Westbound State Route 91 Improvement Project

CITIES OF CERRITOS AND ARTESIA, CALIFORNIA
DISTRICT 7 – LA – 91, (SR-91 PM 16.9–19.8, I-605 PM 5.0–5.8)
EA 29811/EFIS 0716000284

Initial Study with Proposed Negative Declaration/Environmental Assessment

Volume I

Prepared by the
State of California Department of Transportation

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans.

July 2018

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District 07-LA-91-(SR-91 PM 16.9–19.8, I-605 PM 5.0–5.8)
EA: 29811/ EFIS: 0716000284

Widening of State Route 91 (SR-91) between approximately Shoemaker Avenue and the Interstate 605 (I-605) interchange (westbound SR-91 PM 16.9–19.8 and northbound I-605 PM 5.0–5.8) in the Cities of Cerritos and Artesia, California

INITIAL STUDY WITH PROPOSED NEGATIVE DECLARATION / ENVIRONMENTAL ASSESSMENT

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2)(c)

THE STATE OF CALIFORNIA
Department of Transportation

July 11, 2018
Date of Approval

Ron Kosinski
Deputy District Director
California Department of Transportation
District 7
CEQA/NEPA Lead Agency

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SCH# _____
7-LA-91-(SR-91 PM 16.9–19.8, I-605 PM 5.0–5.8)
29811

Proposed Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) District 7 and the Los Angeles County Metropolitan Transportation Authority (Metro), in collaboration with the Gateway Cities Council of Governments (GCCOG) and the Cities of Cerritos and Artesia, propose to widen and improve approximately 4 miles (mi) of freeway along westbound State Route 91 (SR-91) between approximately Shoemaker Avenue and the Interstate 605 (I-605) interchange. The study area includes westbound SR-91 (Post Miles [PM] 16.9–19.8) and northbound I-605 (PM 5.0–5.8) and traverses the cities of Cerritos and Artesia.

Determination

This proposed Negative Declaration (ND) is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt an ND for this project. This does not mean that Caltrans' decision regarding the project is final. This ND is subject to change based on comments received by interested agencies and the public.

Caltrans has prepared an Initial Study for this project, and pending public review, expects to determine 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 the following resources: Agriculture and Forest Resources, Mineral Resources, Biological Resources.

In addition, the proposed project would have less than significant effects to: Land Use and Planning, Utilities and Service Systems, Public Services, Visual/Aesthetics, Cultural Resources, Tribal Cultural Resources, Hydrology and Water Quality, Geology and Soils, Hazards and Hazardous Materials, Air Quality, Recreation, Noise, Population and Housing, Transportation/Traffic.

Date of Approval

Ron Kosinski, Deputy District Director
California Department of Transportation, District 7
CEQA/NEPA Lead Agency

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Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans) District 7 and the Los Angeles County Metropolitan Transportation Authority (Metro), in collaboration with the Gateway Cities Council of Governments (GCCOG) and the Cities of Cerritos and Artesia, propose to widen and improve approximately 4 miles (mi) of freeway along westbound State Route 91 (SR-91) between approximately Shoemaker Avenue and the Interstate 605 (I-605) interchange, and at the I-605 northbound exit to Alondra Boulevard. The Study Area includes westbound SR-91 (Post Miles [PM] 16.9–19.8) and northbound I-605 (PM 5.0–5.8) and traverses the cities of Cerritos and Artesia. Caltrans, as assigned by the Federal Highway Administration (FHWA), is the Lead Agency for compliance under the National Environmental Policy Act (NEPA). Caltrans is the Lead Agency for compliance under the California Environmental Quality Act (CEQA). Figure 1-1 shows the project location and vicinity.

The Westbound SR-91 Improvement Project (project) is funded by County of Los Angeles Measure R sales tax funds, which are administered by Metro. California participated in the Surface Transportation Project Delivery Pilot Program (Pilot Program), pursuant to 23 United States Code (USC) 327, for more than 5 years, beginning July 1, 2007, and ending September 30, 2012. The Moving Ahead for Progress in the 21st Century Act (MAP-21 [P.L. 112-141]), signed by President Barack Obama on July 6, 2012, amended 23 USC 327 to establish a permanent Surface Transportation Project Delivery Program. As a result, Caltrans entered into a Memorandum of Understanding (MOU) pursuant to 23 USC 327 (NEPA Assignment MOU) with FHWA. The NEPA Assignment MOU became effective October 1, 2012, and was renewed on December 23, 2016, for a term of 5 years. In summary, Caltrans continues to assume FHWA responsibilities under NEPA and other federal environmental laws in the same manner as was assigned under the Pilot Program, with minor changes. With NEPA Assignment, FHWA assigned and Caltrans assumed all of the United States Department of Transportation (USDOT) Secretary's responsibilities under NEPA. This assignment includes projects on the State Highway System and Local Assistance Projects off of the State Highway System within the State of California, except for certain categorical exclusions (CE) that FHWA assigned to Caltrans under the 23 USC 326 CE Assignment MOU, projects excluded by definition, and specific project exclusions.

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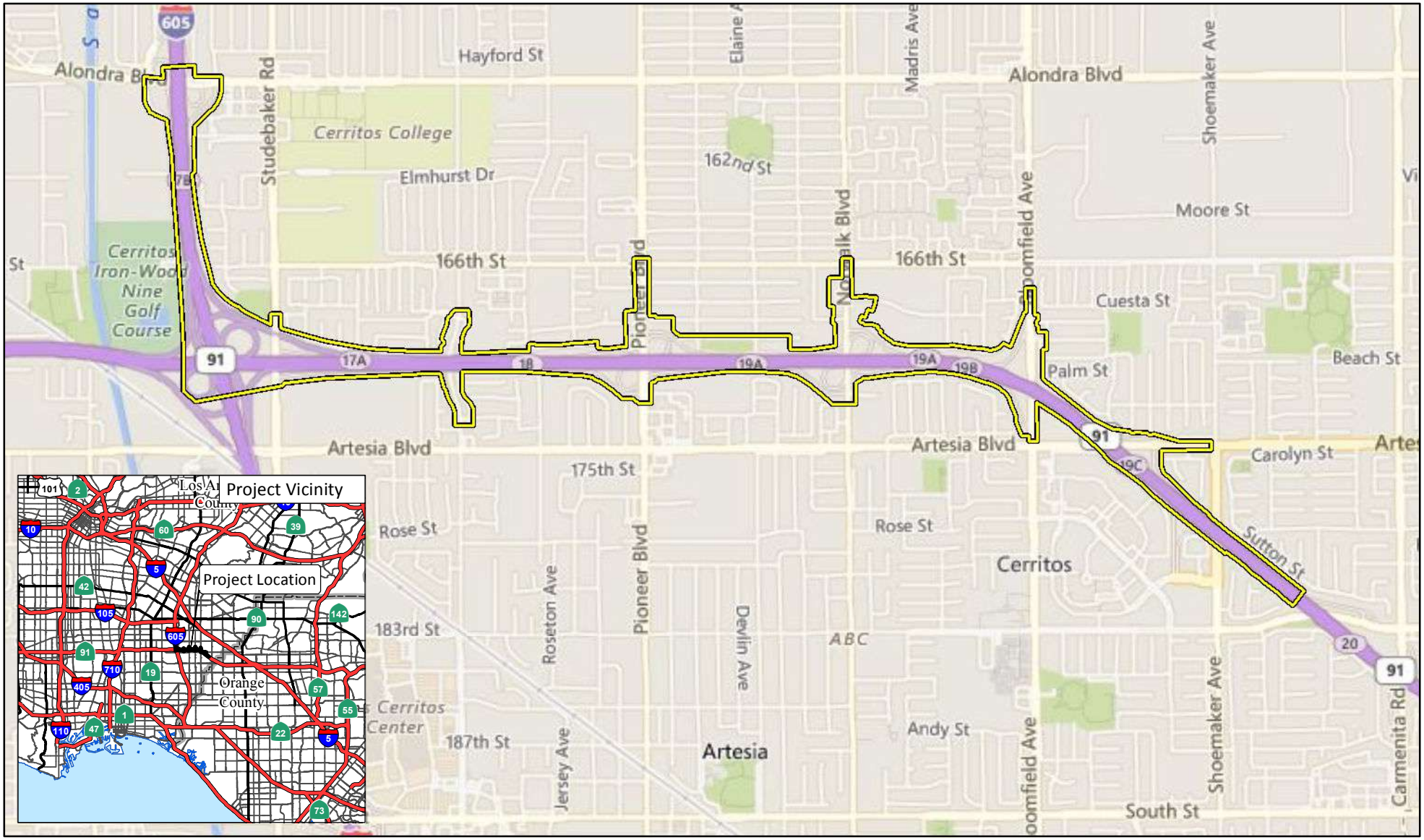

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Study Area Limits

FIGURE 1-1

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SOURCE: Bing Maps (2014); Michael Baker (4/2017)

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Westbound SR-91 Improvement Project

Project Location

07-LA-91

SR-91 PM 16.9-19.8; I-605 PM 5.0-5.8

EFIS 0716000284; EA-07-29811

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The proposed project is listed in Amendment #3 to the 2016 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) with Project ID 1163S012. The 2016 RTP was approved by the Regional Council of the Southern California Association of Governments (SCAG) on April 7, 2016, and Amendment #3 is scheduled to be adopted in December 2018. However, the proposed project is not currently programmed in the Federal Transportation Improvement Program (FTIP). The proposed project will be added to the FTIP prior to completion of the Project Approval and Environmental Documentation (PA&ED) phase.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of the project is to reduce congestion and improve freeway operations (both mainline and ramps), improve safety, and improve local and system interchange operations.

