intersection queuing and blocking caused by high left-turn volumes at the northbound SR-57 off-ramp/Lambert Road intersection (760 vehicles) and the Lambert Road/State College Boulevard intersection (410 vehicles southbound and 510 vehicles northbound) and a heavy weave movement on Lambert Road in the short segment between the SR-57 southbound off-ramp (490 vehicles) and the westbound Lambert Road left-turn lanes at State College Boulevard.
- Northbound State College Boulevard to eastbound Lambert Road to southbound and northbound SR-57 on-ramps (PM peak period) experiences intersection queuing and blocking caused by heavy weave movement created by high volumes at the State College Boulevard/Lambert Road (380 vehicles northbound/520 vehicles southbound) and the Lambert Road/southbound SR-57 on-ramp (860 vehicles) intersections, and the northbound SR-57 on-ramp (360 vehicles). Also contributing to the difficulty of the weave and congestion is the high volume of eastbound through movements (1,320 vehicles) within the interchange.

1.2.3 INDEPENDENT UTILITY AND LOGICAL TERMINI

A transportation project is required by FHWA (923 CFR 771.111) to meet standards that establish a project's "independent utility" and "logical termini." In order for a project to have "independent utility," it must be usable and a reasonable expenditure, even if no additional transportation improvements are made in the area. Regardless of other actions, the project must offer transportation benefits that "stand alone" and are not dependent upon the implementation of other projects. Additionally to be considered of independent utility, a project must not preclude other potential transportation projects from being implemented in the future.

1.2.3.1 *Independent Utility*

The proposed project satisfies FHWA's regulations for "independent utility" because it would not prevent the implementation of future transportation projects, and, independent of other actions, it would also provide benefits to Lambert Road and SR-57 responsive to the proposed project's purpose and need.

The proposed build alternatives would provide additional turn lanes at the intersections through the project area. This would alleviate current traffic congestion through the interchange and help to accommodate future projected traffic increases on Lambert Road and through the SR-57 on- and off-ramps/Lambert Road intersections. This benefit would be provided by the proposed project and would not require the completion of any other projects.

1.2.3.2 *Logical Termini*

"Logical termini" are required for project development to establish project boundaries that allow for a comprehensive response to transportation deficiency. Rational end points are required for both transportation improvements and the review of environmental impacts.

The project area adequately addresses transportation issues on Lambert Road, through the interchange from 1,000 feet west of State College Boulevard to Pointe Drive, thus providing appropriate improvements to the intersections and Lambert Road that would enhance operations as well as tying back into the existing roadway. The proposed project adequately addresses SR-57 improvements from PM 20.1 to PM 21.8 to accommodate the ramp reconfigurations, lane and shoulder improvements, and a southbound auxiliary lane to improve traffic operations through the interchange. Therefore, the proposed project meets FHWA logical termini requirements.

1.3 FACILITIES

1.3.1 FACILITIES AND OPERATIONS

1.3.1.1 Existing Facilities and Operations

SR-57 is an interregional and commuter freeway that begins at Interstate 5 (I-5) in Santa Ana, extending northeasterly and traversing the Brea Foothills toward Pomona. Within the City of Brea, SR-57 traverses a developed urbanized area consisting of residential and commercial land uses. The segment has a number of intensive trip generators, and the facility is heavily utilized for interregional travel, commercial/commerce, and commuter use. The average weekday volumes for 2011, collected over a nine month period (January through September), are shown in Table 1-1, Freeway Mainline Peak Hour Volume and LOS for Existing Conditions. Table 1-2, Ramp Volume and Capacity Summary for Existing Conditions, provides a summary of the exiting ramp configurations, capacities, peak-hour volumes and the corresponding volume to capacity ratio. Table 1-3, Ramp Merge/Diverge Summary for Existing Conditions, provides information regarding the merge/diverge existing conditions for the project area. For 2011, SR-57 had an Average Daily Traffic (ADT) volume near the SR-57/Lambert Road interchange of 236,300 vehicles per day. Of this, approximately six percent of the traffic is truck traffic.

Table 1-1 Freeway Mainline Peak Hour Volume and LOS for Existing Conditions

Location	Lanes			AM Peak Hour Volume			PM Peak Hour Volume		
	HOV	GP	Aux	Mainline	LOS	HOV	Mainline	LOS	HOV
Northbound									
Begin Project									
NB SR-57 south of Lambert Road	1	4	0	5,700	C	1,780	6,620	D	1,760
NB SR-57 south of Tonner Canyon Road	1	4	0	5,340	C	1,680	6,750	D	1,860
End Project									
NB SR-57 north of Tonner Canyon Road	1	4	0	5,265	C	1,780	7,160	D	1,960
Southbound									
Begin Project									
SB SR-57 south of Lambert Road	1	4	0	7,040	D	1,340	6,660	D	1,830
SB SR-57 south of Tonner Canyon Road	1	4	0	7,590	E	1,240	6,470	D	1,930
End Project									
SB SR-57 north of Tonner Canyon Road	1	4	0	7,270	D	1,140	6,530	D	1,830

Source: Traffic Study, 2012

HOV = High Occupancy Vehicle Lane; GP = General Purpose Lane (i.e., mixed-flow lane); Aux – Auxiliary Lane; LOS – Level of Service;

NB = Northbound; SB = Southbound

Bold = Level of Service (LOS) E or F (mainline), or exceeds 1,600 vehicles per hour per lane (HOV)

Table 1-2 Ramp Volume and Capacity Summary for Existing Conditions

Location	Lanes			AM Peak Hour Volume		PM Peak Hour Volume	
	R	Aux	Cap	Vol	V/C Ratio	Vol	V/C Ratio
Northbound SR-57							
Imperial NB On-Ramp	1	0	1,500	330	0.22	370	0.25
Imperial NB Loop On-Ramp	1	0	1,500	490	0.33	340	0.23
Imperial NB Off-Ramp	1	0	1,500	1,410	0.94	1,030	0.69
Southbound SR-57							
Imperial SB On-Ramp	1	0	1,500	660	0.44	1,150	0.77
Imperial SB Loop On-Ramp	1	0	1,500	300	0.20	540	0.36
Imperial SB Off-Ramp	1.5	1	2,250	890	0.40	960	0.43
Northbound							
Begin Project							
Lambert NB On-Ramp	1	0	1,500	730	0.49	1,070	0.71
Lambert NB Off-Ramp	1	0	1,500	1,190	0.79	1,040	0.69
End Project							
Tonner Canyon Road NB Off-Ramp	1	1	1,500	25	0.02	510	0.34
Southbound							
Begin Project							
Lambert Road SB On-Ramp	1	0	1,500	930	0.62	1,230	0.82
Lambert Road SB Off-Ramp	1	0	1,500	1,380	0.92	940	0.63
End Project							
Tonner Canyon Road SB On-Ramp	1	1	1,500	420	0.28	40	0.03

Source: Traffic Study, 2012

HOV = High Occupancy Vehicle Lane; R – Ramp termini lanes (1.5 denotes a two-lane off-ramp with one dedicated and one optional lane, or a two-lane on-ramp entering the freeway as one merge lane and an auxiliary lane); Aux – Auxiliary Lane; VOL – Volume; Cap – Capacity; V/C Ratio – Volume to Capacity ratio

NB = Northbound; SB = Southbound

Bold = exceeds V/C ratio of 1.0

Table 1-3 Ramp Merge/Diverge Summary for Existing Conditions

Location	AM Peak Hour				PM Peak Hour			
	Volumes		Density	LOS	Volumes		Density	LOS
	Fwy.	Ramp			Fwy.	Ramp		
SR-57 at Imperial								
NB Merge	5,370	330	22.4	C	6,350	370	26.2	C
SB Diverge	7,040	890	22.0	C	6,660	960	20.5	C
SR-57 at Lambert Road								
NB Merge	4,610	730	23.1	C	5,680	1,070	29.7	D
NB Diverge	5,700	1,190	33.5	D	6,720	1,040	37.1	E
SB Merge	6,210	930	30.2	D	5,530	1,230	30.2	D
SB Diverge	7,590	1,380	42.0	E	6,470	940	34.8	D
SR-57 at Tonner Canyon Road								
NB Diverge	5,240	25	25.0	C	6,650	510	33.7	D
SB Merge	7,270	420	29.9	D	6,530	40	24.1	C

Source: Traffic Study, 2012

FWY. = Freeway; **Bold** = Level of service (LOS) E or F

LOS Criteria based on Density (pc/mi/ln):

- | | | | |
|---|---------|---|--|
| A | ≤ 10 | D | > 28-35 |
| B | >10-20 | E | > 35 |
| C | > 20-28 | F | Demand exceeds capacity (mainline or ramp) |

Lambert Road is an east-west roadway serving local and regional traffic needs. Table 1-4, Existing Conditions, provides existing LOS on Lambert Road within the City of Brea and Caltrans jurisdictions. From a local standpoint, the Lambert Road interchange serves as a connection to adjacent residential and commercial uses. From a regional standpoint, Lambert Road effectively serves as an extension of SR-142 due to its direct connection at Valencia Avenue and Carbon Canyon Road.

SR-142 serves as one of the few available links for regional travel between Orange and Los Angeles Counties and the Inland Empire, which includes both Riverside and San Bernardino Counties.

Table 1-4 Existing Conditions

Location	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
City of Brea				
3. Brea Blvd & Central/State College Blvd	.68	B	.59	A
6. Brea Blvd & Lambert Road	.69	B	.65	B
7. State College Blvd & Lambert Road	.63	B	.68	B
8. SR-57 SB Ramps & Lambert Road	.69	B	.59	A
9. SR-57 NB Ramps & Lambert Road	.70	B	.61	B
10. Pointe Dr & Lambert Road	.61	B	.60	A
11. Associated & Lambert Road	.70	B	.52	A
12. Kraemer Blvd & Lambert Road	.38	A	.62	B
23. Brea Blvd & Imperial Highway	.71	C	.73	C
25. State College Blvd & Imperial Highway	.61	B	.77	C
26. SR-57 SB Ramps & Imperial Highway	.54	A	.61	B
27. SR-57 NB Ramps & Imperial Highway	.68	B	.64	B

Table 1-4 Existing Conditions (Continued)

Location	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
28. Associated & Imperial Highway	.59	A	.62	B
29. Placentia & Imperial Highway	.46	A	.54	A
32. Brea Blvd & Tonner Canyon Road	.89	D	.89	D
33. Brea Blvd & SR-57 SB On Ramp	.90	D	.90	D
34. SR-57 NB Off Ramp & Tonner Canyon Road	.07	A	.21	A
Caltrans Locations	Delay	LOS	Delay	LOS
8. SR-57 SB Ramps & Lambert Road	27.6	C	22.5	C
9. SR-57 NB Ramps & Lambert Road	24.3	C	18.3	B
26. SR-57 SB Ramps & Imperial Highway	28.2	C	26.2	C
27. SR-57 NB Ramps & Imperial Highway	29.1	C	26.4	C
33. Brea Blvd & SR-57 SB On Ramp	10.1	B	14.0	B
34. SR-57 NB Off Ramp & Tonner Canyon Road	9.3	A	13.4	B

Source: Traffic Study, 2012

LOS Criteria based on Average Delay (sec/veh):

LOS	Average Delay	ICU V/C	LOS	Average Delay	ICU V/C
A	0.0 – 10.0	.00 – .60	D	35.1 – 55.0	.81 – .90
B	10.1 – 20.0	.61 – .70	E	55.1 – 80.0	.91 – 1.00
C	20.1 – 35.0	.71 – .80	F	>80.0	>1.00

Bold = exceeds performance standard of level of service (LOS) D

¹All-way stop – delay represents the intersections average vehicle delay

²Yield – delay represents the yielding movement with highest approach delay

³Two-way stop – delay represents the movement with highest control delay

SR-57 mainline is a ten-lane freeway (four mixed flow lanes and one high occupancy vehicle [HOV] lane in each direction); however, the SR-57 Northbound Widening Project is recently constructed and widened northbound SR-57 in the vicinity south of Lambert Road to one HOV lane, five mixed-flow lanes, and one auxiliary lane and a two-lane off-ramp to Lambert Road. For the purposes of this analysis, the existing conditions, discussed under the No Build Alternative are considered to be the conditions resulting after the completion of the SR-57 Northbound Widening Project. The northbound off-ramp is a two-lane exit ramp that widens to three lanes. The southbound off-ramp is a single lane exit ramp that widens to three lanes. The on-ramps are two lanes merging to one lane and have metering signals during peak hours. Lambert Road is a six-lane arterial road, widening to allow for turn-lanes at the intersections to the SR-57 ramps, State College Boulevard, and Pointe Drive.

