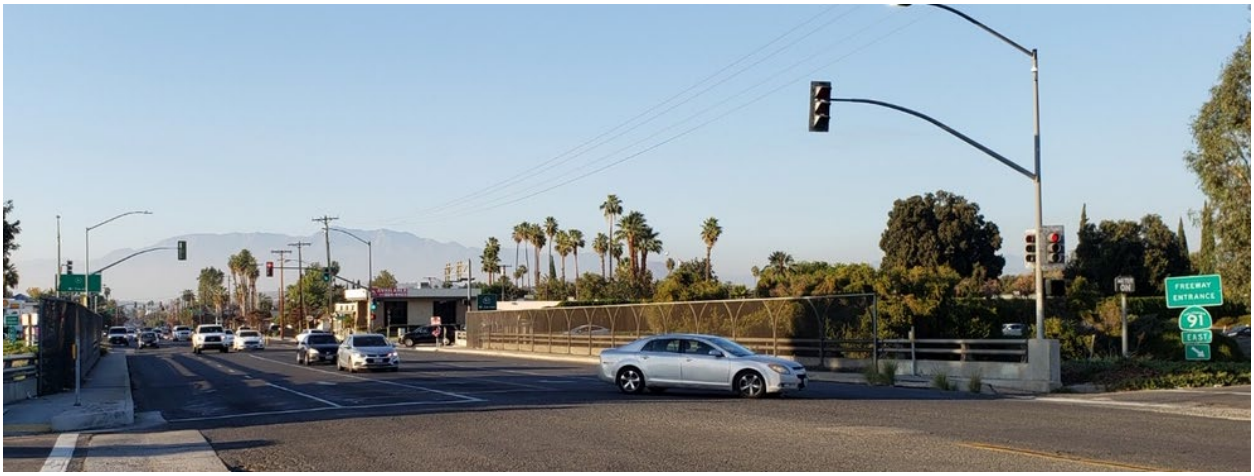
SR-91 / Adams Street Interchange Project

CITY OF RIVERSIDE, RIVERSIDE COUNTY, CALIFORNIA

DISTRICT 8-RIV-91 (PM 15.1/16.2)

EA 08-1H180 / PN 0816000170

Initial Study with [Proposed] Mitigated Negative Declaration / Environmental Assessment



Prepared by the

State of California Department of Transportation

and City of Riverside

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 May 27, 2022, and executed by FHWA and Caltrans.

January 2024

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General Information about This Document

What's in this document:
The California Department of Transportation (Caltrans or Department), as assigned by the Federal Highway Administration (FHWA), has prepared this Initial Study/Environmental Assessment (IS/EA) in cooperation with the City of Riverside, which examines the potential environmental impacts of the alternatives being considered for the proposed project which proposes to reconfigure the State Route 91 (SR-91) / Adams Street interchange from post mile (PM) 15.1 to 16.2 in the City of Riverside in Riverside County, California. Caltrans is the lead agency under the National Environmental Policy Act (NEPA). Caltrans is also the lead agency under the California Environmental Quality Act (CEQA). This document tells you why the project is being proposed, what alternatives have been considered for the project, how the existing environment could be affected by the project, the potential impacts of each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures.

What you should do:

- Please read this document.
- Maps for the Initial Study with Proposed Mitigated Negative Declaration/Environmental Assessment and other project information are available for review and copying on weekdays from 8am to 4 pm at:

  Caltrans District 8
  464 West Fourth Street
  San Bernardino, CA 92401

- An electronic copy (PDF file format) of the IS/EA can be obtained from the City of Riverside's website at: https://riversideca.gov/publicworks/engineering
- We'd like to hear what you think. If you have any comments regarding the proposed project, please send your written comments to Caltrans by the deadline below. In addition, Caltrans will be hosting a public meeting on February 8, 2024 at the following location from 6 p.m. to 8 p.m.:

  Arlington Library
  9556 Magnolia Avenue
  Riverside, 92503

- Send comments via postal mail to:

  Shawn Oriaz, Senior Environmental Planner
  California Department of Transportation
  464 West 4th Street, MS-827
  San Bernardino, California 92401-1400

- Send comments via email to: Vivian.Ho@dot.ca.gov
  Please use "SR-91/Adams Street Interchange Project" in the subject line of the email.

- Be sure to send comments by the deadline: February 23, 2024.
- The draft environmental document and associated technical studies for the SR-91/Adams Street Interchange Project can be obtained by contacting the staff listed below. These documents can be mailed in a hard copy format, emailed in PDF format, or a CD can be mailed with the document in PDF format.

  - Vivian Ho, Associate Environmental Planner, (909) 292-6694
  - Vivian.Ho@dot.ca.gov

What happens next:
After comments are received from the public and reviewing agencies, the Department, as assigned by FHWA, may: (1) give environmental approval to the proposed project, (2) do additional environmental studies, or (3) abandon the project. If the project is given environmental approval and funding is appropriated, Caltrans could design and construct all or part of the project.

Alternative Formats:

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternative formats, please call or write to the California Department of Transportation, District 8, Attn: Eric Dionne, Chief, Public and Media Affairs, 464 W. 4th St. (MS 1247), San Bernardino, CA 92401-1400; (909) 383-4631 (Voice), or use the California Relay Service 1 (800) 735-2929 (TTY to Voice), 1 (800) 735-2922 (Voice to TTY), 1 (800) 855-3000 (Spanish TTY to Voice and Voice to TTY), 1 (800) 854-7784 (Spanish and English Speech to Speech) or 711.

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SCH#_____
8 – RIV-91 PM 15.1/16.2
EA 08-1H180 / PN 0816000170

Reconfigure the State Route 91 (SR-91) / Adams Street interchange from Post Mile (PM) 15.1 to 16.2 in the City of Riverside in the County of Riverside.

INITIAL STUDY with (Proposed) Mitigated 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
and
City of Riverside

12/27/2023
Date

Kurt Heidelberg
Deputy District Director
District 8 Division of Environmental Planning
California Department of Transportation
CEQA Lead Agency
NEPA Lead Agency

The following persons may be contacted for information concerning this document:

California Department of Transportation
Shawn Oriaz, Senior Environmental Planner
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SCH#_____
8 – RIV-91 PM 15.1/16.2
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PROPOSED MITIGATED NEGATIVE DECLARATION

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Department) proposes to reconfigure the State Route 91 (SR-91) / Adams Street interchange to improve traffic flow along the freeway and circulation within local streets surrounding the interchange between post mile (PM) 15.1 and 16.2 in the City of Riverside in Riverside County, California. The total project area is approximately 86 acres.

Determination

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

The Department 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: coastal zone, farmlands and timberlands, mineral resources, wild and scenic rivers, wetlands or other waters, or wildfire.

In addition, the proposed project would have less-than-significant effects on: air quality, energy, land use, parks and recreational facilities, community character and cohesion, farmlands, growth, noise, utilities/emergency services, traffic and transportation, cultural resources, biological resources, floodplains and hydrology, visual/aesthetic resources, water quality, hazards and hazardous materials, and greenhouse gas emissions.