1.2.2 Need

Westbound SR-91 approaching the connector ramp for both northbound and southbound I-605 currently experiences substantial congestion, which will continue in the future No Build condition. This congestion, as a result of inadequate capacity of the existing two-lane connector for westbound SR-91 to northbound and southbound I-605 as well as the closely spaced freeway entrance and exit ramps, contributes to a high concentration of accidents.

1.2.2.1 Capacity, Transportation Demand, and Safety

Existing Capacity and Levels of Service

Freeway traffic flow can be defined in terms of levels of service (LOS). There are six defined LOS for freeways: LOS A to LOS F. As shown on Figure 1-2, LOS A represents free traffic flow with low traffic volumes and high speeds, and LOS F represents traffic volumes that exceed the facility capacity and result in forced flow operations at low speeds.

The results of the Draft Traffic Analysis Report (which used the Highway Capacity Manual (HCM) method of analysis for determining LOS), provided in Table 1.1 and shown on Figure 1-3 (a.m. peak period) and Figure 1-4 (p.m. peak period), indicate that all existing freeway mainline segments are currently operating at LOS D or better during the peak hours. All freeway mainline segments would also operate at LOS D

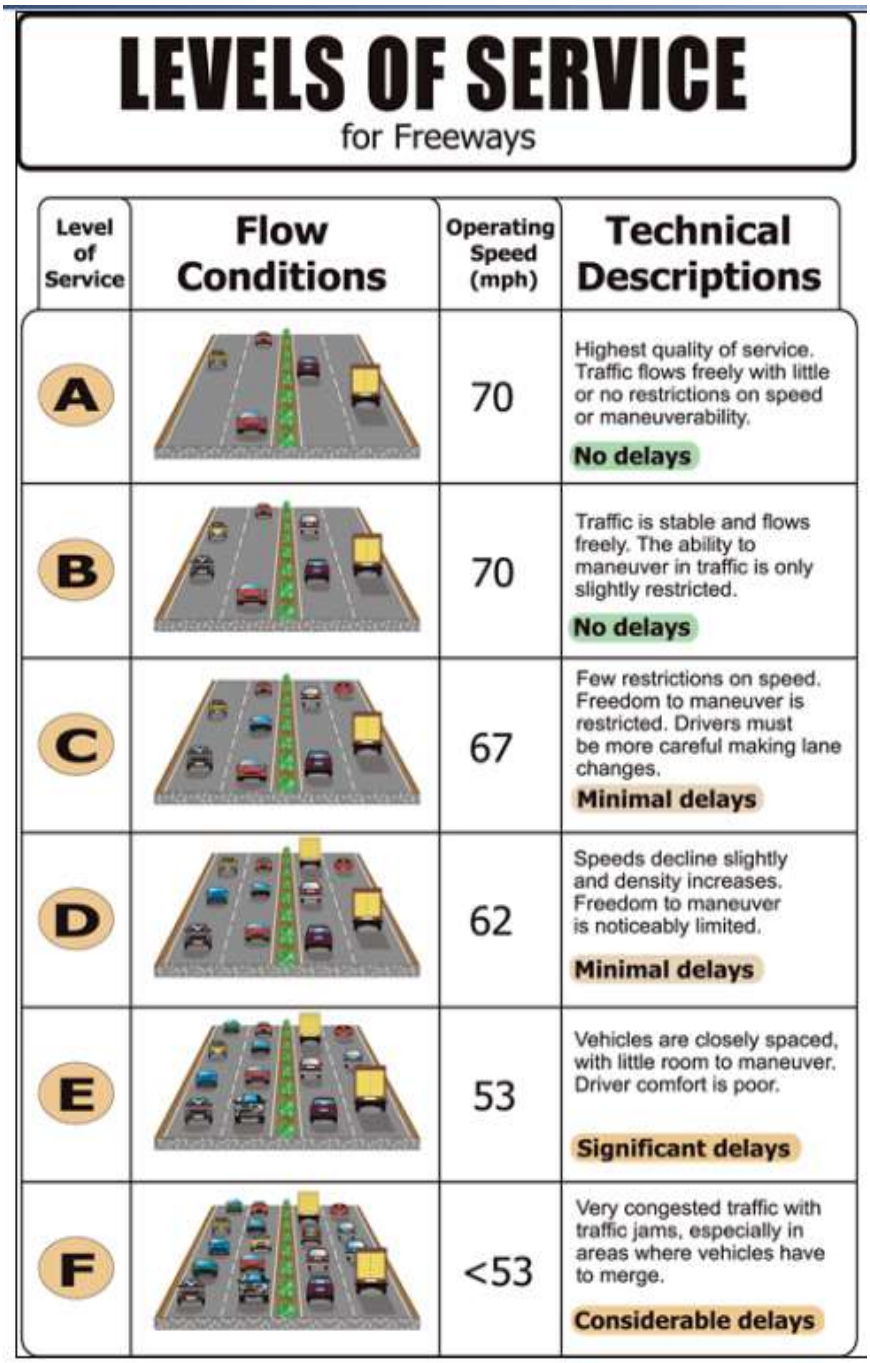

Figure 1-2 LOS Thresholds for a Basic Freeway Segment

FIGURE 1-3

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SOURCE: Revised Draft Traffic Analysis Report, 2017

Westbound SR-91 Improvement Project

Year 2016 Existing Conditions Level of Service Analysis
Based on HCM Method - AM Peak Period

07-LA-91
SR-91 PM 16.9-19.8; I-605 PM 5.0-5.8
EFIS 0716000284; EA 29811

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FIGURE 1-4

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SOURCE: Revised Draft Traffic Analysis Report, 2017

Westbound SR-91 Improvement Project

Year 2016 Existing Conditions Level of Service Analysis
Based on HCM Method - PM Peak Period

07-LA-91
SR-91 PM 16.9-19.8; I-605 PM 5.0-5.8
EFIS 0716000284; EA 29811

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Table 1.1 Year 2016 Existing Conditions Freeway Mainline Level of Service Analysis – Highway Capacity Manual Method

Segment Location	AM Peak Hour		PM Peak Hour	
	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
Westbound SR-91				
Carmenita Road Off-Ramp to 183rd Street On-Ramp	23.8	C	25.1	C
Artesia Boulevard Off-Ramp to Artesia Boulevard On-Ramp	22.9	C	24.4	C
Artesia Boulevard On-Ramp to Bloomfield Avenue On-Ramp	25.3	C	27.5	D
Norwalk Boulevard Off-Ramp to Norwalk Boulevard Loop On-Ramp	25.6	C	27.9	D
Norwalk Boulevard Loop On-Ramp to Norwalk Boulevard Direct On-Ramp	27.2	D	29.3	D
Pioneer Boulevard Off-Ramp to Pioneer Boulevard Loop On-Ramp	27.6	D	30.0	D
Pioneer Boulevard Loop On-Ramp to Pioneer Boulevard Direct On-Ramp	28.6	D	31.8	D
I-605 Off-Ramp (NB & SB) to Studebaker Road Off-Ramp	22.0	C	26.4	D
Studebaker Road Off-Ramp to I-605 NB/WB SR-91 Loop On-Ramp	19.6	C	25.0	C
I-605 NB/WB SR-91 Loop On-Ramp to I-605 SB/WB SR-91 On-Ramp	18.8	C	25.4	C

Source: Table 2-8, *Traffic Operations Analysis Report* (2018).
I-605 = Interstate 605 pc/mi/ln = passenger car per mile per lane WB = westbound
LOS = level of service SB = southbound
NB = northbound SR-91 = State Route 91

or better during peak hours in the 2024 No Build scenario. Caltrans strives for freeway facilities to operate at either LOS C or D. Further details regarding existing and future traffic conditions are provided in Section 2.5, Traffic.