1.3.1.2 Future (2040) Facilities and Operations

The average projected weekday volumes for 2040, are shown in Table 1-5, Freeway Mainline Peak Hour Volume and LOS for 2040 Conditions. The forecast volumes are demand volumes which exceed the capacity for both mainline and HOV segments. Queues would form because the demand volume cannot be served, resulting in congestion occurring outside of the peak hours. Table 1-6, Ramp Volume and Capacity Summary for 2040 Conditions, provides a summary of the future ramp configurations, capacities, peak-hour volumes and the corresponding volume to capacity ratio. Intersection LOS and ramp V/C ratios would continue to worsen in year 2040. Table 1-7, Ramp Merge/Diverge Summary for 2040 Conditions, provides information regarding the merge/diverge future conditions for the project area. For 2040, SR-57 had an Average Daily Traffic (ADT) volume near the SR-57/Lambert Road interchange of 313,700 vehicles per day, an increase of approximately 33 percent from the ADT volumes for 2011.

Table 1-5 Freeway Mainline Peak Hour Volume and LOS for 2040 Conditions

Location	Lanes			AM Peak Hour Volume			PM Peak Hour Volume		
	HOV	GP	Aux	Mainline	LOS	HOV	Mainline	LOS	HOV
Northbound									
Begin Project									
NB SR-57 south of Lambert Road	1	4	2	7,600	C	2,400	8,140	C	2,200
NB SR-57 south of Tonner Canyon Road	1	4	0	7,300	D	2,300	8,400	E	2,300
End Project									
NB SR-57 north of Tonner Canyon Road	1	4	0	7,230	D	2,400	7,780	E	2,400
Southbound									
Begin Project									
SB SR-57 south of Lambert Road	1	4	0	8,450	F	1,640	7,270	D	2,080
SB SR-57 south of Tonner Canyon Road	1	4	1	9,450	F	1,540	7,320	C	2,180
End Project									
SB SR-57 north of Tonner Canyon Road	1	4	0	9,120	F	1,440	7,360	D	2,080

Source: Traffic Study, 2012

HOV = High Occupancy Vehicle Lane; GP = General Purpose Lane (i.e., mixed-flow lane); Aux – Auxiliary Lane; LOS – Level of Service;

NB = Northbound; SB = Southbound

Bold = Level of Service (LOS) E or F (mainline), or exceeds 1,600 vehicles per hour per lane (HOV)

Table 1-6 Ramp Volume and Capacity Summary for 2040 Conditions

Location	Northbound						
	Lanes		Cap	AM Pk Hr		PM Pk Hr	
	R	Aux		Volume	V/C Ratio	Volume	V/C Ratio
No-Build - Northbound							
Imperial NB On-Ramp	1	0	1,080	740	.69	710	.66
Imperial NB Loop On-Ramp	1	0	900	780	.87	500	.55
Imperial NB Off-Ramp	1	1	2,250	1,500	.67	1,060	.47
Lambert NB On-Ramp	1	0	1,500	950	.63	1,379	.91
Lambert NB Off-Ramp	2	2	3,000	1,350	.45	1,210	.40
Tonner Canyon NB Off-Ramp	1	1	1,500	30	.02	520	.35

**Table 1-6 (Continued)
Ramp Volume and Capacity Summary for 2040 Conditions**

Location	Northbound						
	Lanes		Cap	AM Pk Hr		PM Pk Hr	
	R	Aux		Volume	V/C Ratio	Volume	V/C Ratio
No Build - Southbound							
Imperial SB On-Ramp	1	0	1,500	680	.45	1,170	.78
Imperial SB Loop On-Ramp	1	0	900	310	.34	560	.62
Imperial SB Off-Ramp	1.5	1	2,250	1,130	.50	1,440	.64
Lambert SB On-Ramp	1	0	1,500	1,200	.80	1,360	.91
Lambert SB Off-Ramp	1	0	1,500	2,100	1.40	1,310	.87
Tonner Canyon SB On-Ramp	1	1	1,500	430	.29	60	.04

Source: Traffic Study, 2012

HOV = High Occupancy Vehicle Lane; R – Ramp termini lanes (1.5 denotes a two-lane off-ramp with one dedicated and one optional lane, or a two-lane on-ramp entering the freeway as one merge lane and an auxiliary lane); Aux – Auxiliary Lane; VOL – Volume; Cap – Capacity; V/C Ratio – Volume to Capacity ratio; NB = Northbound; SB = Southbound

Bold = exceeds V/C ratio of 1.0

Table 1-7 Ramp Merge/Diverge Summary for 2040 Conditions

Location	AM Peak Hour				PM Peak Hour			
	Volumes		Density	LOS	Volumes		Density	LOS
	Fwy	Ramp			Fwy	Ramp		
SR-57 at Imperial								
NB Merge	6,860	740	21.5	C	7,430	710	22.5	C
SB Diverge	8,450	1,130	--	F	7,270	1,440	23.2	C
SR-57 at Lambert								
NB Merge (7a Loop)	6,350	430	26.0	C	7,030	520	29.1	D
NB Merge (7a Direct)	6,780	520	28.2	D	7,550	850	33.7	D
NB Merge (9)	6,350	950	30.2	D	7,030	1,370	36.1	E
NB Diverge	7,700	1,350	<1.0	A	8,240	1,210	<1.0	A
SB Merge	7,350	1,200	--	F	6,010	1,360	32.4	D
SB Diverge (No Build)	9,450	2,100	53.8	F	7,320	1,310	40.4	E
SB Diverge (7A and 9)	9,450	2,100	44.4	F	7,320	1,310	31.0	D
SR-57 at Tonner Canyon								
NB Diverge	7,200	30	33.4	D	8,300	520	40.8	E
SB Merge	9,120	430	--	F	7,360	60	27.2	C

Source: Traffic Study, 2012

FWY. = Freeway; **Bold** = Level of service (LOS) E or F

LOS Criteria based on Density (pc/mi/ln):

A	≤ 10	D	> 28-35
B	>10-20	E	> 35
C	> 20-28	F	Demand exceeds capacity (mainline or ramp)

Table 1-8, 2040 Conditions, provides Future (2040) LOS on Lambert Road within the City of Brea and Caltrans jurisdictions.

Table 1-8 2040 Conditions

Intersection	No-Build			
	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
3. Brea Blvd and Central/State College	.73	C	.74	C
6. Brea Blvd and Lambert Road	.85	D	.79	C
7. State College and Lambert Road	.69	B	.79	C
10. Pointe Dr and Lambert Road	.64	B	.69	B
11. Associated and Lambert Road	.78	C	.55	A
12. Kraemer Blvd and Lambert Road	.55	A	.85	D
23. Brea Blvd and Imperial Hwy	.83	D	.79	C
25. State College and Imperial Hwy	.75	C	.87	D
26. SR-57 SB Ramps and Imperial Hwy	.70	B	.71	C
27. SR-57 NB Ramps and Imperial Hwy	.83	D	.80	C
28. Associated and Imperial Hwy	.73	C	.97	E
29. Placentia and Imperial Hwy	.73	C	.76	C
32. Brea Blvd and Tonner Canyon	.93	E	1.02	F
33. Brea Blvd and SR-57 SB Ramp	.92	E	1.02	F
34. SR-57 NB Off and Tonner Canyon	.07	A	.35	A
Intersection	Delay	LOS	Delay	LOS
7. State College and Lambert Road	61.2	E	57.3	E
8. SR-57 SB Ramps and Lambert Road	80.0	F	46.4	D
9. SR-57 NB Ramps and Lambert Road	29.2	C	28.8	C

Source: Traffic Study, 2012

LOS Criteria based on Average Delay (sec/veh):

LOS	Average Delay	ICU V/C	LOS	Average Delay	ICU V/C
A	0.0 – 10.0	.00 – .60	D	35.1 – 55.0	.81 – .90
B	10.1 – 20.0	.61 – .70	E	55.1 – 80.0	.91 – 1.00
C	20.1 – 35.0	.71 – .80	F	>80.0	>1.00

Bold = exceeds performance standard of level of service (LOS) D

1.3.2 ACCIDENT INFORMATION

Collision data reports from the Traffic Accident Surveillance and Analysis System (TASAS) were run by Caltrans District 12 on May 6, 2013. The TASAS data includes collisions that occurred during the thirty-six (36) month period between July 1, 2008 and June 30, 2011 on SR-57 from post mile (PM) 20.15 to PM 21.90. Table 1-9, TASAS SR-57 Mainline Collision Rates, and Table 1-10, TASAS Ramp Collision Rates, summarize the collision data for SR-57 and the ramps to Lambert Road.

Table 1-9 TASAS SR-57 Mainline Collision Rates

Location		Number of Collisions					Actual Rates ¹			Average Rates ¹		
Begin PM	End PM	Total	Fatal	Injury	Wet	Dark	Fat	F+I	Tot ⁵	Fat	F+I	Tot ⁵
Northbound												
20.15	20.40	11	0	4	3	1	0.000	0.13	0.35	0.003	0.26	0.90
20.40	20.65	4	0	1	0	2	0.000	0.03	0.13	0.004	0.30	0.97
20.65	20.90	19	0	5	2	4	0.000	0.16	0.61	0.004	0.30	0.97
20.90	21.15	38	0	7	3	11	0.000	0.23	1.26	0.004	0.29	0.94
21.15	21.40	12	0	1	0	2	0.000	0.03	0.40	0.005	0.28	0.90
21.40	21.65	6	0	2	1 ³	3	0.000	0.07	0.20	0.005	0.28	0.90
21.65	21.90	30	0	8	4 ³	14	0.000	0.27	1.00	0.005	0.28	0.90
Southbound												
20.15	20.40	18	0	6	1	2	0.000	0.19	0.57	0.003	0.26	0.90
20.40	20.65	23	0	7	1	2	0.000	0.22	0.73	0.004	0.30	0.97
20.65	20.90	47 ²	0	12	2	7	0.000	0.38	1.50	0.004	0.30	0.97
20.90	21.15	53	0	18	13	14	0.000	0.60	1.76	0.004	0.29	0.94
21.15	21.40	22	0	6	2	3	0.000	0.20	0.73	0.005	0.28	0.90
21.40	21.65	27	0	5	2	5	0.000	0.17	0.90	0.005	0.28	0.90
21.65	21.90	26	0	5	2	6	0.000	0.17	0.87	0.005	0.28	0.90

PM = Post Mile; Fat = Fatality; F+I = Fatality and Injury; Tot = Total; Wet = driving conditions were wet; Dark = driving conditions were dark

1. For mainline sections, the collision rate is the number of collisions per million vehicle-miles. For ramps, the collision rate is the number of collisions per million vehicles.
2. Table C location
3. Wet Table C location
4. **BOLD** indicates a collision rate that is higher than the statewide average collision rate for similar facilities.
5. Tot = Total = F + I + Property damage only.

In general, the collision rates on SR-57 between PM 20.15 and PM 21.65 during the 36-month period are lower than the statewide average for similar facilities; however, four segments on SR-57 have collision rates that are higher than the statewide average for the same time period. Collision types include rear end, sideswipe, hit object, and overturn. Rear end and sideswipe collisions are considered congestion-related accidents.

- Northbound SR-57 PM 20.90 to 21.15: The following collision types were reported: rear end (31.6 percent); sideswipe (42.1 percent); hit object (18.4 percent); and overturn (2.6 percent). The primary collision factors for the SR-57 segment included: speeding (36.8 percent); improper turn (13.2 percent); and other violations (42.1 percent). The majority of the collisions (55.3 percent) occurred during the heavily congested afternoon peak period.
- Northbound SR-57 PM 21.65 to 21.90: The following collision types were reported: rear end (60.0 percent); sideswipe (26.7 percent); and hit object (6.7 percent). The primary collision factors for the SR-57 segment included: speeding (63.3 percent); improper turn (13.3 percent); and other violations (20.0 percent). The majority of the collisions (43.3 percent) occurred during the heavily congested afternoon peak period. This segment is also identified as an area with ponding, thus resulting in wet conditions.
- Southbound SR-57 PM 20.65 to 20.90: The following collision types were reported: rear end (63.8 percent); sideswipe (27.7 percent); and hit object (6.4 percent). The primary collision factors for the SR-57 segment included: speeding (61.7 percent); improper turn (10.6 percent); and other violations (23.4 percent). The collisions occurred across all lanes on this SR-57 mainline segment. The majority of the collisions (44.6 percent) occurred during the heavily congested morning peak period.