With the following mitigation measure incorporated, the proposed project would have less-than-significant effects on geology/soils (i.e., paleontological resources):

PAL-1 Prior to construction, a Paleontological Mitigation Plan (PMP) should be prepared. It should provide detailed recommended monitoring locations; a description of a worker training program; detailed procedures for monitoring, fossil recovery, laboratory analysis, and museum curation; and notification procedures in the event of a fossil discovery by a paleontological monitor or other project personnel. A curation agreement with Western Science Center (WSC) or another accredited repository should also be obtained. Construction excavations that disturb Pleistocene-age older alluvial fan deposits (Qoa) (high sensitivity) should be monitored by a professional paleontologist in order to reduce potential adverse impacts on scientifically important paleontological resources to a less-than-significant level. Because the results of the field survey could not be used to determine the depth at which sensitive Pleistocene-age sediments occur within the Project alignment, ground-disturbing activities should be spot checked when excavations are expected to exceed the depth of artificial fill and encounter native in situ sediments. If it is determined that only artificial fill or previously disturbed sediments (low sensitivity) are impacted, the monitoring program

should be reduced or suspended. Any subsurface bones or potential fossils that are unearthed during construction should be evaluated by a professional paleontologist as described in the PMP.

Kurt Heidelberg
Deputy District Director
District 8 Division of Environmental Planning
California Department of Transportation
CEQA Lead Agency

Date

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Chapter 1 Proposed Project

1.1 NEPA Assignment

California participated in the "Surface Transportation Project Delivery Pilot Program" (Pilot Program) pursuant to 23 USC 327, for more than five years, beginning July 1, 2007, and ending September 30, 2012. MAP-21 (P.L. 112-141), signed by President Obama on July 6, 2012, amended 23 USC 327 to establish a permanent Surface Transportation Project Delivery Program. As a result, the Department entered into a Memorandum of Understanding pursuant to 23 USC 327 (NEPA Assignment MOU) with FHWA. The NEPA Assignment MOU became effective October 1, 2012, and was renewed on May 27, 2022, for a term of ten years. In summary, the Department 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 the Department 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 that FHWA assigned to the Department under the 23 USC 326 CE Assignment MOU, projects excluded by definition, and specific project exclusions.

1.2 Introduction

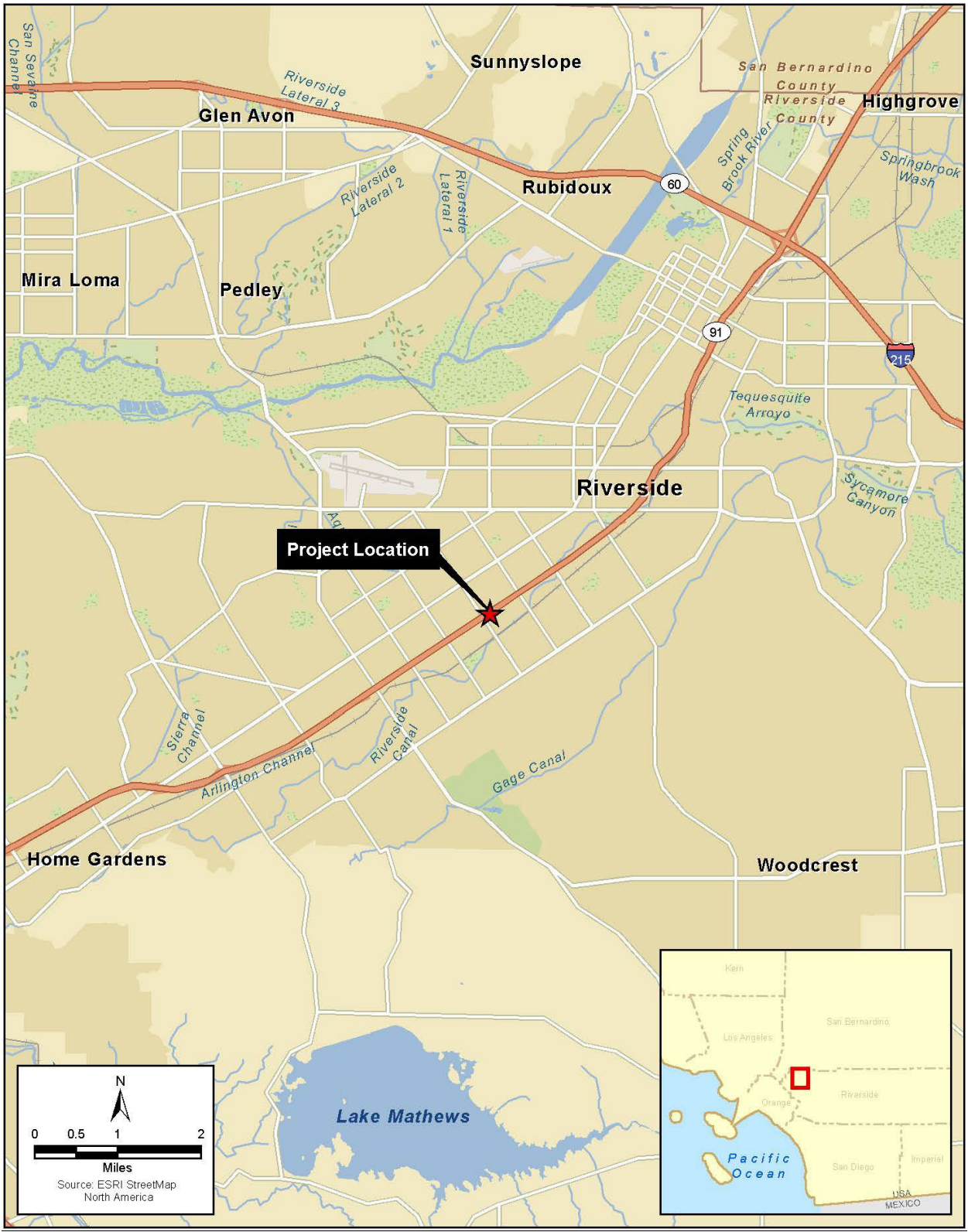
The California Department of Transportation (Caltrans or Department), as assigned by the Federal Highway Administration (FHWA), is the lead agency under The National Environmental Policy Act (NEPA); the Department is also the lead agency under the California Environmental Quality Act (CEQA). The City of Riverside (City), in cooperation with the Department, proposes to reconstruct the existing State Route 91 (SR-91)/Adams Street interchange.

The proposed SR-91/Adams Street Interchange Project would reconfigure the existing SR-91/Adams Street interchange between post miles 15.1 and 16.2 in the City of Riverside in Riverside County, California. Refer to Figure 1-1 (Regional Vicinity) and Figure 1-2 (Project Location).

1.2.1 Existing Facility

The SR-91/Adams Street interchange is located between two other freeway interchanges on SR-91: Van Buren Boulevard, approximately 1.5 miles to the west and Madison Avenue, approximately 1 mile to the east.

Adams Street is identified in the City of Riverside General Plan Circulation Element as a four-lane arterial. Adams Street serves as one of the primary north–south arterials that connects local traffic to SR-91. At the south end, it connects to a major arterial, Victoria Avenue; to the north, it connects to Arlington Avenue, another major arterial, adjacent to Riverside Municipal Airport. Indiana Avenue is also a four-lane arterial. It runs parallel to SR-91 on the south side and acts as a frontage road, providing access to many local businesses.



Sources: U.S. Census Bureau 2019; ICF 2020; Caltrans 2020

Figure 1-1. Regional Vicinity

Sources: U.S. Census Bureau 2019; ICF 2020; Caltrans 2020

Figure 1-2. Project Location

1.2.2 Project Background

The Project Study Report/Project Development Support (PSR-PDS) completed for the project in the mid-1990s was not advanced due to a lack of funding. Given the increase in congestion and traffic circulation issues at the interchange, the City of Riverside, in partnership with the Department, initiated another PSR-PDS, which was signed in May 2018. In September 2019, the Project Approval/Environmental Document phase began. The project development team (PDT) confirmed the purpose and need for the project as well as the build alternatives to be further evaluated. In addition, a value analysis was conducted.