All existing freeway weaving segments operate at LOS D or better during the peak hours, except for the weaving segment from the Pioneer Boulevard on-ramp to the I-605 off-ramp for which the HCM results indicate LOS F, as shown in Table 1.2. All existing freeway merge and diverge segments operate at LOS D or better during peak hours, as shown in Table 1.3. All existing intersections in the Study Area operate at LOS D or better during peak hours, as shown in Table 1.4.

Table 1.2 Year 2016 Existing Conditions Freeway Weaving Analysis

Segment Location	AM Peak Hour		PM Peak Hour	
	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
Westbound SR-91				
183rd Street On-Ramp to Artesia Boulevard Off-Ramp	26.7	C	27.7	C
Bloomfield Avenue On-Ramp to Norwalk Boulevard Off-Ramp	27.7	C	30.1	D
Norwalk Boulevard Direct On-Ramp to Pioneer Boulevard Off-Ramp	28.8	D	32.0	D
Pioneer Boulevard Direct On-Ramp to I-605 Off-Ramp (NB & SB)	–	**F**	–	**F**
Northbound I-605				
SR-91 WB On-Ramp to Alondra Boulevard Off-Ramp	–	**F**	–	**F**

Source: Table 2-10, *Traffic Operations Analysis Report* (2018).
Note: Shaded cells indicate unsatisfactory LOS (i.e., LOS E or F).
I-605 = Interstate 605 pc/mi/ln = passenger cars per mile per lane WB = westbound
LOS = level of service SB = southbound
NB = northbound SR-91 = State Route 91

Table 1.3 Year 2016 Existing Conditions Freeway Merge and Diverge Analysis

Junction	Merge/ Diverge	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
Westbound SR-91					
Artesia Boulevard On-Ramp	Merge	21.8	C	24.4	C
Norwalk Boulevard Loop On-Ramp	Merge	22.1	C	23.2	C
Pioneer Boulevard Loop On-Ramp	Merge	22.3	C	24.7	C
Studebaker Road Off-Ramp	Diverge	25.6	C	29.0	D
I-605 NB On-Ramp	Merge	20.3	C	29.4	D

Source: Table 2-11, *Traffic Operations Analysis Report* (2018).
I-605 = Interstate 605
LOS = level of service
NB = northbound
pc/mi/ln = passenger cards per mile per lane
SR-91 = State Route 91

Table 1.4 Year 2016 Existing Conditions Intersection Level of Service Analysis

Intersection	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Westbound SR-91				
WB SR-91 Off-Ramp/Artesia Boulevard	22.5	C	19.0	B
Bloomfield Avenue/WB SR-91 On-Ramp	10.5	B	8.4	A
Norwalk Boulevard/WB SR-91 Off-Ramp	9.9	A	6.9	A
Pioneer Boulevard/WB SR-91 Off-Ramp	7.2	A	6.4	A
Studebaker Road/WB SR-91 Off-Ramp	16.5	B	8.3	A
Northbound I-605				
NB I-605 Off-Ramp/Alondra Boulevard	25.1	C	38.9	D

Source: Table 2-13, *Traffic Operations Analysis Report* (2018).
I-605 = Interstate 605
LOS = level of service
NB = northbound
sec/veh = seconds per vehicle
SR-91 = State Route 91
WB = westbound

In areas with long vehicle queues, slow speeds, and high levels of congestion, the HCM method of analysis can report LOS that is better than what drivers actually experience on the road. In order to report LOS that more closely reflects what drivers experience, the speed method of analysis for determining LOS was also employed. The speed method of analysis included observing existing speed profiles in the Study Area and comparing those speeds to likely LOS designations.

Based on the speed method of analysis, the existing freeway mainline segments mostly experience LOS E and LOS F during both peak periods, as shown in Table 1.5 and on Figure 1-5 (a.m. peak period) and Figure 1-6 (p.m. peak period). It should be noted that the segments analyzed using the speed method are different than the segments analyzed using the HCM method because the HCM segments are determined based on criteria used in the HCM manual that define analysis segments. However, for the speed method, the locations are entirely dependent on the locations of the Caltrans Performance Measurement System (PeMS) detector stations that provided the speed information.

Table 1.5 Year 2016 Existing Conditions Freeway Mainline Level of Service Analysis – Speed Method

Segment Location	AM Peak Hour		PM Peak Hour	
	Average Speed (mph)	LOS	Average Speed (mph)	LOS
Westbound SR-91				
Carmenita Road Off-Ramp to 183rd Street On-Ramp	40.0	D	30.0	**E**
183rd Street On-Ramp to Artesia Boulevard Off-Ramp	29.0	**F**	27.0	**F**
Artesia Boulevard Off-Ramp to Artesia Boulevard On-Ramp	25.0	**F**	22.0	**F**
Artesia Boulevard On-Ramp to Bloomfield Avenue On-Ramp	22.0	**F**	21.0	**F**
Bloomfield Avenue On-Ramp to Norwalk Boulevard Off-Ramp	20.0	**F**	22.0	**F**
Norwalk Boulevard Off-Ramp to Norwalk Boulevard Loop On-Ramp	28.0	**F**	32.0	**E**
Norwalk Boulevard Direct On-Ramp to Pioneer Boulevard Off-Ramp	39.0	D	41.0	D
Pioneer Boulevard Off-Ramp to Pioneer Boulevard Loop On-Ramp	33.0	**E**	37.0	D
Pioneer Boulevard Loop On-Ramp to Pioneer Boulevard Direct On-Ramp	37.0	D	46.0	C
Pioneer Boulevard Direct On-Ramp to I-605 Off-Ramp (NB and SB)	44.0	D	47.0	C
Northbound I-605				
SR-91 WB On-Ramp to Alondra Boulevard Off-Ramp	32.0	**E**	40.0	D

Source: Table 2-9, *Traffic Operations Analysis Report* (2018).
Note: Shaded cells indicate unsatisfactory LOS (i.e., LOS E or F).
I-605 = Interstate 605 SB = southbound
LOS = level of service SR-91 = State Route 91
mph = miles per hour WB = westbound
NB = northbound

The existing (2016) congestion during peak hours along westbound SR-91 is caused by the freeway geometric design along the Study Area and the high traffic demand. The two-lane westbound to northbound/southbound freeway-to-freeway connector ramp continues to worsen as the peak-hour flow of traffic creates vehicle queues. The vehicle queues cause slowing and congestion on westbound SR-91 leading up to the I-605 connector ramp. Demand is forecast to increase in the absence of physical and operational improvements.

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FIGURE 1-5

Westbound SR-91 Improvement Project

Year 2016 Existing Conditions Level of Service Analysis
Based on Speeds - AM Peak Period

07-LA-91
SR-91 PM 16.9-19.8; I-605 PM 5.0-5.8
EFIS 0716000284; EA 29811

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SOURCE: Revised Draft Traffic Analysis Report, 2017