- Southbound SR-57 PM 20.90 to 21.15: The following collision types were reported: rear end (62.3 percent); sideswipe (17.0 percent); and hit object (17.0 percent). The majority of hit object collisions (78 percent) involved the median barrier. The primary collision factors for the SR-57 segment included: speeding (75.5 percent); improper turn (5.7 percent); and other violations (13.2 percent). The majority of the collisions (56.6 percent) occurred during the heavily congested morning peak period. The majority of the collisions (86.8 percent) occurred in the left and interior lanes. This area contains nonstandard stopping sight distance condition, created by a median barrier sight obstruction, and nonstandard median shoulder width.

Table 1-10 TASAS Ramp Collision Rates

Location	Total	Actual Rates ¹			Average Rates ¹		
		Fat	F+I	Tot ⁴	Fat	F+I	Tot ⁴
Northbound Off-ramp to Lambert Road (PM 20.730)	15	0.000	0.05	0.78	0.003	0.35	1.01
Southbound On-ramp from Lambert Road (PM 20.741)	29	0.000	0.16	1.58	0.002	0.22	0.63
Northbound On-ramp from Lambert Road (PM 21.158)	12	0.000	0.00	1.00	0.002	0.22	0.63
Southbound Off-ramp to Lambert Road ² (PM 21.204)	39	0.000	0.70	2.09	0.003	0.35	1.01

PM = Post Mile; Fat = Fatality; F+I = Fatality and Injury; Tot = Total

1. For mainline sections, the collision rate is the number of collisions per million vehicle-miles. For ramps, the collision rate is the number of collisions per million vehicles.

2. Wet Table C location

3. **BOLD** indicates a collision rate that is higher than the statewide average collision rate for similar facilities.

4. Tot = Total = F + I + Property damage only.

The collision data indicates that collisions occurred at a lower rate than statewide average for similar facilities on the Lambert Road northbound on- and off-ramps. Collisions occurred at a higher rate on the Lambert Road southbound on- and off-ramps. Collision types include rear end, sideswipe, hit object, and overturn. Rear end and sideswipe collisions are considered congestion-related accidents.

- Lambert Road Southbound On-ramp (PM 20.741): The following collision types were reported: rear end (27.6 percent); sideswipe (41.4 percent); hit object (10.3 percent); and broadside (17.2 percent). The primary collision factors for the southbound on-ramp included: speeding (24.1 percent); improper turn (27.6 percent); and other violations (37.9 percent). The majority of collisions (51.7 percent) occurred within the ramp intersection area. The majority of collisions (58.5 percent) were equally balanced between the heavily congested morning and afternoon peak periods.
- Lambert Road Southbound Off-ramp (PM 21.204): The following collision types were reported: rear end (53.8 percent); sideswipe (15.4 percent); hit object (7.7 percent); and broadside (17.9 percent). The primary collision factors for the southbound off-ramp included: speeding (46.2 percent); improper turn (12.8 percent); and other violations (20.5 percent). The ramp exit from SR-57 experienced 53.8 percent of the collisions, while 41.0 percent of the collisions occurred within the ramp intersection area. The majority of collisions (51.3 percent) were equally balance between the heavily congested morning and afternoon peak periods.

1.4 PROJECT DESCRIPTION

This section describes the proposed project and the design alternatives that were developed to meet the identified need through accomplishing the defined purpose, while avoiding or minimizing environmental impacts. The range of reasonable alternatives was identified based on vehicle

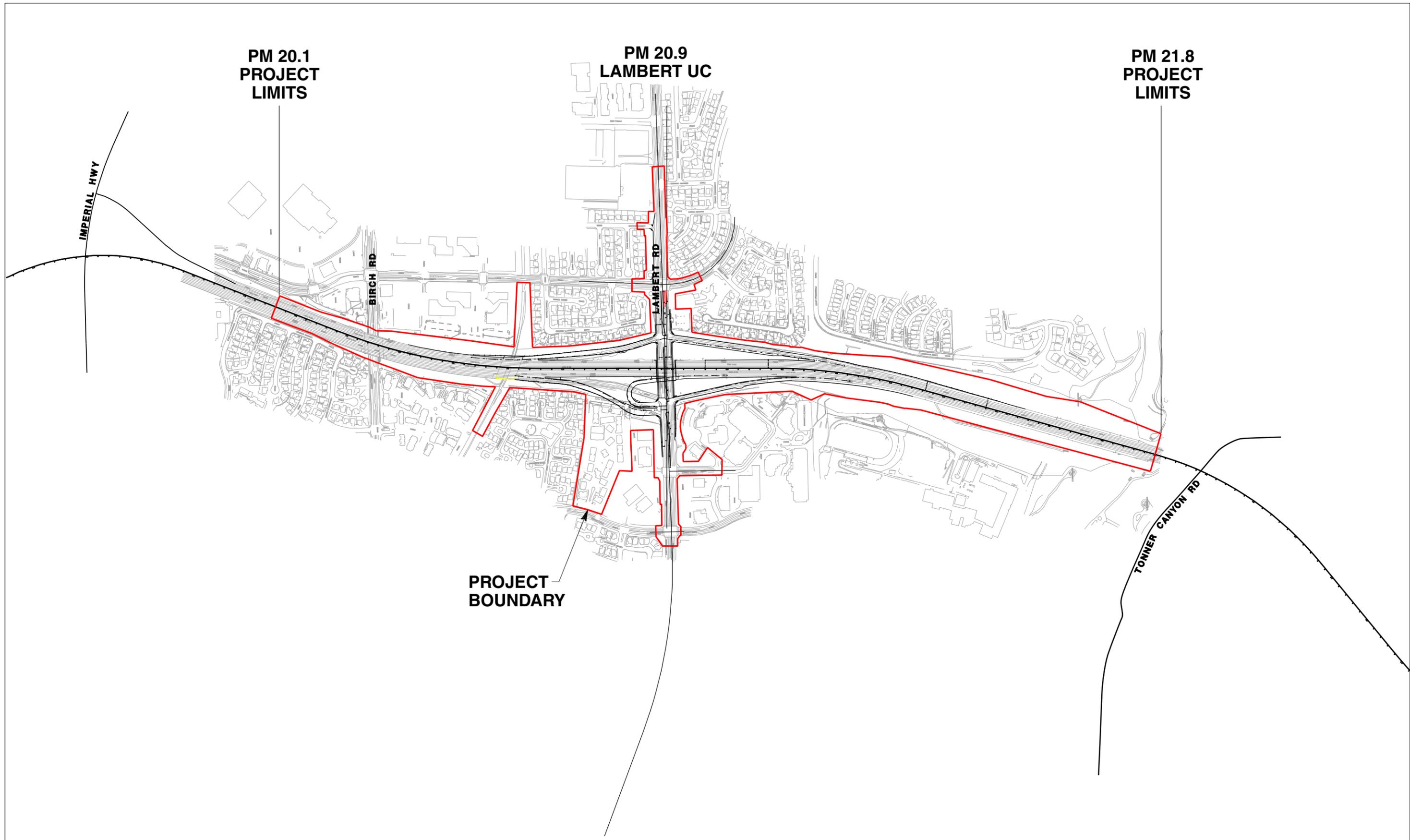
delays, level of service (LOS), queuing, and conflicting turning movements at the ramp intersections. There are currently two Build Alternatives that will be analyzed, Build Alternative 7A (Preferred Alternative) and Build Alternative 9, as defined in the approved May 2007 Project Study Report (PSR), as well as the No Build Alternative. Build Alternative 9 was an alternative considered but rejected in the 2007 PSR; however, the Project Development Team (PDT) evaluated the year 2040 traffic forecast volumes and has determined that the year 2040 traffic forecasts are substantially lower than the year 2040 forecast volumes in the approved 2007 PSR. This reduction in forecast traffic volumes for year 2040 allows Build Alternative 9 to adequately accommodate the year 2040 forecast traffic and again be a viable alternative.

1.4.1 BUILD ALTERNATIVES

Both Build Alternatives include a diamond configuration for the SR-57 southbound ramps/Lambert Road intersection from PM 20.1 to 21.8 as depicted in Figure 1-3, Project Limits. The common design features for both Build Alternatives 7A and 9 are as follows:

- The southbound SR-57 median shoulder would be widened to 10 feet through the left-hand curve north of Lambert Road to provide standard horizontal sight distance.
- Three southbound SR-57 general purpose lanes would be widened to 12 feet through the left-hand curve north of Lambert Road to provide standard lane width.
- The southbound SR-57 off-ramp would be reconfigured from a single lane to a two-lane off-ramp that widens to four lanes at the intersection with Lambert Road. This widening would provide an auxiliary lane on southbound SR-57.
- A third receiving lane would be added to the southbound on-ramp at the intersection with Lambert Road. The ramp would merge from three lanes to one lane as it approaches SR-57. This results in the widening of the Brea overhead bridge.
- Widen the eastbound side of Lambert Road from 1,000 feet west of State College Boulevard to the southbound SR-57 ramp intersection in order to provide two right-turn lanes from eastbound Lambert Road to the SR-57 southbound on-ramp.
- The Lambert Road profile would be lowered between the southbound and northbound SR-57 ramp intersections to provide 15-foot standard vertical clearance under the Lambert Road Undercrossing.
- Tie-back retaining walls would be constructed on the eastbound and westbound sides of Lambert Road under the Lambert Road Undercrossing to accommodate roadway widening.
- The Lambert Road crosswalk at the northbound SR-57 ramp intersection would be removed. Pedestrians would continue to have access across Lambert Road at the Lambert Road/Pointe Drive and Lambert Road/State College Boulevard intersections, east and west of SR-57, respectively. This crosswalk removal would enhance traffic operations of the ramp and not compromise safe pedestrian travel on Lambert Road, through the SR-57/Lambert Road interchange and intersection.

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Within and along Lambert Road are a number of utilities which would be relocated by either build alternative. The two main construction efforts affecting the utilities would be the widening of Lambert Road and the lowering of Lambert Road between State College Boulevard and Pointe Drive. The widening of Lambert Road would directly impact the SCE overhead power distribution lines along the eastbound and westbound curb line. The power lines would be relocated to the back of sidewalk along their respective sides. The relocation would affect 16 power poles. The lowering of Lambert Road is required to meet the vertical clearance standard for the bridge structure. Lowering of Lambert Road would reduce the cover over the existing utilities. For those owners not allowing the encasement of their facilities or the reduction in cover caused by the lowering, new pipelines or conduits would be constructed at the appropriate depth. The owners with potential relocation (lowering in place) are AT&T, Chevron Pipe Line, Crimson Pipeline, ExxonMobil Pipeline, Plains All American Pipeline, SCE Fuel Operations, and SoCal Gas. The impacted length of each utility affected by the lowering of Lambert Road is approximately 450 feet. Additional coordination with owners to determine relocation or protection requirements would commence with the selection of the design alternative.

Existing lighting would be relocated as necessary within the project limits. Additional lighting would be provided where required per Caltrans standard design. Existing landscaping would be replaced to maintain the existing character. The details for replacing the existing landscaping would be coordinated with Caltrans and the City during final design.

Two staging and storage areas are proposed for the project: 1) City right-of-way (ROW) for the former railroad at Brea Overhead, and 2) the infield area of the northbound loop on-ramp (only available for Alternative 7A). Access points to the proposed project site would be on State College, Lambert Road, Pointe Drive, and Associated Way (Alternative 7A only).

Lambert Road would require temporary closures throughout the construction period, for staging, equipment movement, grading, and other construction activities. These full closures would be short term and conducted at night to minimize impacts to peak-hour traffic. Ramp closures would be conducted at night, and all ramps would re-open the following morning. The longest anticipated ramp closure would be a weekend closure. Detoured traffic would make use of State College Boulevard, Associated Road, Kraemer Boulevard, and Birch Street. No traffic would be diverted to the north along State College Boulevard because there is no link between Tonner Canyon Road and Lambert Road east of SR-57. Alternatively, traffic would be detoured along the SR-57 mainline to adjacent interchanges. Westbound traffic east of SR-57 would use the Lambert Road northbound on-ramp, exit and re-enter on Tonner Canyon Road, and then finally exit at the Lambert Road southbound off-ramp to continue westbound. Eastbound traffic west of SR-57 would be detoured to the Lambert Road southbound on-ramp, exit and re-enter at Imperial Highway, and exit at the Lambert Road northbound off-ramp.

SR-57 would not require closures, and thus, mainline freeway traffic would not be detoured as part of the proposed project; however, during SR-57/Lambert Road ramp closures, traffic would be detoured to Imperial Highway and would use State College, Kraemer Boulevard, Associated Road, and Birch Street to reach destinations east and west of the interchange. Ramp closures would be short term at night to minimize impacts to peak-hour traffic.