1.2.3 Project Programming

The project is included in the Southern California Association of Governments' (SCAG's) 2020 Regional Transportation Plan (RTP) identified as RTP ID RIV131202 titled *2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (2020-2045 RTP/SCS)* (SCAG 2020). The project is also currently listed in SCAG's financially constrained 2023 Federal Transportation Improvement Program (2023 FTIP) as a State Highway Project, with $111,035,000 programmed for the project. The design concept and scope of the proposed project is consistent with the project description in the 2020–2045 RTP/SCS and 2023 FTIP.

1.3 Purpose and Need

1.3.1 Purpose

The purpose of the project is to reduce congestion and improve traffic circulation to meet existing and projected access demands at the SR-91/Adams Street interchange.

1.3.2 Need

The proposed project is needed to address current and future operational performance. Due to high traffic demands and close intersection spacing along Adams Street within the interchange vicinity, severe congestion occurs throughout the interchange area and surrounding City streets when the storage lanes overflow during peak periods. The SR-91/Adams Street interchange will require improvements to alleviate congestion and accommodate future demands, as well as future SR-91 improvements.

1.3.2.1 Capacity and Level of Service – Existing (2020) Traffic Analysis

This section presents the existing traffic volumes at the intersections and freeway facilities in the study area. New peak period turning movement count data, including heavy vehicle counts, was collected at the existing study intersections on January 15, 2020, a typical weekday with local schools in session. The counts were collected during the AM peak period (7:00 to 9:00 a.m.) and PM peak period (4:00 to 6:00 p.m.). Note that the counts were collected prior to the COVID-19 pandemic. Turning movement volumes between the ramp intersections as well as the Indiana Avenue intersections to the south were balanced appropriately to ensure conservation of flow.

Freeway volumes on SR-91 were acquired from the Caltrans Performance Measurement System (PeMS). Freeway mainline and High Occupancy Vehicle (HOV) volumes were extracted

for the AM and PM peak as well as daily conditions. Data was collected during the month of October 2019, on Tuesdays, Wednesdays, and Thursdays only.

Freeway Operations Analysis

Level of service (LOS) is a standard index of the service provided by a transportation facility from the traveler's perspective. LOS is a concept that is defined in the Highway Capacity Manual (HCM) and can range from A (free-flow conditions) through F (severely congested conditions). LOS A represents travel at free-flow speeds with complete mobility. LOS B represents slightly increased congestion and decreased mobility; however, operations still remain near free-flow speeds. LOS A and LOS B characterize desirable traffic flow conditions (refer to Table 1-1 and Figure 1-3).

Table 1-1. Freeway Segment and Ramp Junctions LOS Criteria

LOS	Basic Freeway Segment Density (pc/mi/ln)	Ramp Merge/Diverge and Freeway Weaving Density (pc/mi/ln)
A	0–11	0–10
B	> 11–18	> 10–20
C	> 18–26	> 20–28
D	> 26–35	> 28–35
E	> 35–45	> 35
F	> 45 or Demand exceeds capacity	Demand exceeds capacity

Note: pc = passenger cars, mi = mile, ln = lane
When Volume-to-Capacity (V/C) ratio exceeds 1.0, the facility is considered to operate at LOS F.

The Department's goal for basic freeway segment operations, including SR-91 within the traffic analysis study area, is between LOS C and LOS D or better.

Table 1-2 presents the existing year 2020 AM and PM peak hour density and LOS for eastbound SR-91 within the study area.

Table 1-2. Existing (2020) Eastbound SR-91 Freeway LOS

Eastbound Freeway Segment	Facility Type	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
West of Indiana Avenue Off-ramp (at Van Buren Boulevard)	Basic	18.7	C	20.2	C
Indiana Avenue Off-ramp	Diverge	18.7	C	20.2	C
Between Indiana Avenue Off-ramp and Indiana Avenue On-ramp	Basic	21.6	C	21.2	C
Between Indiana Avenue On-ramp and Van Buren Boulevard On- ramp	Basic	17.4	B	17.2	B
Van Buren Boulevard On-ramp	Merge	14.4	B	14.0	B
Between Van Buren Boulevard On-ramp and Adams Street Off-ramp	Basic	18.5	C	18.4	C
Between Adams Street Off-ramp and Adams Street On-ramp	Basic	21.7	C	21.4	C
Adams Street On-ramp	Merge	27.5	C	27.4	C
Between Adams Street On-ramp and Madison Street Off-ramp	Basic	25.0	C	25.5	C

Eastbound Freeway Segment	Facility Type	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
Madison Street Off-ramp	Diverge	25.6	C	26.3	C
Between Madison Street Off-ramp and Madison Street On-ramp	Basic	24.1	C	23.4	C
Madison Street On-ramp	Merge	25.1	C	23.8	C
East of Madison Street On-ramp	Basic	28.2	D	27.3	D
Eastbound SR-91 Freeway Facility		*17.0*	*B*	*16.9*	*B*

Source: Caltrans 2021h
Note: pc = passenger cars, mi = mile, ln = lane

As shown in Table 1-2, the eastbound freeway segments and ramps in the study area are currently operating at LOS D or better in the existing year 2020.

Table 1-3 summarizes the westbound SR-91 freeway facility LOS in the existing year 2020 within the study area.

Table 1-3. Existing (2020) Westbound SR-91 Freeway LOS

Westbound Freeway Segment	Facility Type	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
East of Madison Street Off-Ramp	Basic	28.0	D	29.8	D
Madison Street Off-ramp	Diverge	30.6	D	31.4	D
Between Madison Street Off-ramp and Madison Street On-ramp	Basic	23.4	C	25.6	C
Madison Street On-ramp	Merge	18.6	C	20.0	C
Between Madison Street On-ramp and Adams Street Off-ramp	Basic	18.7	C	19.6	C
Adams Street Off-ramp	Diverge	18.7	C	19.6	C
Between Adams Street Off-ramp and Adams Street On-ramp	Basic	20.9	C	24.8	C
Adams Street On-ramp	Merge	16.9	B	19.9	C
Between Adams Street On-ramp and Van Buren Boulevard Off-ramp	Basic	16.8	B	19.6	C
Between Van Buren Boulevard Off-ramp and Van Buren Boulevard On- ramp	Basic	20.0	C	23.0	C
Van Buren Boulevard On-ramp	Merge	30.7	D	30.1	D
West of Van Buren Boulevard On-ramp	Basic	28.6	D	29.7	D
Westbound SR-91 Freeway Facility		*16.3*	*B*	*18.1*	*C*

Source: Caltrans 2021h
Note: pc = passenger cars, mi = mile, ln = lane

As shown in Table 1-3, the westbound SR-91 freeway segments and ramps in the study area are currently operating at LOS D or better in the existing year 2020.

Intersection Operations Analysis

For arterial intersections, LOS is a measure of average traffic operating conditions at intersections during an hour. The SimTraffic simulation tool (based on the Synchro software) is

used to develop intersection operations within this report. For each scenario, a total of 10 simulation runs are prepared, which consist of four 15-minute intervals within each run. The total "vehicles entered" and "vehicles exited" for the network are compared for the 10 simulation runs to ensure calibration. The network simulations achieve a 1 percent to 2 percent tolerance between entering and exiting vehicles, which is generally considered acceptable. Figure 1-4 describes the level of service concept and operating conditions expected under each level of service for signalized and unsignalized intersections, respectively.

Table 1-4 presents the existing year 2020 peak hour LOS results for the study intersections within the study area.