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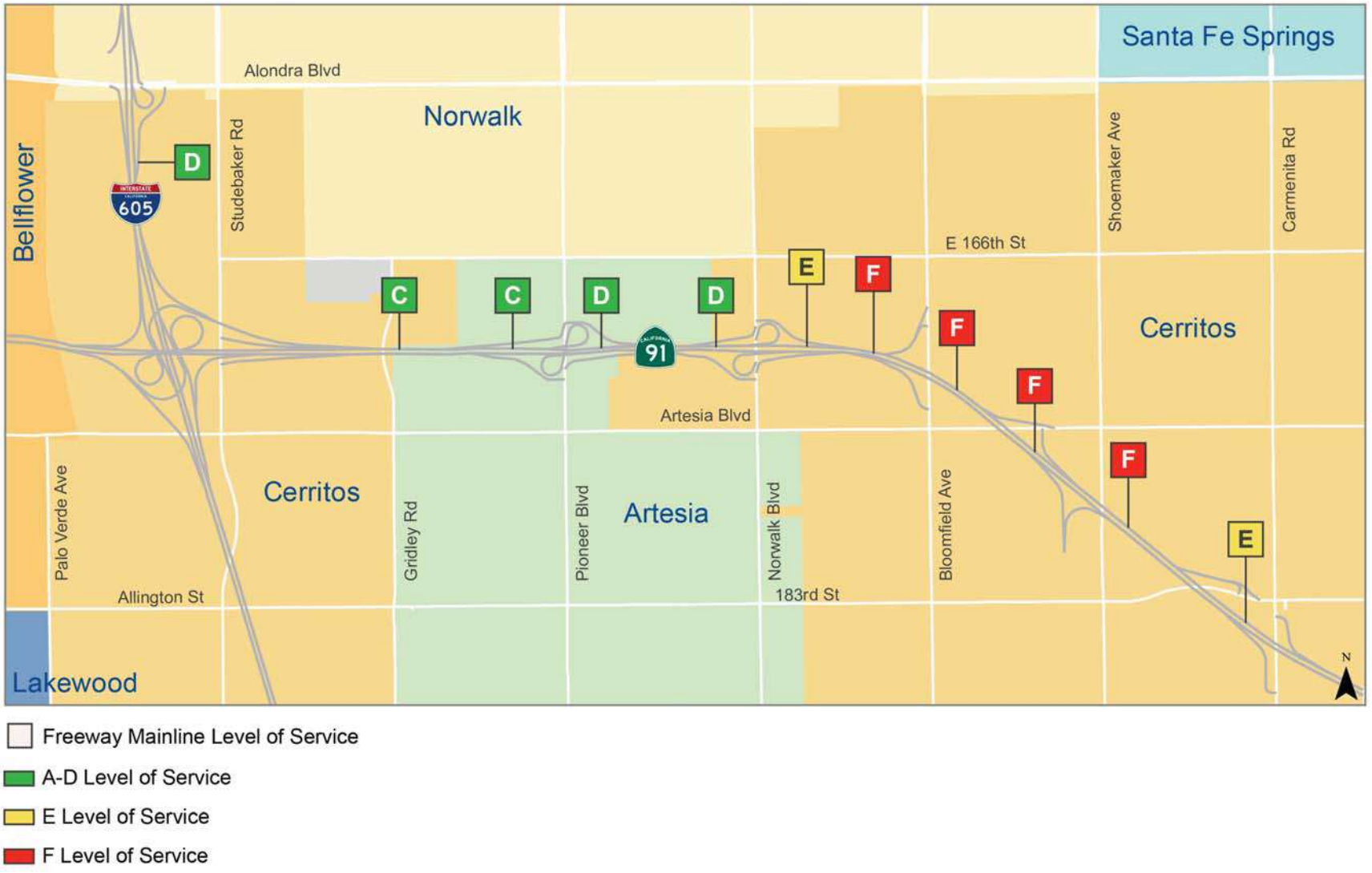

FIGURE 1-6

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SOURCE: Revised Draft Traffic Analysis Report, 2017

Westbound SR-91 Improvement Project

Year 2016 Existing Conditions Level of Service Analysis

Based on Speeds - PM Peak Period

07-LA-91

SR-91 PM 16.9-19.8; I-605 PM 5.0-5.8

EFIS 0716000284; EA 29811

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The congestion caused by the ramp is then worsened by current geometric conditions, including the closely spaced arterial interchanges at Pioneer Boulevard, Norwalk Boulevard, and Bloomfield Avenue. These ramps are spaced much closer together than current freeway design standards allow, and this close spacing further contributes to congestion due to inadequate distances for vehicles to merge and weave to access the freeway on- and off-ramps. The interchange improvements would increase vehicular weaving and merging distances between interchanges.

Travel Times and Speeds

As shown in Table 1.5, traffic speeds are slowest at the eastern end of the Study Area and increase going to the west. This is a result of the fact that over 3,000 vehicles in the peak hour exit from westbound SR-91 to I-605, thereby reducing the traffic demand on the remaining lanes on westbound SR-91. Additionally, traffic speeds leading to the I-605 connector ramp and on the I-605 ramp are low. SR-91 is the closest east-west corridor to the two ports and provides direct access to many major warehouse clusters and distribution centers in the region.

Accidents and Safety

Accident data for the project limits are provided in Tables 1.6 and 1.7 for the 3-year period from January 1, 2012, through December 31, 2014. The accident data were obtained from Caltrans' Traffic Accident Surveillance and Analysis System (TASAS) database.

As shown in Tables 1.6 and 1.7, a total of 1,177 accidents occurred within the project limits, including the mainline segments, freeway-to-freeway direct connect ramps, and freeway-to-arterial ramps. The majority of the accidents (88 percent) occurred on the mainline segments, while the remainder (12 percent) occurred at the freeway-to-freeway direct connect ramps and freeway-to-arterial ramps. Approximately 82 percent of mainline accidents occurred on westbound SR-91. The accident rates at 12 locations were higher than the statewide averages for fatal plus injury accidents, while accident rates at 11 locations were higher than the statewide averages for total accidents. The locations where the actual accident rate is greater than the statewide average accident rate for similar facilities are highlighted on Figure 1-7.

Table 1.6 Westbound SR-91 Freeway, Summary of Existing (01/2012–12/2014) Accident Rates

Map No.[1]	Location	Actual Accident Rates[2,3]			Statewide Average Accident Rates[2]			Number of Accidents[2]			
		Fatal	Fatal + Injury	Total	Fatal	Fatal + Injury	Total	Fatal	Injury	PDO	Total
Freeway Mainline Segments											
	Bellflower Boulevard to I-605 Freeway Interchange	0.000	0.180	0.500	0.003	0.280	0.960	0 (0%)	35 (36%)	61 (64%)	96
	I-605 Freeway Interchange to Studebaker Road	0.000	0.330	0.830	0.004	0.340	1.110	0 (0%)	8 (40%)	12 (60%)	20
1	Studebaker Road to Pioneer Boulevard	0.000	0.670	1.990	0.004	0.310	1.050	0 (0%)	100 (34%)	198 (66%)	298
2	Pioneer Boulevard to Norwalk Boulevard	0.012	0.690	2.550	0.004	0.320	1.050	1 (1%)	56 (26%)	153 (73%)	210
3	Norwalk Boulevard to Bloomfield Avenue	0.000	0.320	1.230	0.004	0.310	1.030	0 (0%)	25 (26%)	70 (74%)	95
4	Bloomfield Avenue to Artesia Avenue	0.000	0.370	1.270	0.004	0.310	1.020	0 (0%)	13 (29%)	32 (71%)	45
	Artesia Avenue to Shoemaker Avenue	0.000	0.290	0.810	0.004	0.300	1.000	0 (0%)	11 (35%)	20 (65%)	31
	Shoemaker Avenue to Carmenita Road	0.000	0.150	0.620	0.003	0.270	0.910	1 (2%)	14 (23%)	46 (75%)	61
Freeway-to-Freeway Direct Connector Ramps											
5	WB SR-91 On-Ramp from SB I-605 Freeway	0.000	0.160	0.490	0.003	0.110	0.320	0 (0%)	5 (33%)	10 (67%)	15
6	WB SR-91 Loop On-Ramp from NB I-605 Freeway	0.000	0.200	0.980	0.004	0.210	0.720	0 (0%)	4 (20%)	16 (80%)	20
7	WB SR-91 Off-Ramp to I-605 Freeway (both NB and SB)	0.000	0.220	0.790	0.002	0.080	0.250	0 (0%)	13 (28%)	33 (72%)	46
Freeway-to-Arterial Ramps											
8	WB SR-91 Off-Ramp to Studebaker Road	0.000	0.450	0.680	0.003	0.350	1.010	0 (0%)	2 (67%)	1 (33%)	3
	WB SR-91 On-Ramp from SB Pioneer Boulevard	0.000	0.000	0.170	0.003	0.180	0.570	0 (0%)	0 (0%)	1 (100%)	1
	WB SR-91 Loop On-Ramp from NB Pioneer Boulevard	0.000	0.160	0.470	0.002	0.210	0.730	0 (0%)	1 (33%)	2 (67%)	3
	WB SR-91 Off-Ramp to Pioneer Boulevard	0.000	0.150	0.880	0.003	0.350	1.010	0 (0%)	1 (17%)	5 (83%)	6
9	WB SR-91 On-Ramp from SB Norwalk Boulevard	0.000	0.520	1.040	0.003	0.180	0.570	0 (0%)	2 (50%)	2 (50%)	4
10	WB SR-91 Loop On-Ramp from NB Norwalk Boulevard	0.000	0.290	0.290	0.002	0.210	0.730	0 (0%)	1 (100%)	0 (0%)	1
11	WB SR-91 Off-Ramp to Norwalk Boulevard	0.000	1.290	1.550	0.003	0.350	1.010	0 (0%)	5 (83%)	1 (17%)	6
	WB SR-91 On-Ramp from Bloomfield Avenue	0.000	0.000	0.200	0.002	0.220	0.630	0 (0%)	0 (0%)	2 (100%)	2
12	WB SR-91 On-Ramp from WB Artesia Boulevard	0.000	1.050	1.390	0.003	0.180	0.570	0 (0%)	6 (75%)	2 (25%)	8
13	WB SR-91 Off-Ramp to Artesia Boulevard	0.000	1.120	1.600	0.003	0.350	1.010	0 (0%)	7 (70%)	3 (30%)	10

Source: Table B, Traffic Accident Surveillance and Analysis System–Transportation System Network (TASAS-TSN).