1.4.1.1 Build Alternative 7A (Preferred Alternative)

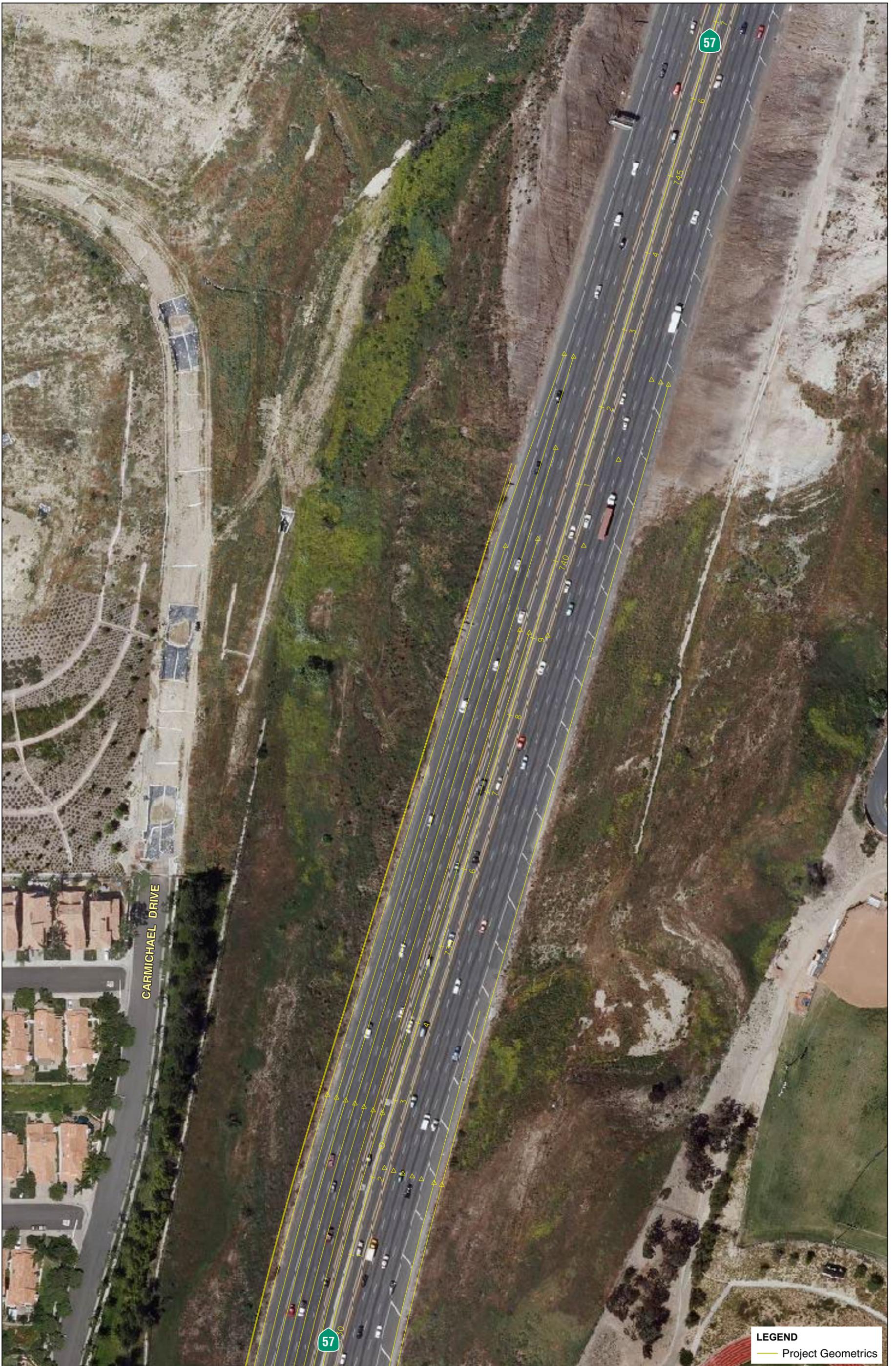
Build Alternative 7A (Preferred Alternative) includes all common design features discussed above. Build Alternative 7A (Preferred Alternative) would also include the following design features in addition to the common design features. Refer to Figures 1-4a through 1-4f, Site Plan –

Alternative 7A, for a graphical representation of proposed project features. Figure 1-5, Existing Wall Features, provides a graphical representation of existing sound and retaining walls, including those completed from the SR-57 Northbound Widening Project. No retaining walls, beyond replacing existing walls, are proposed under Build Alternative 7A (Preferred Alternative). One new soundwall is proposed in the northeast quadrant of the proposed project, at the El Torito Grill Restaurant.

- The northbound SR-57 ramps would be reconfigured to provide a loop on-ramp for eastbound Lambert Road travelers in the southeast quadrant of the interchange. This would eliminate the left-turn movement from eastbound Lambert Road to the northbound SR-57 on-ramp. The loop on-ramp would require the Lambert Road undercrossing to be widened to accommodate the new ramp.
- The northbound SR-57 off-ramp would be realigned to allow for the new eastbound Lambert Road to northbound SR-57 loop on-ramp.
- The northbound SR-57 median shoulder would be widened to a standard 10 feet and all travel lanes would be widened to a standard 12 feet.
- The current northbound SR-57 on-ramp would remain to provide northbound SR-57 access for westbound Lambert Road travelers. The existing on-ramp would be widened to provide for standard inside and outside shoulders.
- Additional right-of-way would be acquired within the southeast quadrant of the SR-57 / Lambert Road interchange to allow for the construction of the new eastbound Lambert Road to northbound SR-57 loop on-ramp and the realignment of the northbound SR-57 off-ramp.
- 78,800 square feet of ROW would be permanently acquired under this alternative.
- Retaining walls would be required for the northbound off-ramp, southbound on-ramp, northbound loop on-ramp, and southbound off-ramp auxiliary lane. Wall heights would vary based on location.
- Storm water best management practices (BMPs) are proposed for ramp infield areas where slopes are 4:1 (horizontal to vertical) or flatter. Existing storm drain facilities would be relocated where necessary. Additional drainage facilities would be added where necessary, which are to be identified during final design.



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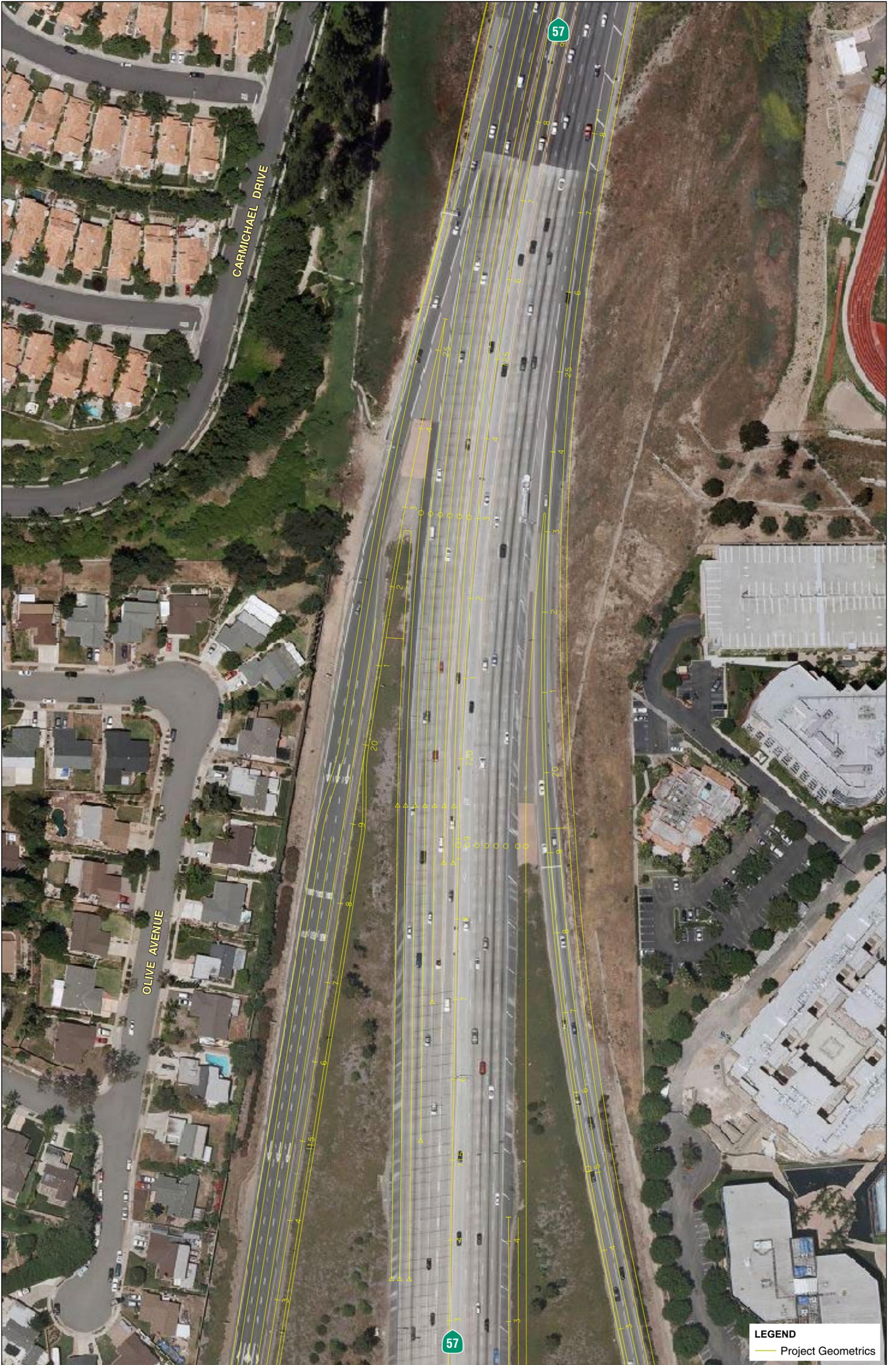


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SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA
Site Plan • Alternative 7A - Sheet A

Figure 1-4b

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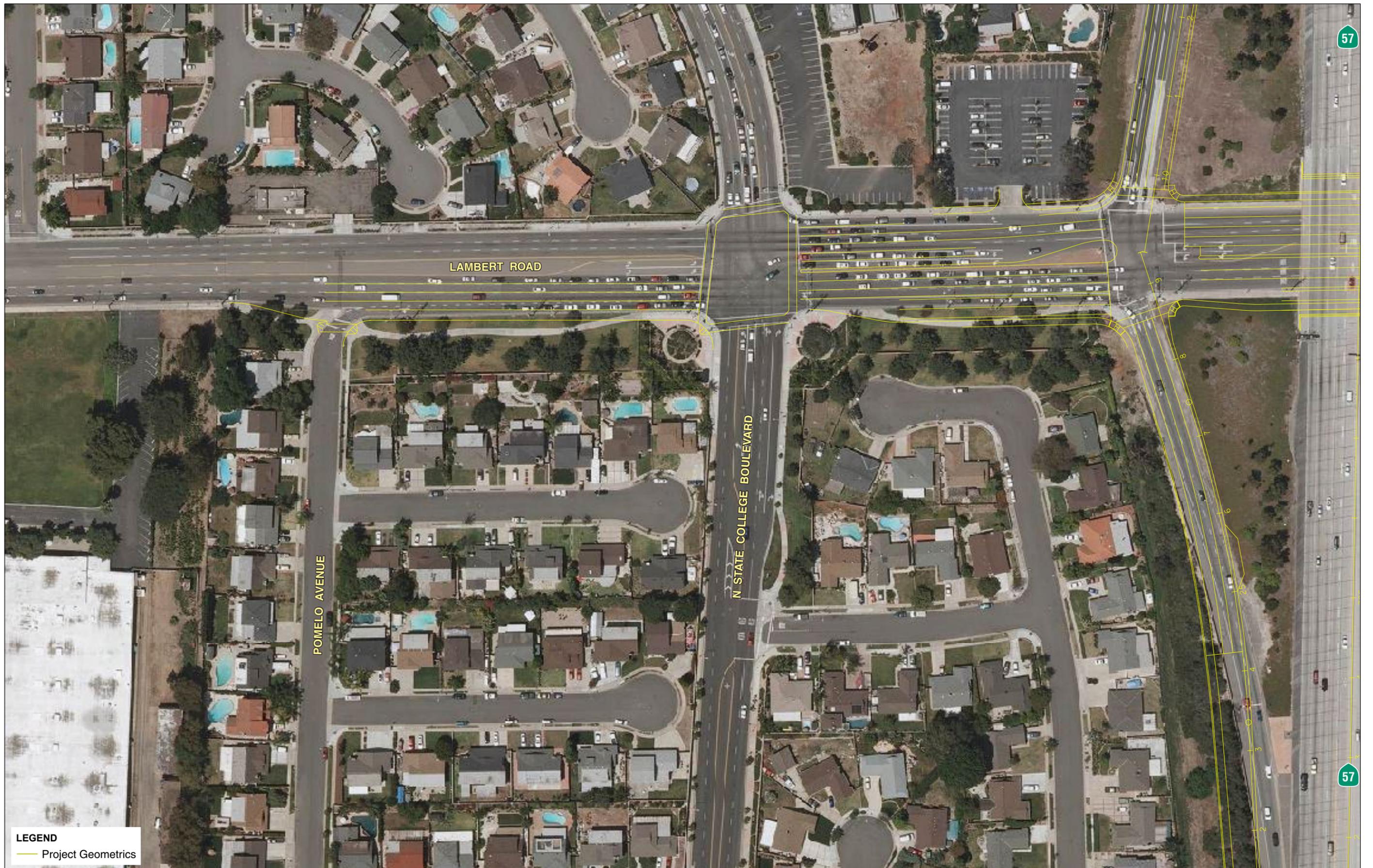