Table 1-4. Existing (2020) Intersection Peak Hour LOS

Intersection		Traffic Control	AM Peak Hour		PM Peak Hour	
			Delay(s)	LOS	Delay(s)	LOS
1	Van Buren Boulevard/SR-91 WB Ramps	Signalized	29.9	C	36.3	D
2	SR-91 EB Ramps/Indiana Avenue	Signalized	14.3	B	23.7	C
3	Van Buren Boulevard/Indiana Avenue	Signalized	**552.0**	**F**	**58.9**	**E**
4	Adams Street/Magnolia Avenue	Signalized	**113.9**	**F**	**59.8**	**E**
5	Adams Street/Briarwood Drive	Signalized	**85.0**	**F**	**70.1**	**E**
6	Adams Street/Diana Avenue	Stop-control	31.8	D	31.8	D
7	Adams Street/SR-91 WB Ramps	Signalized	15.2	B	9.8	A
8	Adams Street/SR-91 EB Ramps	Signalized	38.1	D	39.4	D
9	Adams Street/Indiana Avenue	Signalized	**60.8**	**E**	**69.3**	**E**
10	Adams Street/Auto Center Drive	Stop-control	10.0	A	20.5	C
11	Adams Street/Lincoln Drive	Signalized	16.1	B	10.2	B
12	Jefferson Street/Indiana Avenue	Signalized	14.0	B	14.3	B
13	Madison Street/SR-91 WB Ramps	Signalized	17.4	B	13.0	B
14	Madison Street/SR-91 EB Ramps	Signalized	38.1	D	48.2	D
15	Madison Street/Indiana Avenue	Signalized	31.4	C	48.1	D

Source: Caltrans 2021h
EB= eastbound; LOS = Level of Service, s = seconds; WB = eastbound.

As shown in Table 1-4, the majority of the study intersections currently operate at LOS D or better. However, the following four study intersections operate at LOS E or F in the existing year 2020:

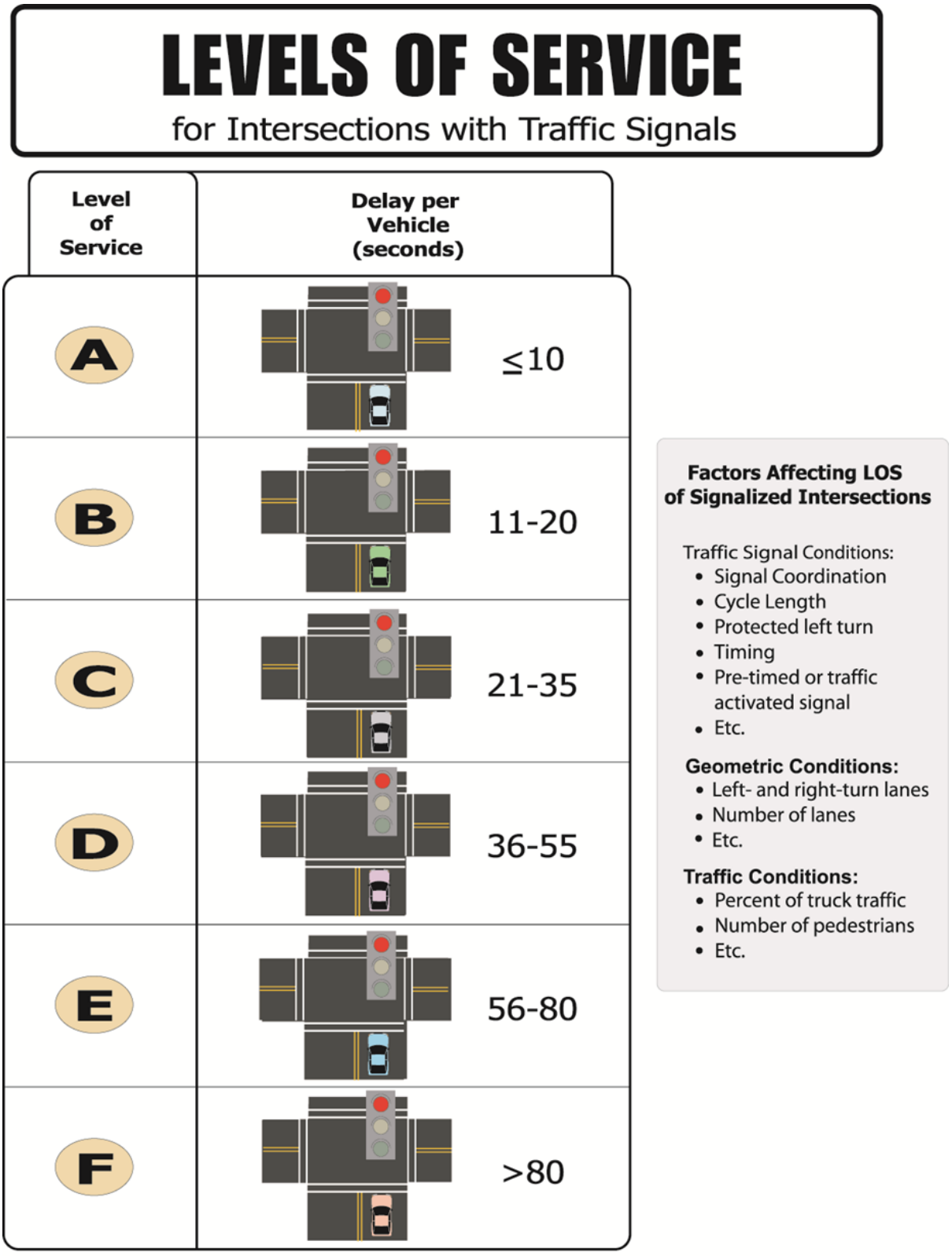
- Van Buren Boulevard/Indiana Avenue (AM and PM peak hour)
- Adams Street/Magnolia Avenue (AM and PM peak hour)
- Adams Street/Briarwood Drive (AM and PM peak hour)
- Adams Street/Indiana Avenue (AM and PM peak hour)

LEVELS OF SERVICE
for Freeways

Level of Service	Flow Conditions	Operating Speed (mph)	Technical Descriptions
A		70	Highest quality of service. Traffic flows freely with little or no restrictions on speed or maneuverability. **No delays**
B		70	Traffic is stable and flows freely. The ability to maneuver in traffic is only slightly restricted. **No delays**
C		67	Few restrictions on speed. Freedom to maneuver is restricted. Drivers must be more careful making lane changes. **Minimal delays**
D		62	Speeds decline slightly and density increases. Freedom to maneuver is noticeably limited. **Minimal delays**
E		53	Vehicles are closely spaced, with little room to maneuver. Driver comfort is poor. **Significant delays**
F		<53	Very congested traffic with traffic jams, especially in areas where vehicles have to merge. **Considerable delays**

Source: 2000 HCM, Level of Service Criteria for Freeways

Figure 1-3. Level of Service for Basic Freeway Segment



Source: 2000 HCM, Exhibit 16-2, Level of Service Criteria for Signalized Intersections

Figure 1-4. Level of Service for Signalized Intersections

1.3.2.2 PROJECTED CAPACITY NEEDS AND LEVEL OF SERVICE

Nonstandard intersection spacing on Adams Street at the interchange contributes to severe congestion throughout the interchange area and on surrounding city streets.

Future Traffic Demand Forecast

According to SCAG's 2020-2045 RTP/SCS, the population in the SCAG region—which encompasses Riverside, Imperial, San Bernardino, Orange, Los Angeles and Ventura Counties—is projected to grow to 22,504,000 by 2045, an increase of 2,986,000 from 2020. According to SCAG's 2020-2045 RTP/SCS, population in the SCAG region increased by 2,944,000 people between 2000 and 2020; this represents an increase of approximately 17.7 percent. Riverside County grew by 60.11 percent during the same period (SCAG 2020). The SCAG region is expected to have a 0.6 percent annual growth rate between 2020 and 2045, which corresponds to about 114,000 new residents annually, or nearly 3 million new residents between 2020 and 2045 (SCAG 2020). Furthermore, and according to the 2020-2045 RTP/SCS, the population of Riverside County more than doubled from 663,166 in 1980 to 1,545,387 in 2000, and more than tripled to 2,493,000 in 2020 (SCAG 2020).