[1] Map numbers correspond to numbers on Figure 1-7.

[2] Accident rates are per million vehicle miles traveled for the mainline and per million vehicles for the connector and arterial ramps.

[3] Shaded cells indicate accident rates that are higher than the statewide average.

Caltrans = California Department of Transportation
I-605 = Interstate 605
NB = northbound
PDO = property damage only
SB = southbound
SR-91 = State Route 91
WB = westbound

Table 1.7 Northbound I-605 Freeway, Summary of Existing (01/2012–12/2014) Accident Rates

Location	Actual Accident Rates[1]			Statewide Average Accident Rates[1]			Number of Accidents[1]			
	Fatal	Fatal + Injury	Total	Fatal	Fatal + Injury	Total	Fatal	Injury	PDO	Total
Freeway Mainline Segments										
South Street to SR-91 Freeway Interchange	0.006	0.170	0.658	0.004	0.280	0.920	1 (1%)	27 (25%)	82 (74%)	110
SR-91 Freeway Interchange to Alondra Boulevard	0.000	0.170	0.600	0.003	0.270	0.910	0 (0%)	21 (28%)	53 (72%)	74
Freeway-to-Freeway Direct Connector Ramps										
NB I-605 On-Ramp from WB SR-91 Freeway	0.000	0.050	0.150	0.003	0.110	0.320	0 (0%)	2 (33%)	4 (67%)	6
Freeway-to-Arterial Ramps										
NB I-605 Off-Ramp to Alondra Boulevard	0.000	0.080	0.470	0.003	0.350	1.010	0 (0%)	1 (17%)	5 (83%)	6

Source: Table B, Traffic Accident Surveillance and Analysis System–Transportation System Network (TASAS-TSN).
[1] Accident rates are per million vehicle miles traveled for the mainline and per million vehicles for the connector and arterial ramps.
Caltrans = California Department of Transportation
I-605 = Interstate 605
NB = northbound
PDO = property damage only
SR-91 = State Route 91
WB = westbound

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FIGURE 1-7

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SOURCE: Intueor Consulting, Inc., 2017

Westbound SR-91 Improvement Project

Accident Concentration Locations with Actual Accident Rates Greater than the Statewide Average

07-LA-91

SR-91 PM 16.9-19.8; I-605 PM 5.0-5.8

EFIS 0716000284; EA 29811

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Rear-end collisions were the most common accident type. Other key accident types included broadside and hit-objects. Rear-end collisions are typically related to traffic congestion in chokepoint areas and are associated with sudden attempts to stop when traffic volumes exceed the capacity of the road. The majority of broadside accidents can usually be attributed to merging/diverging vehicle movements.

1.2.2.2 Roadway Deficiencies

The traffic congestion, delays, and reduced travel speeds currently experienced in the Study Area are partly the result of the segment of westbound SR-91 approaching the connector ramp for both northbound and southbound I-605, which currently experiences substantial congestion and low peak-hour speeds and will continue to do so in the future No-Build condition. Closely spaced freeway entrance and exit ramps result in a high concentration of accidents.

1.2.2.3 Social Demands and Economic Development

From 2016 to 2044, the SCAG regional population[1] is forecast to grow by 18 percent, and the Study Area population is forecast to grow by 12 percent. During this same period, employment is anticipated to follow a different pattern, with regional employment forecast to grow by 23 percent and Study Area employment forecast to grow by 27 percent. The rate of population growth is projected to be lower in the Study Area than in the SCAG region because the Study Area is almost completely developed. New growth will be limited to smaller, infill-type developments. The rate of employment growth is projected to be higher in the Study Area than in the SCAG region because employment in the Study Area tends to be in industry sectors that are projected to experience substantial growth over the next several decades (education, health care, and professional services). For historical context, the regional population was approximately 8 million in 1960 (SCAG 2015). The 2016 regional population of nearly 19 million represents a 135 percent increase since 1960. The 2016 RTP growth forecast was the basis for the regional traffic modeling that was conducted for the project.

[1] The SCAG regional population includes Imperial County, Los Angeles County, Orange County, Riverside County, San Bernardino County, and Ventura County.

1.2.2.4 Legislation

Measure R Initiative

The proposed project is part of a larger program of transportation improvements included in Metro's Measure R[1]. Measure R, a 1/2-cent sales tax for Los Angeles County, is expected to provide $40 billion in local sales tax revenues over 30 years. Measure R, which took effect July 2009, provided funding for new transportation projects and programs and current projects already in development. These future and current projects include new rail and/or bus rapid transit projects, commuter rail improvements, Metro Rail system improvements, highway projects, improved countywide local bus operations, and local city-sponsored transportation improvements.

1.2.2.5 Modal Interrelationships and System Linkages

Bus service within the Study Area includes three Long Beach Transit (LBT) routes, two Cerritos on Wheels routes, two Norwalk Transit System (NTS) routes, one Orange County Transportation Authority (OCTA) route, and three Metro routes. The Study Area is also slated to receive rail service from the proposed Metro West Santa Ana Branch (WSAB) light rail line[2] in the coming years. As described in Section 1.3 below, the proposed project would provide improvements for pedestrians that would result in better first-mile/last-mile transit access.

1.2.2.6 Logical Termini and Independent Utility

Federal regulations (23 Code of Federal Regulations [CFR] 771.111(f)) require that "logical termini" and "independent utility" be established for a transportation improvement project evaluated under NEPA. The project limits were defined based on providing a logical and independent set of improvements. Logical termini are defined as rational end points for transportation improvement and analysis of the potential environmental impacts of a proposed project. A project is defined as having independent utility if it meets the project purpose in the absence of other improvements in the project limits.

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1 Los Angeles County Metropolitan Transportation Authority (Metro). Measure R. Website: https://www.metro.net/projects/measurer/ (accessed November 11, 2017).

2 Los Angeles County Metropolitan Transportation Authority (Metro). West Santa Ana Branch Transit Corridor. Website: https://www.metro.net/projects/west-santa-ana/ (accessed November 11, 2017).

Logical Termini

The focus of the proposed project is to reduce congestion and improve freeway operations. The environmental study limits extend from approximately Shoemaker Avenue to I-605 and north on I-605 to Alondra Boulevard, although actual improvements may not be included along this entire length. As shown in Table 1.5, Year 2016 Existing Conditions Freeway Mainline Level of Service Analysis, LOS E and LOS F conditions occur on westbound SR-91 during both the a.m. and p.m. peak hours within the study limits. Similarly, as shown in Table 1.6, Westbound SR-91 Freeway, Summary of Existing Accident Rates, accident rates are higher than the statewide average for the section of westbound SR-91 from Bloomfield Avenue to Studebaker Road within the study limits. The proposed geometric design features are expected to result in improved operating conditions throughout the length of the project, with reductions in vehicle delay and travel time. Safety would be improved as a result of increased weaving distances between interchanges. The proposed project provides logical termini because the western and eastern termini assure a sufficient length of alignment (approximately 4 mi) to integrate the proposed westbound SR-91 widening and Pioneer Boulevard and Norwalk Boulevard interchange improvements with existing facilities and avoid any abrupt transitions.

Independent Utility

The mixed-flow lane in the westbound direction for SR-91, the auxiliary lanes, and the interchange modifications included in the proposed project would provide benefits to the traveling public without requiring or being dependent on the provision of other improvements on SR-91 or other freeways or arterials. These improvements would benefit travelers as they enter/exit the freeway or travel in the general-purpose and high-occupancy vehicle (HOV) lanes. The proposed project represents a reasonable expenditure even if no additional transportation improvements are made in the corridor, it can be implemented in the absence of any other improvements, and it does not restrict consideration of alternatives for other reasonably foreseeable transportation improvements in the SR-91 corridor and areas adjacent to the project limits. The proposed project would have independent utility because it meets the project purpose in the absence of other improvements in the SR-91 corridor.

1.3 Project Description

This section describes the proposed action and the project alternative developed to meet the purpose and need of the project and to avoid or minimize environmental impacts. The alternatives are the Build Alternative and the No Build Alternative.

The project is located in southeast Los Angeles County on westbound SR-91 (PM 16.9–19.8) and I-605 (PM 5.0–5.8). The total length of the project is approximately 4 mi, with the majority of improvements along the westbound SR-91 three-mile segment.

1.3.1 Existing Freeway Mainline

Within the project limits, westbound SR-91 includes four mixed-flow lanes that are 11 feet (ft) wide, a 1.5 ft wide left median shoulder, a 12 ft wide HOV lane, and one 12 ft wide auxiliary lane between certain successive on- and off-ramps. Within the project limits, I-605 has four to five mixed-flow lanes and one HOV lane in each direction plus ramp merge and diverge lanes.