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SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA
Site Plan • Alternative 7A - Sheet B

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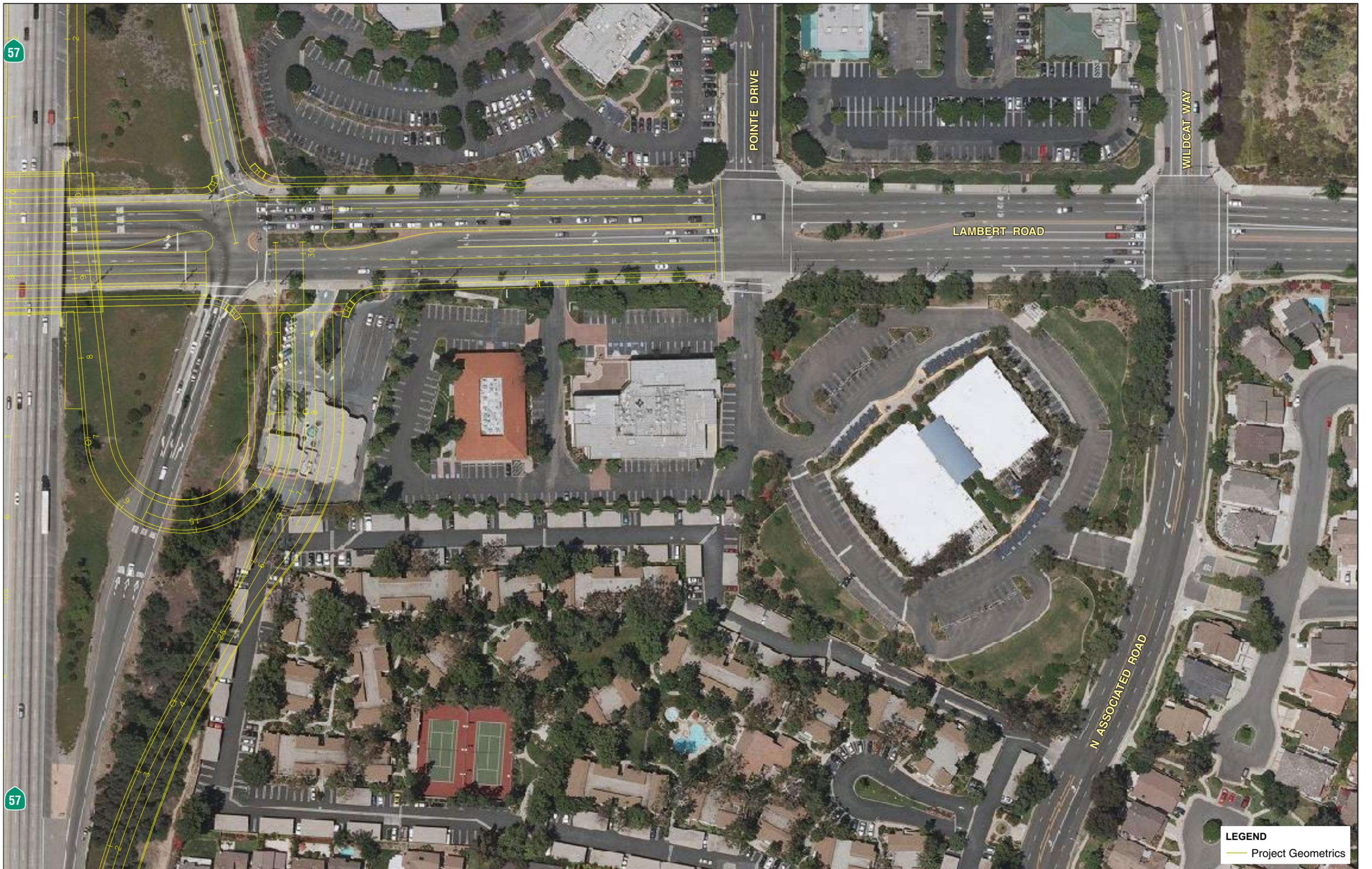


1/17/13 JN 10-107792-18226 MAS

SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA
Site Plan • Alternative 7A - Sheet C

Figure 1-4d

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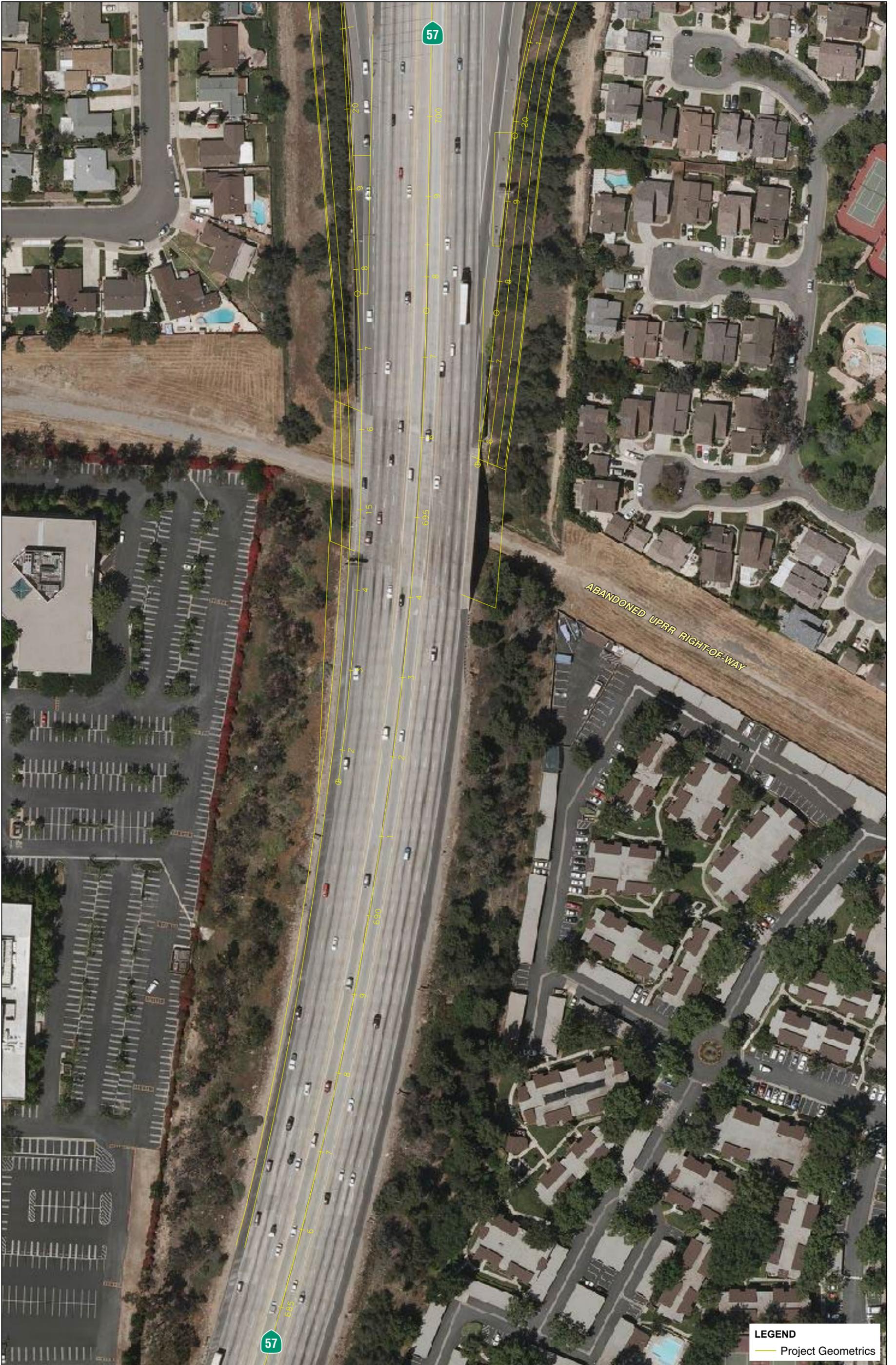


SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA
Site Plan • Alternative 7A - Sheet D

Figure 1-4e



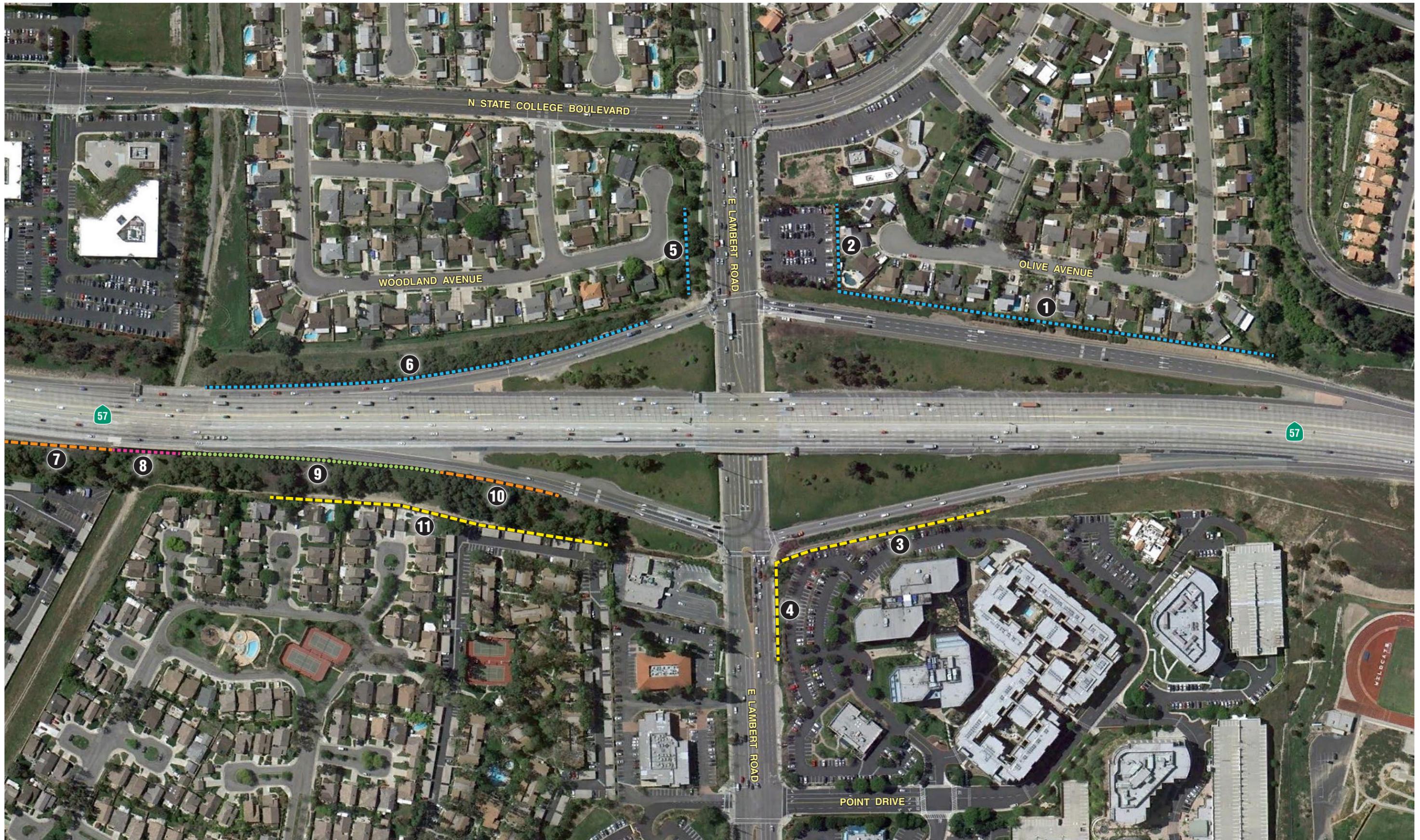
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SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA
Site Plan • Alternative 7A - Sheet E

Figure 1-4f

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- Existing Retaining Wall
- SR-57 Northbound Widening Project Retaining Wall
- Existing Soundwall
- SR-57 Northbound Widening Project Soundwall
- SR-57 Northbound Widening Project Combination Retaining Wall / Soundwall

not to scale

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SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA

Existing Wall Features

Figure 1-5

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1.4.1.2 *Build Alternative 9*

Build Alternative 9 would provide a diamond configuration which includes all common design features discussed above. Build Alternative 9 would also include the following design features in addition to the common design features. Refer to Figures 1-6a through 1-6f, Site Plan – Alternative 9, for a graphical representation. Refer to Figure 1-5, Existing Wall Features, which provides a graphical representation of existing sound and retaining walls, including those completed from the SR-57 Northbound Widening Project. No new retaining walls, beyond replacing existing walls, are proposed under Build Alternative 9. One new soundwall is proposed in the northeast quadrant of the proposed project, at the El Torito Grill Restaurant.