SCAG's 2020-2045 RTP/SCS indicates that there will be a deconcentration trend across Southern California and toward more growth of population and employment in Riverside and San Bernardino Counties. The share of both Riverside and San Bernardino Counties' population in the SCAG region is projected to increase 27.9 percent from 2020 to 2040, while the share of both Riverside and San Bernardino Counties' employment in the SCAG region is projected to increase 30.7 percent from 2020 to 2040. As indicated in the 2020-2045 RTP/SCS, the recent growth trend experienced in Riverside County's expansion is due to new communities that began to emerge during the housing boom. Four additional cities have incorporated since 2006 (Wildomar, Menifee, Eastvale, and Jurupa Valley), increasing the total number of local jurisdictions in the SCAG region to 197. Many areas in Riverside and San Bernardino Counties were appealing for development due to the availability of lower-priced land, which attracted new residents looking for lower-priced housing. However, jobs and employment did not follow in proportion to housing unit growth in these communities and residents had to travel longer distances on average than other Southern California county residents to reach their workplace. Based on the 2020-2045 RTP/SCS, recently the annual population growth in the SCAG region has slowed, from about 0.85 percent in 2020 and projected to be about 0.45 percent by 2045, a trend similar to that of the state as a whole. These changes are driven by declines in fertility, high housing costs and lack of affordability, and an aging population. If the region continues to experience faster employment growth in Riverside and San Bernardino Counties, where an abundant labor force is available, the region's transportation and air quality problems may be reduced due to more balanced county distribution of population and employment.

According to SCAG's 2020-2045 RTP/SCS, population, households, and employment growth in the City of Riverside will dramatically increase in the next 25 years. More specifically, the City's population is projected to increase from 325,300 people in 2016, to 395,800 in 2045. Households will increase from 94,500 in 2016 to 115,100 in 2045, and employment will increase from 145,400 in 2016 to 188,700 in 2045. Overall, the County's population is expected to increase from 2,493,000 people in 2020 to approximately 3,252,000 in 2045, an increase of approximately 30 percent.

Capacity and Level of Service – Opening Year (2027) Traffic Analysis

Freeway Operations Analysis

Opening Year 2027 No-Build Conditions

Table 1-5 summarizes the opening year 2027 eastbound SR-91 freeway facility LOS in the study area for the No-Build Alternative.

Table 1-5. Opening Year 2027 Eastbound SR-91 Freeway LOS – No-Build Alternative

Eastbound Freeway Segment	Facility Type	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
West of Indiana Avenue Off-Ramp (at Van Buren Boulevard)	Basic	19.6	C	20.7	C
Indiana Avenue Off-ramp	Diverge	19.6	C	20.7	C
Between Indiana Avenue Off-ramp and Indiana Avenue On-ramp	Basic	22.8	C	22.1	C
Between Indiana Avenue On-ramp and Van Buren Boulevard On- ramp	Basic	18.2	C	17.9	B
Van Buren Boulevard On-ramp	Merge	14.6	B	14.4	B
Between Van Buren Boulevard On-ramp and Adams Street Off-ramp	Basic	19.2	C	19.0	C
Between Adams Street Off-ramp and Adams Street On-ramp	Basic	22.1	C	22.1	C
Adams Street On-ramp	Merge	28.1	D	28.5	D
Between Adams Street On-ramp and Madison Street Off-ramp	Basic	25.7	C	26.9	D
Madison Street Off-ramp	Diverge	26.1	C	27.1	C
Between Madison Street Off-ramp and Madison Street On-ramp	Basic	24.7	C	24.6	C
Madison Street On-ramp	Merge	26.1	C	25.0	C
East of Madison Street On-ramp	Basic	29.3	D	29.0	D
Eastbound SR-91 Freeway Facility		*17.6*	*B*	*17.6*	*B*

Source: Caltrans 2021h
Note: pc = passenger cars, mi = mile, ln = lane

As shown in Table 1-5, the SR-91 eastbound freeway segments and ramps in the study area are forecast to operate at LOS D or better in opening year 2027 under the No-Build Alternative.

Table 1-6 summarizes the opening year 2027 westbound SR-91 freeway facility LOS in the study area for the No-Build Alternative.

Table 1-6. Opening Year 2027 Westbound SR-91 Freeway LOS – No-Build Alternative

Westbound Freeway Segment	Facility Type	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
East of Madison Street Off-Ramp	Basic	30.3	D	31.8	D
Madison Street Off-ramp	Diverge	32.0	D	32.5	D

Westbound Freeway Segment	Facility Type	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
Between Madison Street Off-ramp and Madison Street On-ramp	Basic	24.7	C	26.9	D
Madison Street On-ramp	Merge	19.5	C	20.9	C
Between Madison Street On-ramp and Adams Street Off-ramp	Basic	19.6	C	20.5	C
Adams Street Off-ramp	Diverge	19.6	C	20.5	C
Between Adams Street Off-ramp and Adams Street On-ramp	Basic	21.8	C	25.8	C
Adams Street On-ramp	Merge	17.7	B	21.0	C
Between Adams Street On-ramp and Van Buren Boulevard Off-ramp	Basic	17.7	B	20.7	C
Between Van Buren Boulevard Off-ramp and Van Buren Boulevard On- ramp	Basic	21.0	C	24.3	C
Van Buren Boulevard On-ramp	Merge	31.6	D	31.2	D
West of Van Buren Boulevard On-ramp	Basic	30.0	D	31.5	D
Westbound SR-91 Freeway Facility		*17.2*	*B*	*19.0*	*C*

Source: Caltrans 2021h
Note: pc = passenger cars, mi = mile, ln = lane

As shown in Table 1-6, the SR-91 westbound freeway segments and ramps in the study area are forecast to operate at LOS D or better in opening year 2027 under the No-Build Alternative.

Intersection Operations Analysis

Opening Year 2027 No-Build Conditions

Table 1-7 presents the opening year 2027 peak hour LOS results at the study intersections for the No-Build Alternative.

Table 1-7. Opening Year 2027 No-Build Intersection Peak Hour LOS – No-Build Alternative

Intersection		Traffic Control	AM Peak Hour		PM Peak Hour	
			Delay (s)	LOS	Delay (s)	LOS
1	Van Buren Boulevard/SR-91 WB Ramps	Signalized	33.8	C	49.0	D
2	SR-91 EB Ramps/Indiana Avenue	Signalized	14.4	B	28.6	C
3	Van Buren Boulevard/Indiana Avenue	Signalized	**59.6**	**E**	**62.4**	**E**
4	Adams Street/Magnolia Avenue	Signalized	**121.3**	**F**	**105.6**	**F**
5	Adams Street/Briarwood Drive	Signalized	**93.8**	**F**	**93.7**	**F**
6	Adams Street/Diana Avenue	Stop-control	**35.2**	**E**	34.8	D
7	Adams Street/SR-91 WB Ramps	Signalized	15.1	B	10.4	B
8	Adams Street/SR-91 EB Ramps	Signalized	52.4	D	46.6	D
9	Adams Street/Indiana Avenue	Signalized	**65.4**	**E**	**73.9**	**E**
10	Adams Street/Auto Center Drive	Stop-control	**56.3**	**F**	**35.8**	**E**
11	Adams Street/Lincoln Drive	Signalized	20.0	B	13.7	B
12	Jefferson Street/Indiana Avenue	Signalized	22.6	C	18.7	B
13	Madison Street/SR-91 WB Ramps	Signalized	25.9	C	24.3	C