1.3.2 Existing Ramps and Interchanges (East to West and South to North)

The SR-91/Artesia Boulevard westbound off-ramp terminus is located at the eastern end of the Study Area. The exit ramp splits into one left-turn lane and one right-turn lane. The Artesia Boulevard westbound on-ramp currently is a direct ramp from Artesia Boulevard that merges onto SR-91 just east of the Bloomfield Avenue overpass.

The SR-91/Bloomfield Avenue westbound on-ramp is located northwest of the SR-91/Artesia Boulevard westbound off-ramp. The Bloomfield Avenue westbound on-ramp currently is a direct ramp from Bloomfield Avenue that merges onto SR-91 just west of Bloomfield Avenue.

SR-91 forms a partial cloverleaf interchange with Norwalk Boulevard. The westbound side consists of a two-lane off-ramp at Norwalk Boulevard, a one-lane on-ramp from southbound Norwalk Boulevard, and a one-lane loop on-ramp from northbound Norwalk Boulevard.

Similar to the SR-91/Norwalk Boulevard interchange, the SR-91/Pioneer Boulevard interchange is a partial cloverleaf. The westbound side of the interchange consists of a two-lane off-ramp at Pioneer Boulevard, a two-lane on-ramp from southbound Pioneer Boulevard (with one dedicated HOV lane), and a one-lane loop on-ramp from northbound Pioneer Boulevard.

The existing outside lane of the westbound SR-91 to the northbound I-605 two-lane connector ramp terminates as a trapped auxiliary lane for the northbound I-605 exit to Alondra Boulevard; the outside lane forces the driver to exit at Alondra Boulevard.

The SR-91/Studebaker Road westbound off-ramp splits into two lanes and is located immediately west of the SR-91/I-605 freeway-to-freeway connector.

The existing outside lane of the westbound SR-91 to the northbound I-605 two-lane connector ramp terminates as a trapped auxiliary lane for the northbound I-605 exit to Alondra Boulevard; the outside lane forces the driver to exit at Alondra Boulevard. The northbound I-605 Alondra Boulevard off-ramp splits into two lanes.

1.3.3 Alternatives

1.3.3.1 Build Alternative

The Build Alternative would add one new mixed-flow lane in the westbound direction on SR-91 from approximately Shoemaker Avenue to I-605, joining at the point where the westbound SR-91 to northbound I-605 connector ramp flares from one to two lanes. In addition, the new mixed-flow lane would create a three-lane exit movement on westbound SR-91 to both the northbound and southbound I-605 connector ramps where only a two-lane exit movement exists now.

The Build Alternative would keep the existing auxiliary lanes between Bloomfield Avenue and Norwalk Boulevard, Norwalk Boulevard and Pioneer Boulevard, and Pioneer Boulevard and westbound SR-91 to the northbound and southbound I-605 connector ramps.

Interchange modifications at Pioneer Boulevard and Norwalk Boulevard are also proposed under the Build Alternative. These modifications include reconstructing existing Type L-9 cloverleaf interchanges into Type L-7 cloverleaf interchanges. Typical Type L-7 and Type L-9 local street interchanges are shown on Figure 1-8.

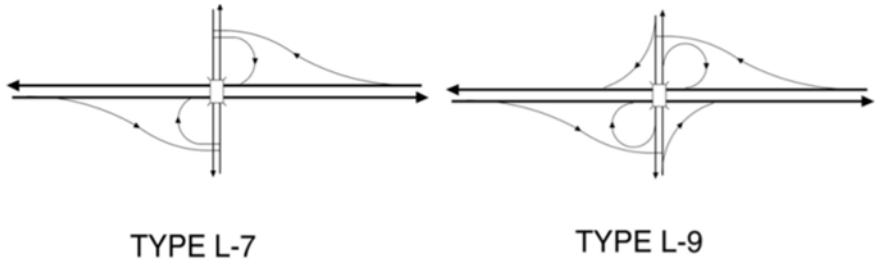
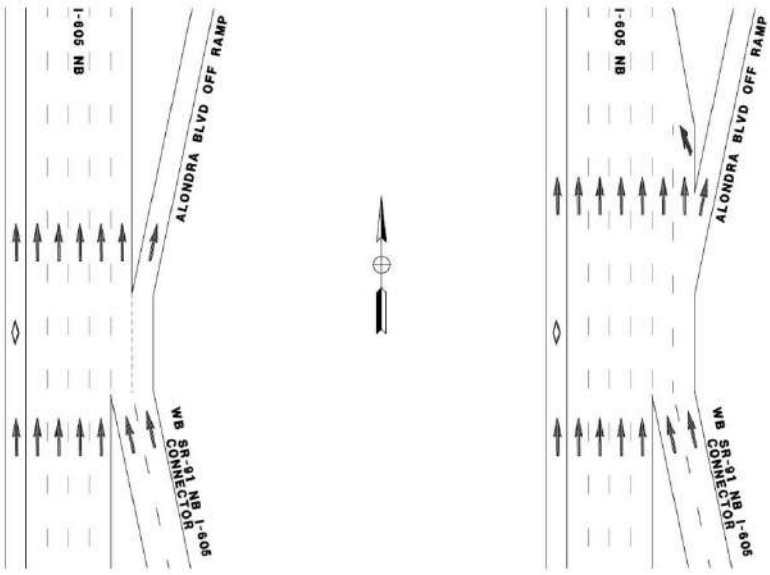


Figure 1-8 Typical Type L-7 and L-9 Local Street Interchanges

These new configurations will eliminate loop on-ramp free right-turn and direct on-ramp movements, and will increase the vehicular weaving and merging distances on the westbound SR-91 mainline between these two interchanges, as well as on the I-605 northbound/southbound connector ramp. These modifications will alter the

arterial street operations as a result of the changed interchange access point for the arterial street to westbound SR-91.

The existing outside lane of westbound SR-91 to the northbound I-605 two-lane connector ramp terminates at Alondra Boulevard, forcing the driver in the outside lane to exit at Alondra Boulevard. Modifications are proposed at the Alondra Boulevard exit point to provide a single-lane exit movement and to carry the outside lane past the exit point and merge it with the northbound I-605 mainline prior to the Alondra Boulevard undercrossing. No Build and Build Alternatives for the I-605 northbound Alondra Boulevard off-ramp are shown on Figure 1-9.



No Build Alternative **Build Alternative**

Figure 1-9 Interstate 605 Northbound Alondra Boulevard Off-Ramp

The Build Alternative would include standardized features (such as Best Management Practices [BMPs] for water quality) that are generally applied to Caltrans' highway improvement projects. These standardized features avoid and minimize environmental impacts. More information on applicable project features can be found in the applicable environmental consequences sub-sections of Chapter 2.

Build Alternative Design Options

To compare overall freeway, ramp, and arterial street operations, the following design options for the Build Alternative were evaluated:

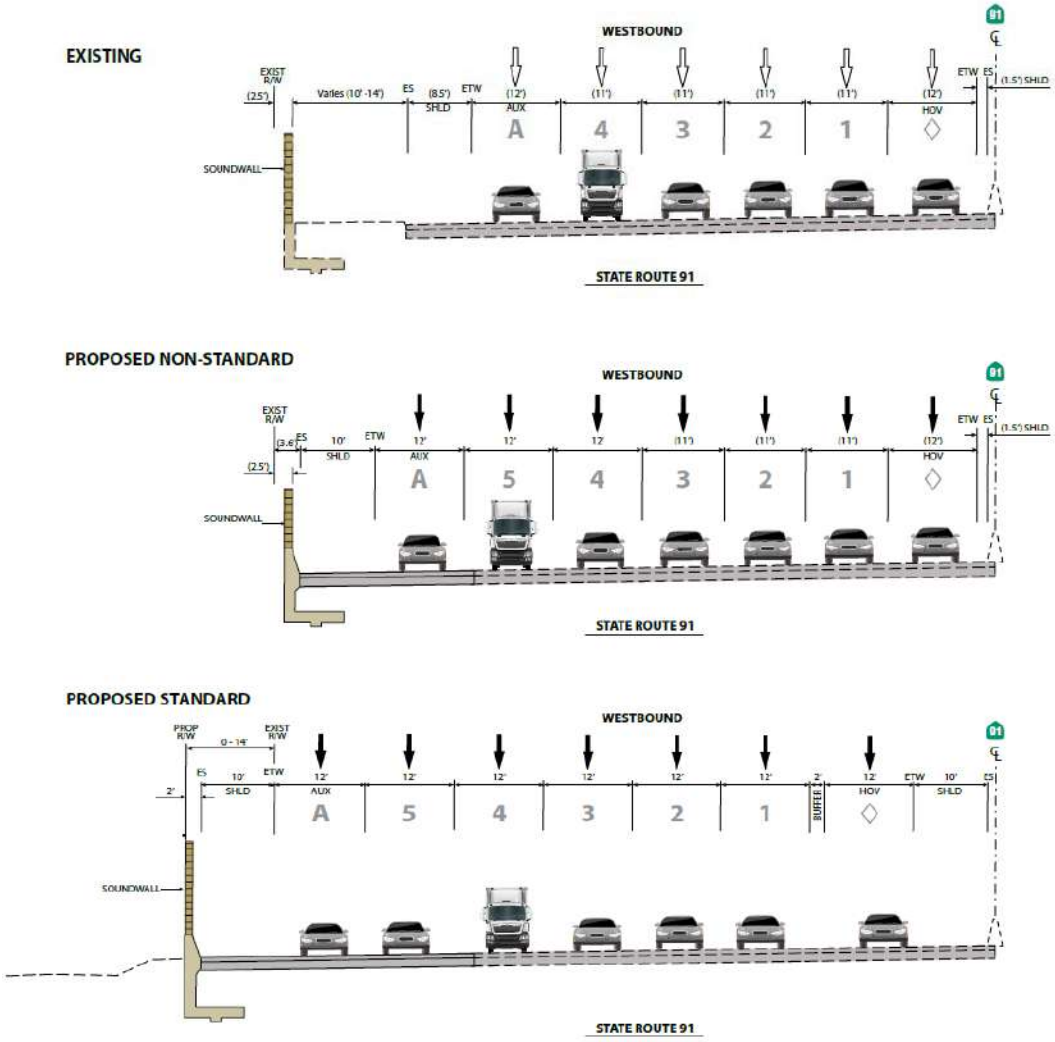
- **Design Option: Full Build.** Using standard (12 ft) lane and shoulder widths. This standard option would acquire 18 residences and one business on the north side of