- Widen northbound SR-57 on-ramp from two lanes to three lanes.
- Continue to allow left-turn movements from eastbound Lambert Road to the northbound SR-57 on-ramp.
- 26,720 square feet of ROW would be permanently acquired under this alternative.
- Replacement of existing retaining walls would be required for the northbound SR-57 off-ramp, southbound SR-57 on-ramp, and southbound SR-57 off-ramp auxiliary lane. Wall heights would vary based on location.
- Storm water BMPs are proposed for ramp infield areas where slopes are 4:1 (horizontal to vertical) or flatter.
- Existing storm drain facilities would be relocated where necessary; specific locations would be identified during final design.

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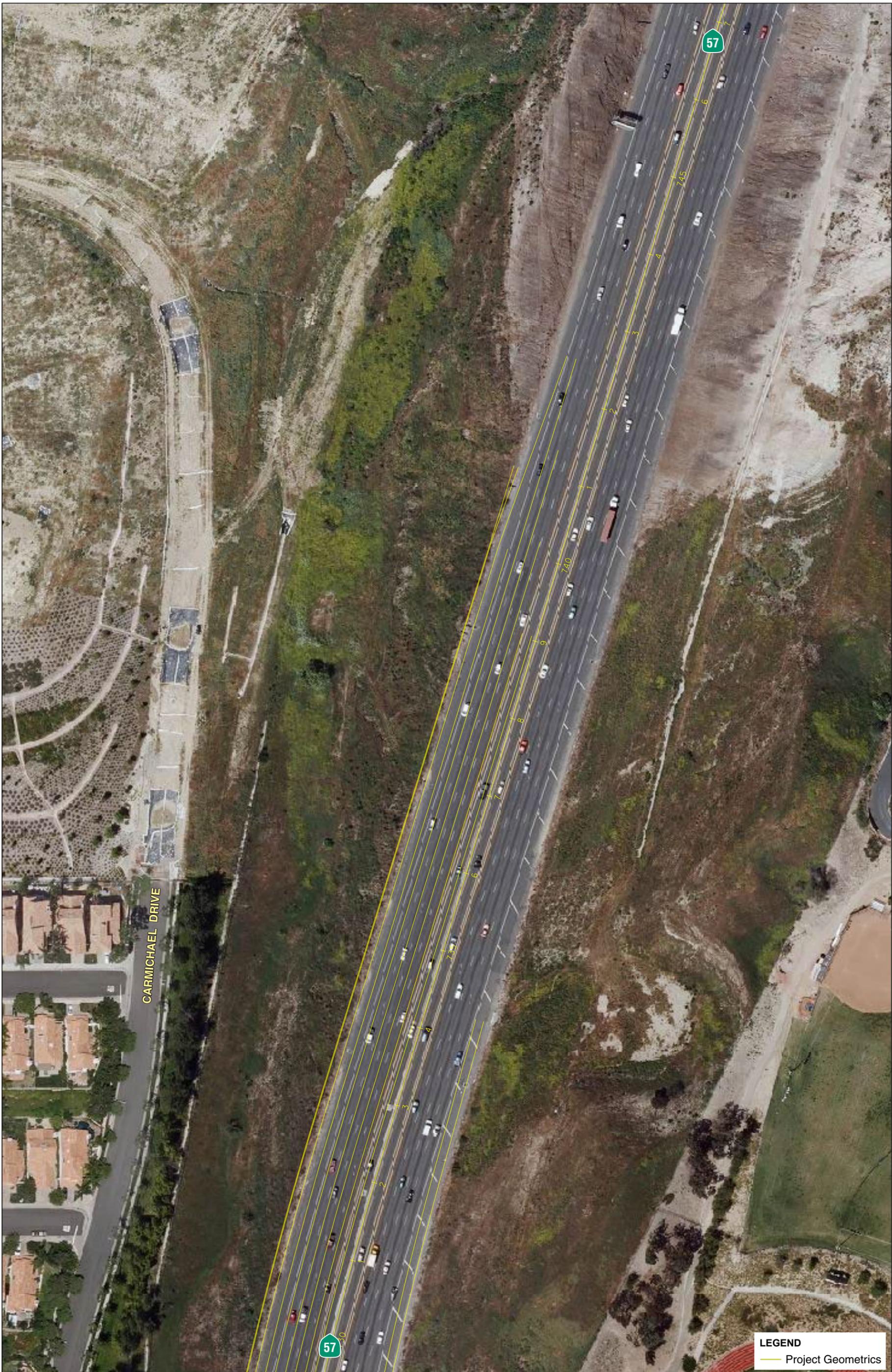


SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA
Site Plan • Alternative 9 - Index

Figure 1-6a



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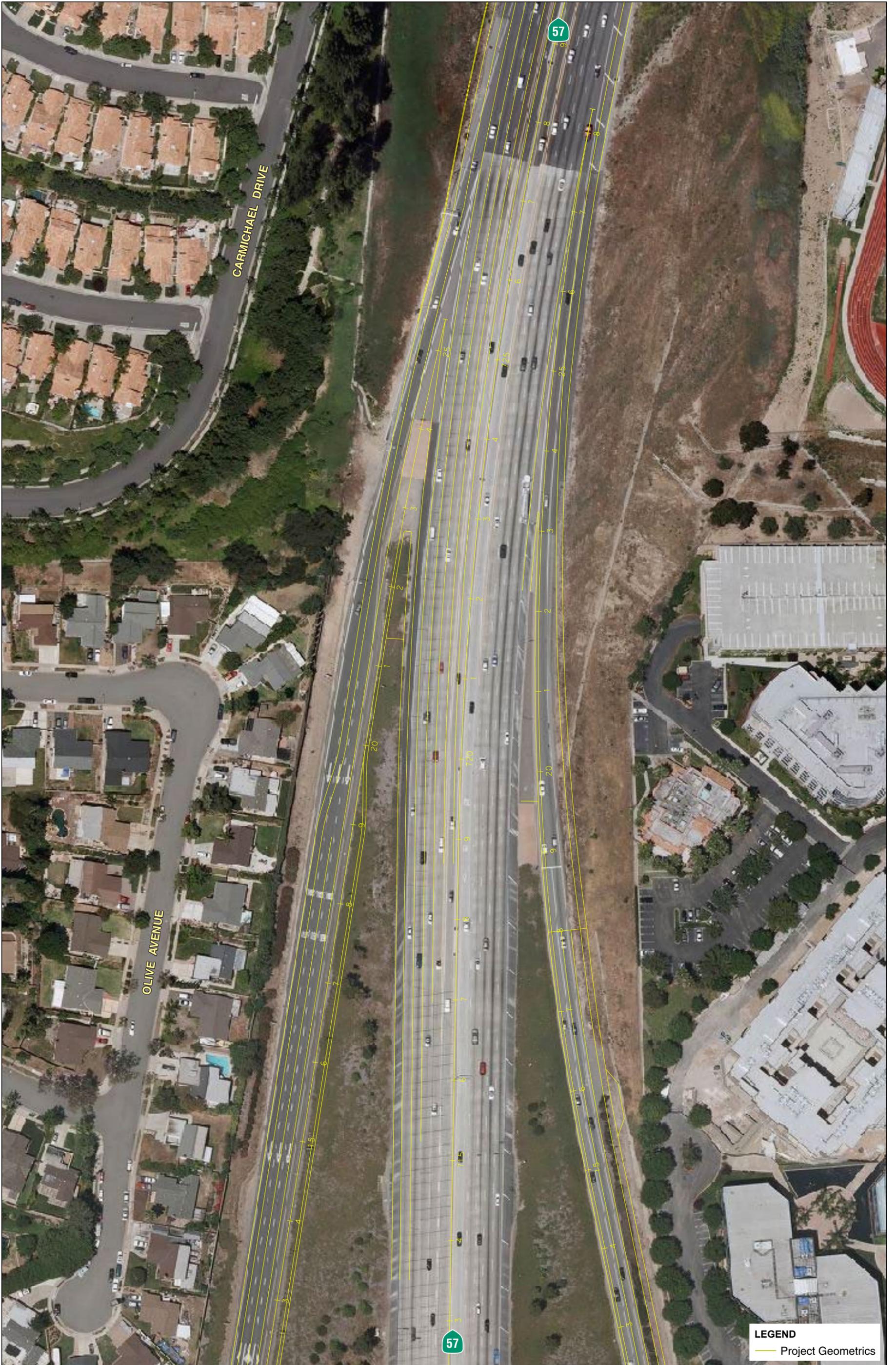


1/17/13 JN 10-107792-18226 MAS

SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA
Site Plan • Alternative 9 - Sheet A

Figure 1-6b

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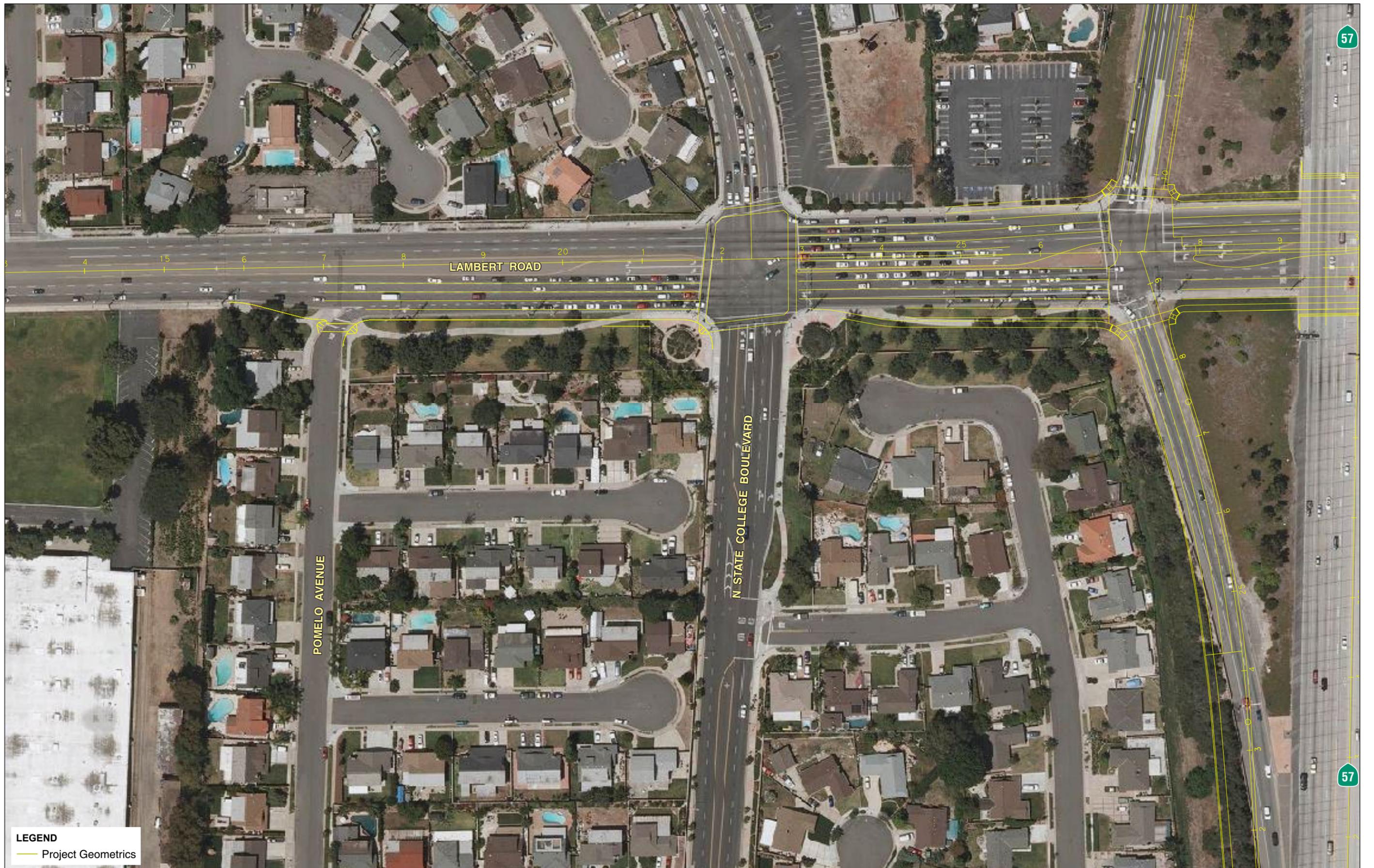