Intersection		Traffic Control	AM Peak Hour		PM Peak Hour	
			Delay (s)	LOS	Delay (s)	LOS
14	Madison Street/SR-91 EB Ramps	Signalized	45.2	D	50.9	D
15	Madison Street/Indiana Avenue	Signalized	44.9	D	51.7	D

Source: Caltrans 2021h
Note: s = seconds; EB = eastbound; WB = westbound

As shown in Table 1-7, the majority of the study intersections are forecast to operate at LOS D or better in the opening year 2027 under the No-Build Alternative. However, the following intersections are forecast to operate at LOS E or F in the opening year 2027 under the No-Build Alternative:

- Van Buren Boulevard/Indiana Avenue (AM and PM peak hour)
- Adams Street/Magnolia Avenue (AM and PM peak hour)
- Adams Street/Briarwood Drive (AM and PM peak hour)
- Adams Street/Diana Avenue (stop-controlled, AM peak hour)
- Adams Street/Indiana Avenue (AM and PM peak hour)
- Adams Street/Auto Center Drive (stop-controlled, AM and PM peak hour).

Capacity and Level of Service – Horizon Year (2047) Traffic Analysis

Freeway Operations Analysis

Horizon Year 2047 No-Build Conditions

Table 1-8 summarizes the horizon year 2047 eastbound SR-91 freeway facility LOS in the study area under the No-Build Alternative.

Table 1-8. Horizon Year 2047 Eastbound SR-91 Freeway LOS – No-Build Alternative

Eastbound Freeway Segment	Facility Type	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
West of Indiana Avenue Off-Ramp (at Van Buren Boulevard)	Basic	21.1	C	20.8	C
Indiana Avenue Off-ramp	Diverge	21.1	C	20.8	C
Between Indiana Avenue Off-ramp and Indiana Avenue On-ramp	Basic	25.0	C	22.3	C
Between Indiana Avenue On-ramp and Van Buren Boulevard On- ramp	Basic	19.6	C	18.5	C
Van Buren Boulevard On-ramp	Merge	16.6	B	17.4	B
Between Van Buren Boulevard On-ramp and Adams Street Off- ramp	Basic	21.0	C	20.7	C
Between Adams Street Off-ramp and Adams Street On-ramp	Basic	22.8	C	23.9	C
Adams Street On-ramp	Merge	29.6	D	31.3	D
Between Adams Street On-ramp and Madison Street Off-ramp	Basic	27.4	D	30.8	D

Eastbound Freeway Segment	Facility Type	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
Madison Street Off-ramp	Diverge	27.0	C	29.1	D
Between Madison Street Off-ramp and Madison Street On-ramp	Basic	26.0	C	27.8	D
Madison Street On-ramp	Merge	28.4	D	27.9	C
East of Madison Street On-ramp	Basic	32.2	D	33.6	D
Eastbound SR-91 Freeway Facility		*18.9*	*C*	*24.7*	*C*

Source: Caltrans 2021h
Notes: pc = passenger cars, mi = mile, ln = lane

As shown in Table 1-8, the eastbound freeway segments and ramps in the study area are forecast to operate at LOS D or better in horizon year 2047 under the No-Build Alternative.

Table 1-9 summarizes the horizon year 2047 westbound SR-91 freeway facility LOS in the study area for the No-Build Alternative.

Table 1-9. Horizon Year 2047 Westbound SR-91 Freeway LOS – No-Build Alternative

Westbound Freeway Segment	Facility Type	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
East of Madison Street Off-Ramp	Basic	**37.5**	**E**	**37.7**	**E**
Madison Street Off-ramp	Diverge	**35.4**	**E**	34.9	D
Between Madison Street Off-ramp and Madison Street On-ramp	Basic	28.2	D	30.4	D
Madison Street On-ramp	Merge	21.9	C	23.1	C
Between Madison Street On-ramp and Adams Street Off-ramp	Basic	22.1	C	22.7	C
Adams Street Off-ramp	Diverge	22.1	C	22.7	C
Between Adams Street Off-ramp and Adams Street On-ramp	Basic	24.2	C	28.4	C
Adams Street On-ramp	Merge	19.9	C	24.2	C
Between Adams Street On-ramp and Van Buren Boulevard Off-ramp	Basic	19.8	C	23.7	C
Between Van Buren Boulevard Off-ramp and Van Buren Boulevard On- ramp	Basic	23.5	C	27.6	D
Van Buren Boulevard On-ramp	Merge	33.7	D	33.6	D
West of Van Buren Boulevard On-ramp	Basic	33.8	D	**36.3**	**E**
Westbound SR-91 Freeway Facility		19.4	C	21.5	C

Source: Caltrans 2021h
Note: pc = passenger cars, mi = mile, ln = lane

As shown in Table 1-9, some westbound freeway segments and ramps in the study area are forecast to operate at LOS E in horizon year 2047 under the No-Build Alternative. However, the overall freeway facility is forecast to operate at LOS C.

Intersection Operations Analysis

Horizon Year 2047 No-Build Conditions

Table 1-10 presents the horizon year 2047 peak hour LOS results at the study intersections under the No-Build Alternative.

Table 1-10. Horizon Year 2047 Intersection Peak Hour LOS – No-Build Alternative

Intersection		Traffic Control	AM Peak Hour		PM Peak Hour	
			Delay (s)	LOS	Delay (s)	LOS
1	Van Buren Boulevard/SR-91 WB Ramps	Signalized	**67.8**	**E**	**93.0**	**F**
2	SR-91 EB Ramps/Indiana Avenue	Signalized	29.3	C	45.0	D
3	Van Buren Boulevard/Indiana Avenue	Signalized	**70.6**	**E**	**77.3**	**E**
4	Adams Street/Magnolia Avenue	Signalized	**129.0**	**F**	**138.3**	**F**
5	Adams Street/Briarwood Drive	Signalized	**104.9**	**F**	**103.4**	**F**
6	Adams Street/Diana Avenue	Stop-control	**46.6**	**E**	**35.1**	**E**
7	Adams Street/SR-91 WB Ramps	Signalized	49.7	D	15.0	B
8	Adams Street/SR-91 EB Ramps	Signalized	**59.0**	**E**	53.0	D
9	Adams Street/Indiana Avenue	Signalized	**67.9**	**E**	**91.8**	**F**
10	Adams Street/Auto Center Drive	Stop-control	**136.9**	**F**	34.5	D
11	Adams Street/Lincoln Drive	Signalized	**59.7**	**E**	53.6	D
12	Jefferson Street/Indiana Avenue	Signalized	35.9	D	41.2	D
13	Madison Street/SR-91 WB Ramps	Signalized	**62.1**	**E**	**78.1**	**E**
14	Madison Street/SR-91 EB Ramps	Signalized	48.4	D	53.4	D
15	Madison Street/Indiana Avenue	Signalized	53.7	D	53.7	D

Source: Caltrans 2021h
Notes: s = seconds; EB = eastbound; WB = westbound

As shown in Table 1-10, while several study intersections are forecast to operate at LOS D or better, the following intersections are forecast to operate at LOS E or F in the horizon year 2047 under the No-Build Alternative:

- Van Buren Boulevard /SR-91 Westbound Ramps (AM and PM peak hour)
- Van Buren Boulevard/Indiana Avenue (AM and PM peak hour)
- Adams Street/Magnolia Avenue (AM and PM peak hour)
- Adams Street/Briarwood Drive (AM and PM peak hour)
- Adams Street/Diana Avenue (stop-controlled, AM and PM peak hour)
- Adams Street/SR-91 Eastbound Ramps (AM peak hour)
- Adams Street/Indiana Avenue (AM and PM peak hour)
- Adams Street/Auto Center Drive (stop-controlled, AM peak hour)
- Adams Street/Lincoln Drive (AM peak hour)
- Madison Street/SR-91 Westbound Ramps (AM and PM peak hour)

1.3.3 Roadway Deficiencies

The existing tight diamond interchange includes closely spaced intersections and inadequate storage between intersections, resulting in significant delays at the interchange and leading up to the interchange. There is about 220 feet, measured from curb return to curb return, between the eastbound and westbound ramp intersections. There is about 33 feet, measured from curb return to curb return, between the eastbound ramp intersection and the Adams Street/Indiana Avenue intersection to the south, which is a very heavily traveled area due to the Riverside Auto Center and other businesses on the south side of the interchange. The westbound ramp intersection is less than 10 feet, measured from curb return to curb return, from Diana Avenue, which is a right-in/right-out intersection with Adams Street on both sides. All the existing distances are less than the Mandatory Design standard of 400 feet as required by the Highway Design Manual (HDM) Index 504.3(3).