the freeway along 170th Street between the Norwalk Boulevard and Pioneer Boulevard interchanges in Artesia, as well as the Arco Gas Station on Pioneer Boulevard. A typical section of this design option is shown on the next page under the heading Typical Cross Sections as the Proposed Standard.

- **Design Option 1: Reduced Lane/Shoulder Width.** Using non-standard (narrower than standard) lane and shoulder widths. This non-standard option would eliminate the need for right-of-way acquisition (18 residences and one business) on the north side of the freeway along 170th Street between the Norwalk Boulevard and Pioneer Boulevard interchanges in Artesia. A typical section of this design option is shown under the heading Typical Cross Sections.
- **Design Option 2: Pioneer Boulevard L-9.** By keeping the Type L-9 interchange configuration at Pioneer Boulevard, both the loop and direct westbound on-ramps would remain. Both loop and direct westbound on-ramps would intersect Pioneer Boulevard at a 90-degree angle, which would slow vehicle speeds at the Pioneer Boulevard interchange and improve pedestrian and bicycle safety.
- **Design Option 3: Pioneer Boulevard Westbound Ramps/168th Alignment.** Aligning the SR-91 westbound ramps with 168th Street in Artesia at the Pioneer Boulevard interchange would create a four-legged intersection with Pioneer Boulevard as the north and south legs, the westbound ramps as the east leg, and 168th Street as the west leg. This option would require right-of-way acquisition of approximately eight parcels, which would include five residences, but would eliminate the need to acquire one gas station along Pioneer Boulevard.
- **Design Option 4: Diamond Ramps.** This design option utilizes diamond ramp configurations at Pioneer Boulevard and Norwalk Boulevard in lieu of the proposed Type L-7 cloverleaf interchange configurations. The diamond ramps were analyzed for comparison purposes to the partial cloverleaf ramp configuration options. The diamond ramps have a smaller footprint than the cloverleaf options but provide less weaving distance between successive on- and off-ramps, and therefore do not improve safety and traffic operations as much as the cloverleaf design options.
- **Design Option 5: Four-Lane Gridley Road Overcrossing.** The four-lane Gridley Road overcrossing structure is a design option that the City of Cerritos requested be studied. This would add approximately $4 million of construction cost, require no additional right-of-way acquisition, and is within the environmental footprint that is being studied with this project. However, since a four-lane Gridley Road overcrossing, when compared to the existing two-lane, is not required to fulfill the purpose and need of the project, the City of Cerritos

would need to find and obtain the additional funds necessary for the improvement.

Typical Cross Sections



Utilities

Table 1.8 provides a list of the 20 different utility owners and the type of facilities they operate within the Study Area.

The construction and operation of the Build Alternative will potentially require the utilities listed in Table 1.9 to be relocated. No oil utilities will need to be relocated.

Table 1.8 Utility Companies and Types of Facilities

Utility Company	Type
1. Central Basin Municipal Water District	Water
2. Chevron Pipe Line Company	Oil
3. City of Norwalk	Water, Sewer
4. Crown Castle	Telecom
5. Frontier Communications	Telecom
6. Kinder Morgan, Inc.	Oil
7. Los Angeles County Department of Public Works	Sewer
8. Shell Pipeline	Oil
9. Southern California Gas Company	Natural Gas
10. Wilshire Connection, LLC	Telecom
11. Charter Communications	Telecom
12. City of Cerritos	Water, Sewer
13. Crimson Pipeline	Oil
14. Defense Fuel Support Point	Oil
15. Golden State Water	Water
16. Liberty Utilities	Water
17. Los Angeles County Sanitation Districts	Sewer
18. Southern California Edison	Electric Power
19. Time Warner Cable	Telecom
20. XO Communications	Telecom

Source: *Utility Impacts and Relocation Report* (2018).

Table 1.9 Potentially Affected Utilities by Type

Location	Natural Gas	ElectricPower	Sewer	Telecom	Water	Total
Alondra Boulevard	—	—	—	—	—	—
166th Street	—	—	—	—	—	—
Studebaker Road	—	1	—	1	—	2
Gridley Road	—	—	—	—	—	—
Beach Street	—	—	—	—	—	—
169th Street	—	—	—	—	—	—
Pioneer Boulevard	—	1	—	3	—	4
170th Street	2	2	4	—	1	9
Norwalk Boulevard	—	1	—	2	—	3
Bloomfield Avenue	—	1	—	3	—	4
Artesia Boulevard	—	—	—	—	—	—
Subtotals	**2**	**6**	**4**	**9**	**1**	**22**

Source: *Utility Impacts and Relocation Report* (2018).

Staging Areas

Construction staging areas used by the contractor to store construction equipment will be limited to public right-of-way areas within the Study Area. Staging areas are anticipated to be within available space at interchange ramp areas.

Reversible Lanes

Reversible lanes are not a viable alternative for the proposed project since both directions of SR-91 have high traffic volumes in both the a.m. and p.m. peak periods.

Design Exceptions (Advisory and Mandatory)

The Build Alternative would require design exceptions. Design exceptions are necessary when the proposed design deviates from the standard design features presented in the Caltrans *Highway Design Manual* (2017). For example, the design standard for a freeway left-side shoulder is 10 ft; design exceptions would be requested for locations where the columns supporting overcrossing bridges encroach into the shoulder and narrow the shoulder to approximately 7 ft where it is beneath the bridge. The proposed Build Alternative would not be standard; therefore, mandatory and advisory design exceptions would be required for the Build Alternative. A standard alternative would not be cost effective, would require an extensive rebuild of the existing freeway, and would have extensive right-of-way impacts. There are 28 mandatory and 17 advisory design standards that would require design exceptions at one or more locations in the Study Area (see the Draft Project Report for a full list of design exceptions). Notably, Design Option 1 (Reduced Lane/Shoulder Width) includes reduced non-standard lane and shoulder widths.

Transportation Systems Management and Transportation Demand Management Alternatives

Transportation Systems Management (TSM) provides cost-effective improvements that increase transportation system performance without the major expense of capital expansion projects. These programs include minor geometric improvements, bicycle and pedestrian improvements, and other measures such as signal synchronization, motorist information, bus signal priority, and freeway ramp metering. Transportation Demand Management (TDM) provides cost-effective improvements that reduce system demand by eliminating trips or shifting trips out of the peak periods to other, less-congested time periods during the day, thus increasing transportation system performance without implementing travel restrictions. TDM programs include rideshare programs, employer flex-time, parking pricing, and intermodal improvements that support TDM programs and transfers between modes at key locations. TDM programs are devised to change the behavior of travelers. Some TDM approaches are voluntary, and they motivate participants with incentives. Other TDM approaches apply disincentives to drive single-occupancy vehicles, such as fees and constraints.