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SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA
Site Plan • Alternative 9 - Sheet B

Figure 1-6c

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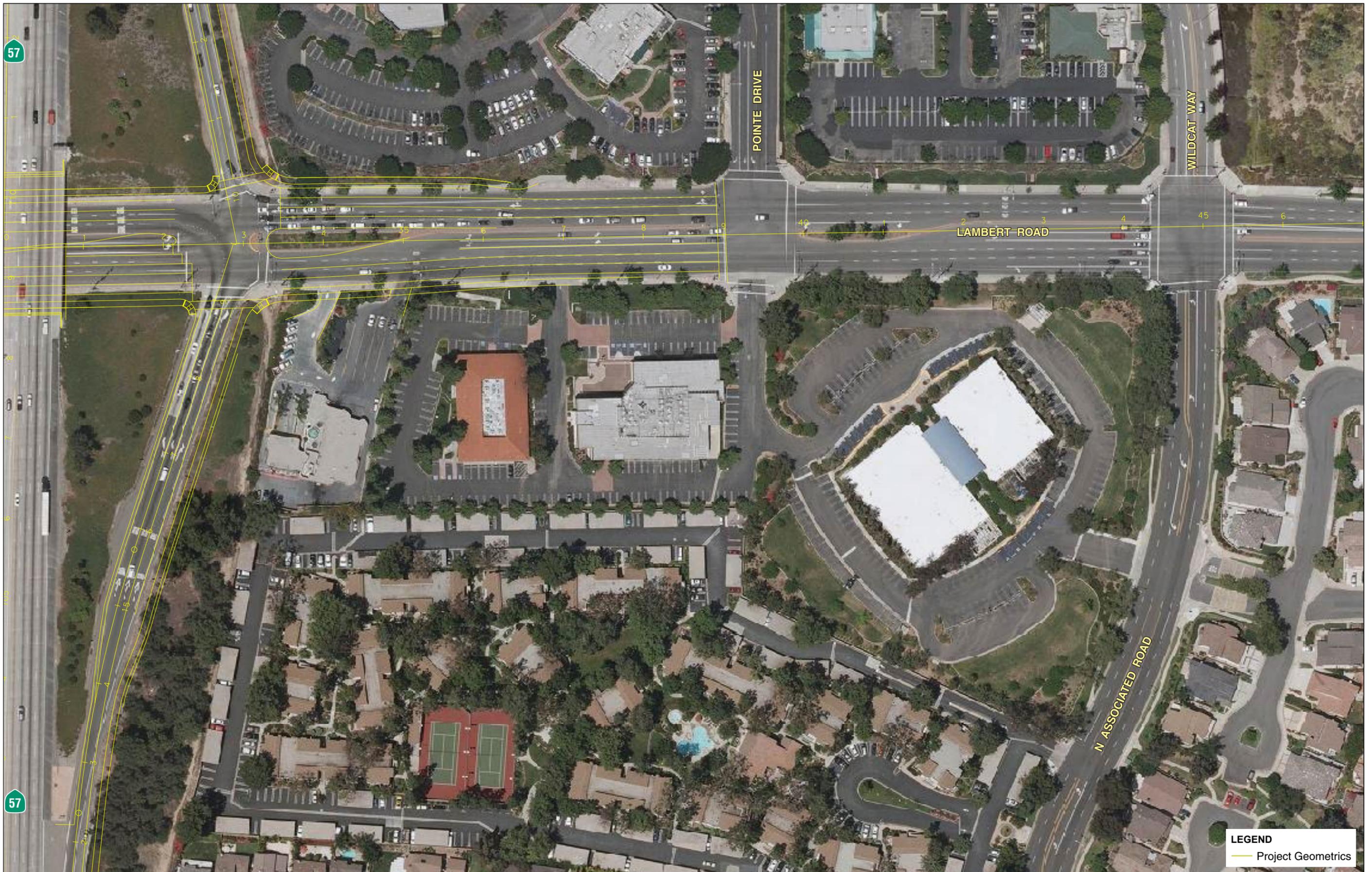


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SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA
Site Plan • Alternative 9 - Sheet C

Figure 1-6d

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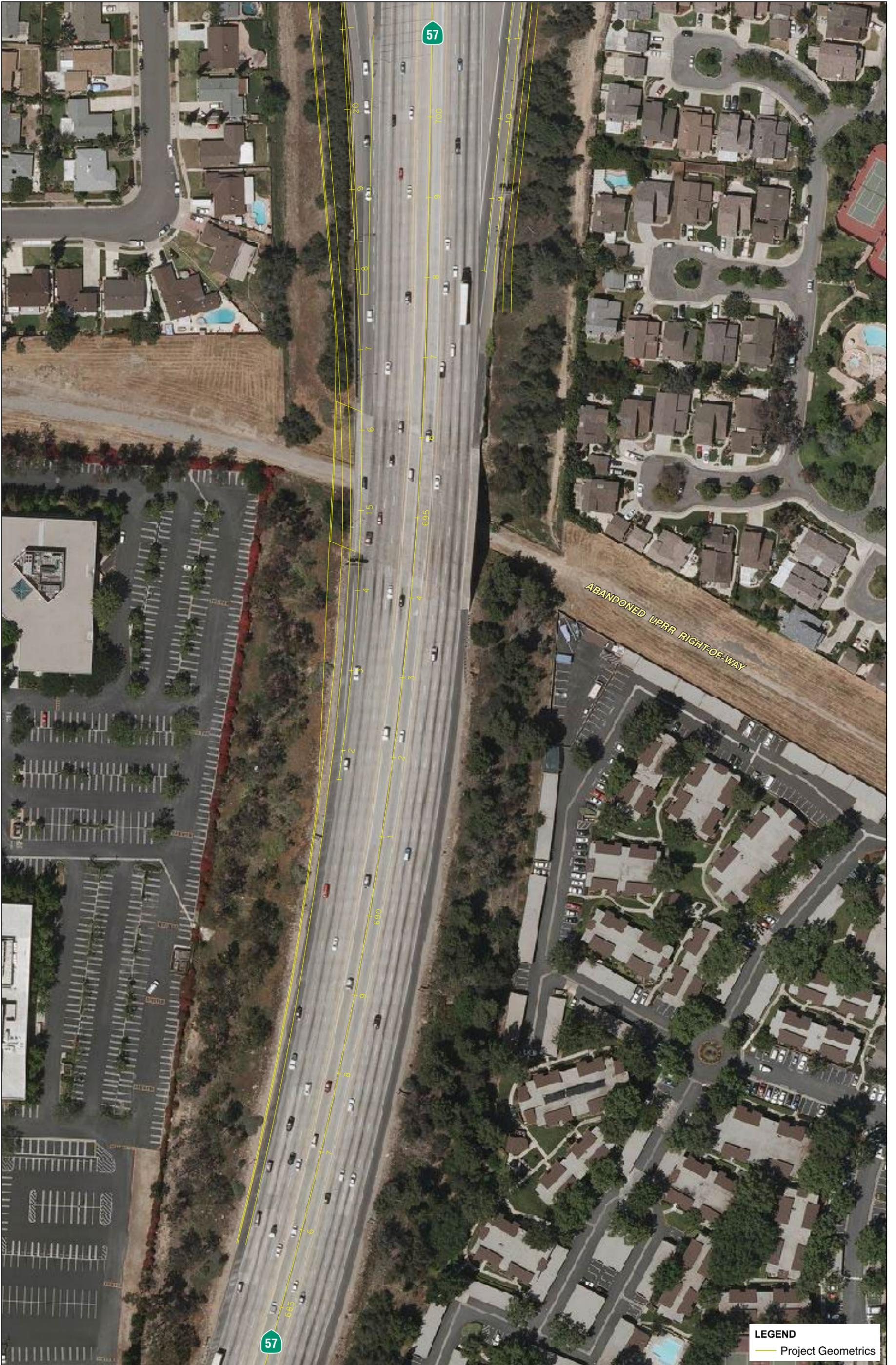


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SR-57/LAMBERT ROAD INTERCHANGE IMPROVEMENT PROJECT • IS/EA
Site Plan • Alternative 9 - Sheet E

Figure 1-6f

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1.4.2 TRANSPORTATION SYSTEM MANAGEMENT (TSM) AND TRANSPORTATION DEMAND MANAGEMENT (TDM) ALTERNATIVES

Although Transportation System Management measures alone could not satisfy the purpose and need of the proposed project, the following Transportation System Management measures have been incorporated into the Build Alternatives for the proposed project: maintain existing ramp metering system, coordinate intersection signals, provide an auxiliary lane on southbound SR-57, and provide eight-foot, Americans with Disabilities Act (ADA)-compliant sidewalks along Lambert Road.

1.4.3 NO BUILD ALTERNATIVE

The No Build Alternative assumes that no improvements are made to the SR-57/Lambert Road interchange. The No Build Alternative would maintain the existing conditions, which include those improvements being provided by the SR-57 Northbound Widening Project recently constructed. Under the No Build Alternative, the performance of the interchange would continue to deteriorate with the forecasted 20 percent increase in traffic by the year 2040. The adjacent SR-57 Northbound Widening Project provides an additional general purpose lane and auxiliary lane on SR-57 through the SR-57/Lambert Road interchange. The vertical clearance (14 feet 9 inches) under the Lambert Road Undercrossing would remain nonstandard. Existing ramp metering would remain in place at the SR-57 on-ramps. Eight-foot sidewalks would remain in place. Lambert Road is not designated as a bicycle route; therefore, a lack of a separated bicycle lane would remain.

1.5 COMPARISON OF ALTERNATIVES

Both Build Alternatives 7A and 9 are viable and support the project Purpose and Need. However, the ways in which each alternative achieves those objectives, and the benefits delivered by each alternative, are different.

Build Alternative 7A (Preferred Alternative) maintains the same diamond interchange configuration on the west side of the interchange for the southbound on and off ramps (similar to existing condition). Build Alternative 7A (Preferred Alternative) achieves acceptable levels of service for traffic operations through the construction of roadway widening, additional turn lanes, and a new northbound loop on-ramp to eliminate the conflicting high volume movements (high volume eastbound left turns opposing high volume westbound through movements) at the northbound ramp intersection. This configuration maximizes the congestion reduction that can be delivered by the project through the more balanced distribution of traffic across all eastbound lanes. Further, this alternative increases the spacing between the ramp intersections, which provides additional vehicle queue storage that optimizes efficient operation of the ramp intersections. The addition of the loop on-ramp necessitates a full acquisition of the Brea Auto Spa property and a partial acquisition of the Country Woods apartment complex in the southeast quadrant of the interchange. As noted in Table 3-4 of the Traffic Study (July 2012), Build Alternative 7A (Preferred Alternative) would reduce congestion related delay within the interchange by approximately 43 percent.

Build Alternative 9 maintains the same diamond interchange configuration and the proposed improvements do not require a substantial amount of right of way acquisition. Build Alternative 9 achieves acceptable levels of service for traffic operations through roadway widening and the addition of turning lanes. The operational limitation of maintaining the diamond interchange configuration is that the conflicting high volume movements (high volume left turns opposing high

volume through movements) in both the eastbound and westbound directions are not reduced and limits the amount of congestion reduction that can be delivered by the project. As noted in Table 3-4 of the Traffic Study (July 2012), Build Alternative 9 would reduce congestion related delay within the interchange by approximately 31 percent.