The existing Adams Street overcrossing bridge provides a vertical clearance of 14 feet, 10 inches over SR-91, which is less than the standard minimum vertical clearance of 16 feet, -6 inches as required by HDM Index 309.2 (1)(a).

1.3.4 Social Demands or Economic Development

According to SCAG's 2020-2045 RTP/SCS, population, households, and employment growth in the City of Riverside will substantively increase in the next 25 years. More specifically, Riverside's population is projected to increase from 325,300 people in 2016, to 395,800 in 2045. Households will increase from 94,500 in 2016 to 115,100 in 2045, and employment will increase from 145,400 in 2016 to 188,700 in 2045. Overall, the County's population is expected to increase from 2,493,000 people in 2020 to approximately 3,252,000 in 2045, an increase of approximately 30 percent.

There are no projected changes to planned land use in the project area. It is anticipated that future land use development will continue to occur in the vicinity of the project area as designated in the City of Riverside's General Plan. Future development of the area would result in additional traffic demand and transportation needs.

1.3.5 Modal Interrelationships and System Linkages

The SR-91/Adams Street interchange is a connecting link in the local and regional transportation system. In the immediate vicinity of the interchange, Adams Street provides access to existing commercial, industrial, educational, and residential areas north and south of the interchange.

The project is located approximately 1.5 miles south of the Riverside Municipal Airport. This airport is a point of general aviation access to the surrounding communities of Riverside County. The airport caters to corporate-type, twin-engine propeller aircraft and small business jets. The project aims to improve traffic operations at the SR-91/Adams Street interchange area. The anticipated reduction in congestion at the interchange area is anticipated to enhance mobility to and from the Riverside Municipal Airport as well as transit service through the project area.

Transit service in the proposed project study area is provided by the Riverside Transit Agency (RTA). RTA Bus Route 1 travels along Magnolia Avenue in the study area, with a bus stop at the intersection of Magnolia Avenue and Adams Street, north of the study area. This route provides connection between the western region of Corona and Downtown Riverside, near the

University of California, Riverside. This route operates seven days a week. RTA Bus Route 14 travels along Indiana Avenue in the study area, with a bus stop at the intersection of Indiana Avenue and Madison Street, east of the study area. This route provides connection between key destination points, beginning at the Galleria at Tyler in Riverside, up through Downtown Riverside, and to Loma Linda VA Hospital in San Bernardino County. This route operates seven days a week.

Congestion in the SR-91/Adams Street interchange area is an impediment to mobility to and from the Riverside Municipal Airport, as well as transit service through the project area.

No future rail development is planned in the project vicinity.

1.3.6 Independent Utility and Logical Termini

FHWA regulations (23 Code of Federal Regulations 771.111 [f]) require an evaluated action to:

- Connect logical termini and be of sufficient length to address environmental matters on a broad scope.
- Have independent utility or independent significance (be usable and require a reasonable expenditure, even if no additional transportation improvements in the area are made).
- Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

Logical termini should encompass an entire project. Cutting a larger project into smaller projects may be considered “improper segmentation.” A project must have independent utility; that is, a project must be able to function on its own, without further improvements.

This Initial Study/Environmental Assessment (IS/EA) considers the proposed SR-91/Adams Street Interchange Project, which would reconfigure the SR-91/Adams Street interchange between post miles 15.1 and 16.2 in the City of Riverside in Riverside County, California, to improve traffic flow along the freeway as well as circulation on local streets surrounding the interchange.

1.3.6.1 LOGICAL TERMINI

The project is of sufficient length on SR-91, encompassing the interchange on- and off-ramps and associated ramp intersection termini at Adams Street and Indiana Avenue, and on local streets (i.e., Adams Street, Diana Avenue, and Indiana Avenue) extending to match existing cross-section conditions in the vicinity of corresponding intersections to cover all of the improvements to meet the project purpose and need.

1.3.6.2 INDEPENDENT UTILITY

Build Alternative 7 (Locally Preferred Alternative) has independent utility. The proposed improvements—as described in detail in the following section—would provide benefits to the traveling public without requiring or being dependent on the provision of other improvements on SR-91 or local streets. Those improvements would benefit travelers as they enter/exit the freeway or travel on local streets. The proposed project represents a reasonable expenditure even if no additional transportation improvements are made in the corridor; they can be implemented in the absence of any other improvements; and they do not restrict consideration for other reasonably foreseeable transportation improvements in the project area and vicinity. Because Build Alternative 7 (Locally Preferred Alternative) meets the proposed project purpose

in the absence of other improvements in the project area and vicinity, the proposed project would have independent utility.

1.4 Project Description

The following sections describe the proposed action as well as the project alternatives that were developed to meet the identified purpose and need for the project while avoiding or minimizing environmental impacts. The project alternatives include the No-Build Alternative and Build Alternative 7 (Locally Preferred Alternative).

The project site would be at the Adams Street and SR-91 interchange, from post mile 15.1 to post mile 16.2, in the City of Riverside in Riverside County. Project improvements, lane restriping, and construction signage would extend along Adams Street from approximately 544 feet south of Magnolia Avenue to 990 feet south of Auto Center Drive as well as along SR-91.

1.5 Alternatives

This section describes the proposed action and the project alternatives that were developed to meet the identified purpose and need of the project, while avoiding or minimizing environmental impacts. The alternatives are Alternative 1 – No-Build Alternative and Build Alternative 7 – Hook Ramp Configuration (Locally Preferred Alternative). As the local sponsoring agency for the project, the City of Riverside has identified Build Alternative 7 as the Locally Preferred Alternative.

1.5.1 Project Alternatives

Alternatives accounted for the proximity of the existing SR-91/Madison Street and SR-91/Van Buren Boulevard interchanges to the east and west, respectively, in the context of the Department's minimum spacing requirements between interchanges and surrounding development. These factors affected design considerations with respect to development of the proposed alternatives. One build alternative and the No-Build Alternative were studied for the proposed project.

- Alternative 1 – No-Build Alternative (refer to Figure 1-5)
- Build Alternative 7 – Hook Ramp Configuration (Locally Preferred Alternative) (refer to Figures 1-6A through 1-6E)

Additionally, Figures 1-7A through 1-7D follow, which are cross-sections of Adams Street and other local roads that would be improved as part of the project as it relates to the build alternative. For reference, please note on Figure 1-7 that "SDWK" means sidewalk; "BIKE" means bike lane; "Shld" means shoulder; "NB" means northbound; and "SB" means southbound.