A TSM/TDM alternative is not considered a viable stand-alone option because it does not fulfill the project's purpose and need. A TSM/TDM alternative on its own would:

- Provide minimal congestion reduction,
- Provide minimal enhancement of operations and improvement in trip reliability,
- Not increase mobility significantly because it would have a limited effect on congestion, and
- Not maximize traffic throughput because no additional through lanes are provided.

TSM and TDM are similar in a number of ways, because they may:

- Lessen the number of trips,
- Lessen peak-hour travel,
- Conserve energy,
- Reduce emissions, and
- Provide more travel alternatives.

Although TSM and TDM measures alone do not satisfy the purpose and need of the project, the following TSM and TDM measures are beneficial and may be incorporated into the Build Alternative for the proposed project:

- Improved ramp-metering hardware and software and closed-circuit television systems for viewing ramps and nearby arterials
- Upgraded traffic signals that are interconnected and coordinated with adjacent signals and ramp meters at locations of interchange improvements
- Additional way-finding signs on freeways and arterials
- On- and off-ramps designed to limit impacts to non-motorized travel and preserve access to bike lanes and trails
- Intelligent Transportation Systems (ITS) elements, including fiber-optic and other communication systems for improved connectivity and remote management; changeable message signs; closed-circuit television coverage of the entire freeway mainline, ramps, and adjacent arterials; video detection systems; and vehicle detection systems for volume, speed, and vehicle classification
- Advanced traffic management system improvements to the hardware and software systems at the Caltrans District 7 Traffic Management Center
- Traveler information management system improvements to enhance dissemination of real-time information on roadway conditions

Bicycle and Pedestrian Facilities

New construction will be compliant with the Americans with Disabilities Act (ADA), per Caltrans standards. This includes curb ramps that will be replaced as part of the project. The Build Alternative will replace existing bicycle and pedestrian facilities and construct new bicycle and pedestrian facilities at the locations described below.

The following sidewalks are proposed where sidewalks do not currently exist:

- 1,293 ft along westbound Gridley Road between Aclare Street and Park Avenue
- 1,643 ft along westbound Bloomfield Avenue between the SR-91 eastbound off-ramp and 250 ft north of Lucas Street

The following bicycle facilities are proposed for future consideration within the project area where bicycle facilities do not currently exist:

- Bike lane in the northbound direction at the intersection of Pioneer Boulevard and the westbound SR-91 off-ramp
- Bike lane in the northbound direction at the intersection of Norwalk Boulevard and the westbound SR-91 off-ramp
- Bike lane in the southbound direction at the intersection of Bloomfield Avenue and the westbound SR-91 on-ramp/Lucas Street
- Bike lane in the northbound direction at the intersection of Bloomfield Avenue and the westbound SR-91 on-ramp/Lucas Street

1.3.3.2 No Build Alternative

The No Build Alternative does not include any planned improvements to the Study Area. Under this alternative, there would be no reconstruction or improvements to the Study Area. Within the project limits, westbound SR-91 would continue to have four mixed-flow lanes that are 11 ft wide, a 1.5 ft wide median shoulder, one 12 ft wide HOV lane, and one 12 ft wide auxiliary lane between certain successive on- and off-ramps.

1.3.3.3 Alternatives Considered but Eliminated from Further Discussion

A Value Analysis (VA) for this project was conducted July 31, 2017 to August 3, 2017. The VA included coordination with Caltrans, Metro, and consultants known as the VA Team. The following alternatives from the VA were considered, but eliminated from further discussion by the VA Team:

- **Close the Studebaker Road westbound off-ramp and eliminate the westbound SR 91/Studebaker Road Bridge widening.** This VA alternative was rejected because the City of Cerritos expressed their desire during the PSR Phase of the project for the Studebaker Road westbound off-ramp to remain open since it provides access to various facilities within the City. Furthermore, Caltrans' maintenance facility is located opposite the ramp terminus intersection. Closing the ramp would make access to the Caltrans maintenance facility more difficult. After reviewing the Caltrans TASAS accident data, there does not appear to be an accident concentration at the off-ramp. Ramp accident rates are below the statewide average.
- **Eliminate the preferential HOV lanes at the Bloomfield on-ramps and construct two-lane ramps.** This VA alternative was rejected because, while this alternative would save some cost, it is inconsistent with Caltrans ramp metering policy. HOV preferential lanes are included where there are no additional right-of-way impacts. However, a preferential HOV on-ramp lane at the Bloomfield Avenue westbound on-ramp is not included since it would result in additional right-of-way impacts.
- **Close the HOV lane during construction to facilitate the construction of bridge median columns.** This VA alternative was rejected because it was determined that Caltrans Office of Corridor Management South does not recommend the proposal because SR-91 is heavily congested at this section. Closing the HOV lane for 8–10 months would result in significant user delays on the mainline. Weekend, nighttime, and short-term closures may be allowed.
- **Keep existing 11-foot lanes at Norwalk Boulevard north of the ramps in lieu of the proposed 12-foot lanes.** In a meeting with Tracy High School/ABC School District, the School District did not oppose the right-of-way acquisition needed for the widening of Norwalk Boulevard, on the condition of reasonable compensation and parking lot reconfiguration. 11 ft lanes would still require right-of-way acquisition if any right shoulder is provided for bicycle use. Furthermore, curb-adjacent 11 ft wide lanes are extremely narrow next to the sidewalk and are not as safe for pedestrians using the sidewalk. Therefore, 12 ft lanes can be provided with the acquisition. For these reasons, this VA alternative was rejected.
- **Braid the Norwalk Boulevard on-ramp over the Pioneer Boulevard off-ramp.** This VA alternative was rejected because the construction cost would increase by $15 million and A.J. Padelford Park would be impacted. There would be additional noise impacts to the community because this VA alternative would require an elevated ramp.

1.4 Permits and Approvals Needed

The proposed project is anticipated to require the permits, licenses, agreements, and certifications (PLACs) listed in Table 1.10.

Table 1.10 Project Permits and Approvals

Agency	PLAC	Status
Federal Highway Administration (FHWA)	Air Quality Conformity Approval Letter	The Air Quality Conformity report will be submitted to the FHWA after receipt of public comments on the IS/EA. The FHWA will make a conformity determination prior to final approval of the IS/EA.
California Department of Fish and Wildlife (CDFW)	Fish and Game Code Section 1602 Streambed Alteration Agreement	This application will be submitted after Environmental Document approval. Caltrans will coordinate with the CDFW to obtain an agreement regarding riparian habitat impacts and mitigation.
United States Army Corps of Engineers (USACE)	Federal Clean Water Act (CWA) Section 404 Permit	After approval of the Final Environmental Document, Caltrans will submit the Jurisdictional Delineation to the USACE. Caltrans will obtain the Preliminary Jurisdictional Determination from USACE during the PS&E phase. In addition, prior to obtaining grading permits, Caltrans will submit a Pre-Construction Notification form to the USACE to obtain coverage under NWPs 14 and 33, pursuant to Section 404 of the Federal CWA.
Regional Water Quality Control Board (RWQCB)	CWA Section 401 Water Quality Certification or waiver	Caltrans will submit the application to the RWQCB after approval of the Final Environmental Document. Caltrans will coordinate with the RWQCB to obtain water quality certification during final design. The RWQCB will provide comments on the application. Meetings between Caltrans and the RWQCB will be held if necessary during final design. Caltrans will obtain the certification or waiver from the RWQCB during final design and will implement the requirements included in the certification or waiver.
State Water Resources Control Board (SWRCB)	*NPDES Construction General-Permit* Order No. 2009-0009-DWQ, (as amended by 2012-0006-DWQ)	The permits, including the NOI, will be submitted to the SWRCB prior to any project construction.
State Water Resources Control Board (SWRCB)	Caltrans NPDES Permit Order No. 2012-0011-DWQ, (as amended by Order WQ 2014-0006-EXEC, Order WQ 2014-0077-DWQ, and Order WQ 2015-0036-EXEC, NPDES No. CAS000003)	The Permit Registration Documents, including the NOI, will be submitted to the SWRCB prior to any project construction.
California Department of Transportation (Caltrans)	Construction Encroachment Permit	Application for a Caltrans construction encroachment permit will be submitted prior to construction, if a contractor is procured by Metro.
City of Cerritos	Construction Encroachment Permit	Application for a City of Cerritos construction encroachment permit for temporary access onto public rights-of-way will be submitted prior to construction.
City of Artesia	Construction Encroachment Permit	Application for a City of Artesia construction encroachment permit for temporary access onto public rights-of-way will be submitted prior to construction.

IS/EA = Initial Study/Environmental Assessment
Metro = Los Angeles County Metropolitan Transportation Authority
NOI = Notice of Intent
NPDES = National Pollutant Discharge Elimination System
NWP = Nationwide Permit
PLAC = permits, licenses, agreements, and certifications
PS&E = Plans, Specifications, and Estimates