Build Alternative 7A (Preferred Alternative) is able to achieve 12 percent more reduction in congestion related delay primarily due to three factors: 1) the new northbound loop on-ramp eliminates the conflicting high volume movements (high volume eastbound left turns opposing high volume westbound through movements) at the northbound ramp intersection, 2) more balanced distribution of through and turning movements across all eastbound lanes, and 3) increased spacing between the ramp intersections, which provides additional vehicle queue storage.

After comparing and weighing the benefits and impacts of the feasible alternatives, the Project Development Team (PDT) has identified a preferred alternative. Final identification of a preferred alternative occurred after the public review and comment period.

After the public circulation period, all comments were considered, and the PDT recommended a preferred alternative and the Caltrans District Director made the final determination of the proposed project's effect on the environment. In accordance with CEQA, no unmitigable significant adverse impacts were identified and Caltrans has prepared a Mitigated Negative Declaration (MND). Similarly, the Caltrans District Director determined the action does not significantly impact the environment, Caltrans, as assigned by FHWA, has issued a Finding of No Significant Impact (FONSI) in accordance with NEPA.

1.6 IDENTIFICATION OF A PREFERRED ALTERNATIVE

On April 9, 2015, the PDT decided to recommend Alternative 7A as the Preferred Alternative. In making this selection, the PDT compared the alternatives analyzed in the IS/EA using the evaluation criteria as defined by the purpose and need for the project. These criteria were as follows:

- Reduce congestion;
- Improve the traffic flow;
- Increase signal queue capacity; and
- Accommodate anticipated traffic increases, thereby minimizing delays and potential safety hazards.

Utilizing these criteria, Alternative 7A was recommended as the Preferred Alternative because it best meets the purpose and need for the project. Alternative 7A was recommended over Alternative 9 with the following justification:

- Alternative 7A provides superior interchange traffic operations and congestion relief in both the near term and long term. The partial clover leaf interchange configuration provides the greatest capacity to handle traffic increases beyond the 2040 design horizon.
- The proposed interchange reconfiguration directly addresses the project need of reducing the number of conflicting traffic movements and minimizing potential safety hazards. The new northbound loop on-ramp eliminates conflicting high volume movements at the

northbound ramp intersection (high volume eastbound left turns opposing high volume westbound through movements), thereby directly enhancing traffic safety. This configuration also provides more efficient traffic flow through the interchange due to a more balanced distribution of through and turning movements across all eastbound lanes on Lambert Road.

- The proposed interchange reconfiguration directly addresses the project need of increasing the signal queue capacity by maximizing the distance between the northbound and southbound ramp intersections providing optimum traffic operations through the interchange.
- The proposed interchange configuration provides three significant benefits to the northbound mainline: 1) the addition of the northbound loop on-ramp distributes northbound freeway merge movements over two locations providing superior freeway ramp operations; 2) the #5 northbound general purpose lane, which currently terminates south of Lambert Road, is extended through the interchange; and 3) a full standard northbound mainline cross section is extended from south of Lambert Road through the interchange.

1.7 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER DISCUSSION

An analysis of the proposed project provided a comprehensive study of design solutions that were considered for addressing the need for improvements to the SR-57/Lambert Road interchange. The approved 2007 PSR provides a description of alternatives originally considered, but then dropped from further consideration as part of the Preliminary Alternative Identification and Screening.

The following transportation concepts were evaluated and eliminated from further consideration based either on impacts to resources, feasibility, ability to meet the purpose and need, and/or cost. At the time of the 2007 PSR, alternatives were evaluated based on performance, and not on potential environmental impacts.

1.7.1 ALTERNATIVE 2/6

This alternative combined two separate alternatives which included widening SR-57 off-ramps to four lanes, widening Lambert Road to provide triple eastbound left-turn lanes onto the northbound SR-57 on-ramp, and widening the SR-57 northbound on-ramp to accommodate the triple left-turn movement from eastbound Lambert Road. This alternative was dropped from further consideration because it did not relieve forecast congestion at the Lambert Road/State College Boulevard intersection and did not provide the reduction in the overall delay through the interchange as compared to other alternatives.

1.7.2 ALTERNATIVE 4

This alternative included the improvements proposed as part of Alternative 2/6 with the addition of a grade separated (over Lambert Road) direct connection ramp from the southbound SR-57 off-ramp at Lambert Road to Birch Street south of Lambert Road. The intent of this ramp was to relieve the congestion at the southbound ramp intersection and at the Lambert/State College Boulevard intersection resulting from motorists using Lambert Road and State College Boulevard to access the Brea Mall and other retail/commercial areas to the south. The direct ramp required

the construction of a new structure over Lambert Road. This alternative was dropped from further consideration because it did not relieve forecast congestion at the Lambert Road/State College Boulevard intersection and did not provide the reduction in the overall delay through the interchange as compared to other alternatives. The direct ramp component of this alternative was utilized to develop a hybrid Alternative 4A, discussed below.

1.7.3 ALTERNATIVE 4A

Alternative 4A included those improvements identified in Alternative 4, above, but also included a northbound SR-57 on-ramp from State College Boulevard utilizing the former Union Pacific Railroad (UPRR) corridor, which is current City ROW. The northbound SR-57 on-ramp would have required additional reconstruction of adjacent SR-57 off-ramps. Alternative 4A was analyzed during the preparation of the PSR and was conditionally approved. Alternative 4A was an unconventional interchange configuration with engineering concerns regarding: 1) the potential for wrong-way movements/driver confusion; 2) design hazards such as a tight curve leading to a long northbound SR-57 on-ramp; and 3) unconventional interchange configuration which include the isolation of the southbound SR-57 off-ramp to Birch Street. Upon initiation of the Project Approval/Environmental Document (PA/ED) phase, the PDT re-evaluated the unconventional nature of Alternative 4A. This alternative was dropped from further consideration for the same reason as Alternatives 2/6 and 4 and because of the multiple geometric and operational deficiencies.

1.7.4 ALTERNATIVE 5

This alternative included the improvements proposed as part of Alternative 2/6 with the addition of an at-grade frontage road connection between Lambert Road and Birch Street along the west side of SR-57. The frontage road allowed motorists to continue straight through the southbound SR-57 ramp intersection. Access to the southbound SR-57 on-ramp was provided from the frontage road. The intent of the frontage road was similar to that of the direct ramp proposed as part of Alternative 4, but it did not provide the same congestion relieving benefits at the southbound ramp intersection. This alternative was dropped from further consideration because it did not relieve forecast congestion at the Lambert Road/State College Boulevard intersection and did not provide the reduction in the overall delay through the interchange as compared to other alternatives. In addition, the frontage road did not provide the same congestion relief at the southbound SR-57 ramp/Lambert Road intersection as the direct ramp considered in Alternative 4. The alternative also included a very short weaving distance for vehicles accessing the southbound SR-57 on-ramp from the frontage road, which created a potential for driver confusion along the frontage road immediately south of the southbound SR-57 ramps/Lambert Road intersection.

1.7.5 ALTERNATIVE 7

This alternative included the reconfiguration of the existing interchange to a partial cloverleaf configuration with loop ramps for both the northbound and southbound SR-57 on-ramps. The intent of this alternative was to relieve congestion through the interchange by eliminating the need for left turn movements from Lambert Road to the SR-57 on-ramps and replacing them with free right turn movements. Although the congestion benefits to the interchange were substantial with this configuration, the right-of-way impacts to adjacent residences were severe. Therefore, this alternative was dropped from consideration due to the city's concerns regarding the severity of the impacts to the neighborhood of single family residences located within the northwest quadrant of the SR-57/Lambert Road interchange. In addition, the southbound ramp intersection was

shifted closer to the Lambert Road/State College Boulevard intersection, which reduced the available weaving and queuing distance between the two intersections. In response to the city's concerns regarding the impacts to this residential area associated with constructing the southbound loop on-ramp, a hybrid of this alternative was developed that replaced the partial cloverleaf configuration on the west side of the interchange with a tight diamond. This alternative is named Alternative 7A and is analyzed within this IS/EA as a Build Alternative.

1.7.6 ALTERNATIVES 8 AND 8A

Alternative 8 proposed the construction of a split diamond interchange with two lane-collector/distributor roads running northbound and southbound parallel to SR-57 between Lambert Road and a new State College Boulevard connector road along the UPRR corridor. The existing northbound SR-57 off-ramp and southbound SR-57 on-ramp at Lambert Road would be relocated to intersect the new State College Boulevard connector road. A second grade separated northbound SR-57 on-ramp at the interchange would provide direct access from the connector road to northbound SR-57. Alternative 8A was a modification of Alternative 8 in that the second northbound SR-57 on-ramp from the State College Boulevard connector road was eliminated. Vehicles along the northbound collector/distributor road accessed SR-57 using the existing on-ramp by continuing north through its intersection with Lambert Road.

Alternatives 8 and 8A were dropped from further consideration because they provided only a relatively low reduction in the overall delay through the interchange relative to other alternatives considered. In addition, the alternatives required installation of a new signalized intersection along State College Boulevard in close proximity to existing intersections at Corporate Drive and Avocado Street, which would limit lane storage for the new intersection at the abandoned UPRR ROW intersection and cause isolated lane blocking. Moderate traffic volumes were forecast to utilize grade separated NB freeway entrance ramp reducing cost effectiveness of this design feature. The reduction in the overall delay through the interchange for Alternative 8A was less than what was obtained for Alternative 8 due to the additional traffic passing through the northbound SR-57 ramps/Lambert Road intersection.

1.7.7 DIVERGING DIAMOND INTERCHANGE ALTERNATIVE

In February 2014, the PDT conducted a preliminary evaluation of the Diverging Diamond Interchange (DDI) and the viability of implementing this type of alternative to this project location. While this alternative appeared feasible in terms of improving interchange traffic operations, the following challenges would preclude its implementation for the proposed project:

- The footprint of the DDI requires roadway modifications well beyond the ramp intersection approaches to accommodate the through lane crossover. In the case of the Lambert Road interchange, the intersection of Lambert Road and State College Boulevard is located only 400-ft to the west of the SB ramp intersection. The intersection of Lambert Road and State College Boulevard has very high volumes and it would not be feasible to execute the DDI approach through lane crossover in such a short distance.
- The DDI is an unusual design and, as such, presents possible unknown challenges to the safe accommodation of pedestrians and bicyclists. Providing for pedestrian and bicycle traffic through the interchange is an important element of this project since it provides the only link between residential areas and the local high school. The Project Sponsor (City of Brea) has expressed concern about implementing this type of interchange given the importance of providing for pedestrian and bicycle traffic.

- With the project being well into the PA/ED phase, implementing the DDI alternative would delay the project in excess of a year. This type of delay would jeopardize the Project Sponsor's project funding given the associated project delivery deadlines.

1.8 PERMITS AND APPROVALS NEEDED

The following permits, reviews and approvals would be required for proposed project construction, as listed below:

Permit/Approval	Agency	Status
Caltrans Statewide National Pollutant Discharge Elimination System (NPDES) Permit (Order 2012-0011-DWQ, NPDES No. CAS0000003)	State Water Resources Control Board (SWRCB)	Permit issued to Caltrans in September 2012 and became effective July 2013. Requires that projects incorporate Permanent Best Management Practices (BMPs) (Treatment and Source Control) into the project design and construction.
Statewide NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) (Order No. 2009-0009-DWQ, NPDES No. CAS0000002)	SWRCB	The Construction General Permit requires that prior to construction, the proposed project must submit Project Registration Documents (PRDs) in the SWRCB SMARTs Database. PRDs include the Notice of Intent (NOI), Site Maps, the Storm Water Pollution Prevention Plan (SWPPP), and Risk Assessment. The SWPPP is a document that will address water pollution controls specific to the proposed project during construction, per the NPDES Construction General Permit.
Order R8-2009-0003, NPDES Permit Number CAG998001, for discharges to surface waters that pose an insignificant (de minimus) threat to water quality (Dewatering Permit)	Santa Ana Regional Water Quality Control Board (RWQCB)	A Notice of Intent (NOI) under this Order must be submitted 45 days prior to a new discharge to the Santa Ana RWQCB. Required in the event that groundwater is encountered; however, dewatering is not anticipated to be required at this time.
Informal Section 7 consultation regarding potential impact to California Gnatcatcher	United States Fish and Wildlife Service (USFWS)	A Biological Assessment (BA) was prepared, informal Section 7 consultation was completed in October 2015. USFWS issued a concurrence letter (Appendix H).
Encroachment Permit (including Grading Permit)	California Department of Transportation – District 12	Required for construction activities within State right-of-way.
Grading Permit	City of Brea	Required for construction activities.