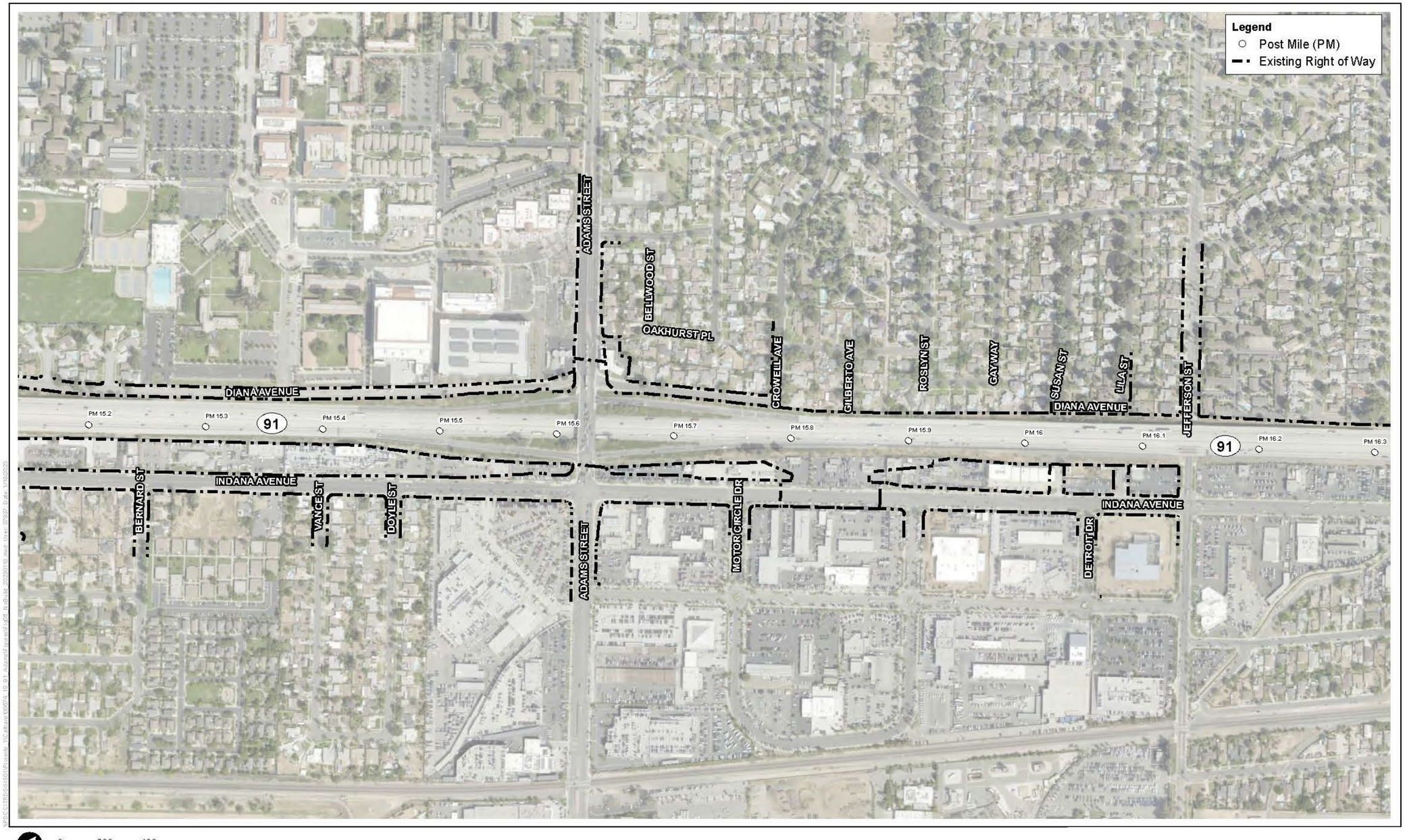


Figure 1-5. No-Build Alternative

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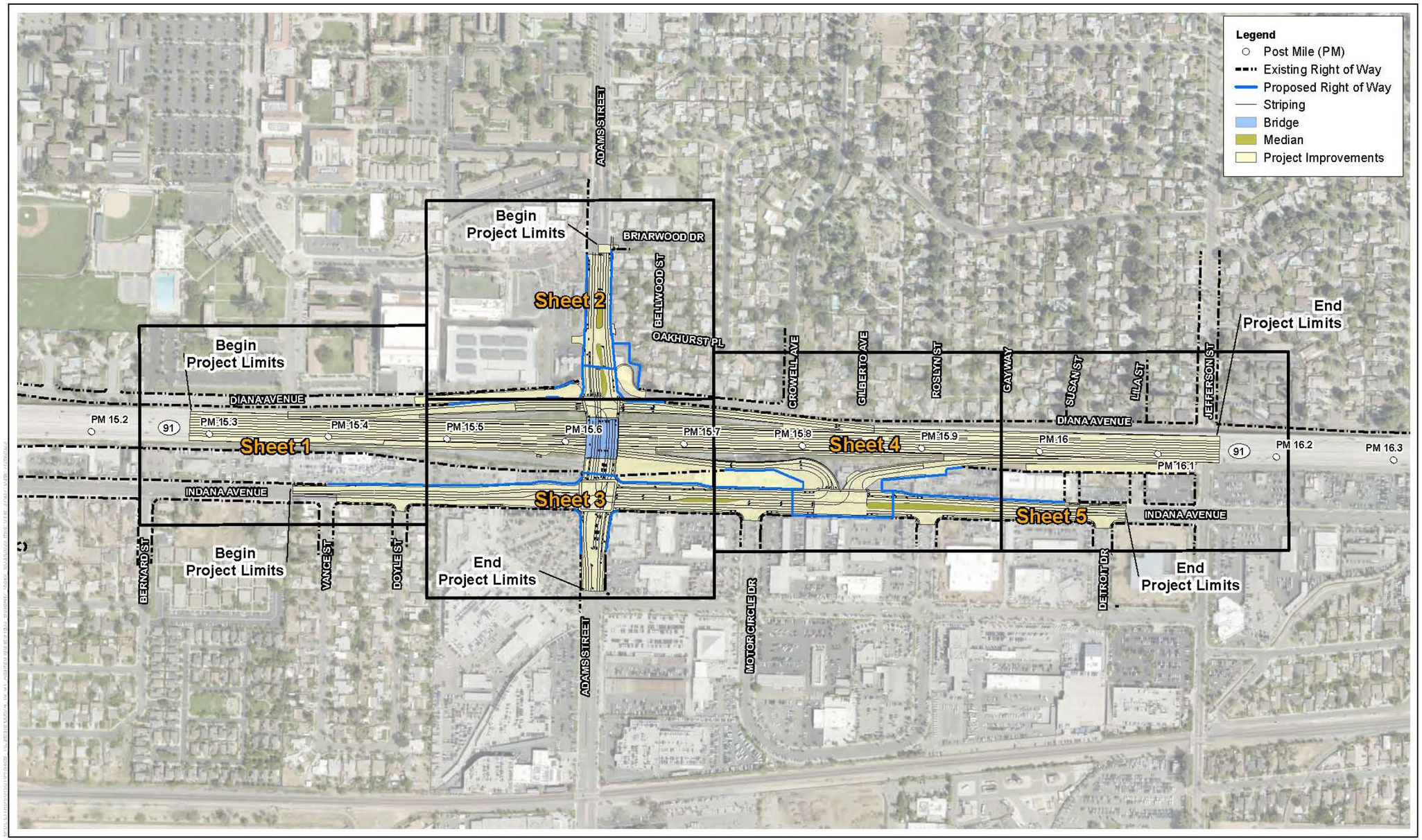

Figure 1-6. Build Alternative 7 (Locally Preferred Alternative) Index

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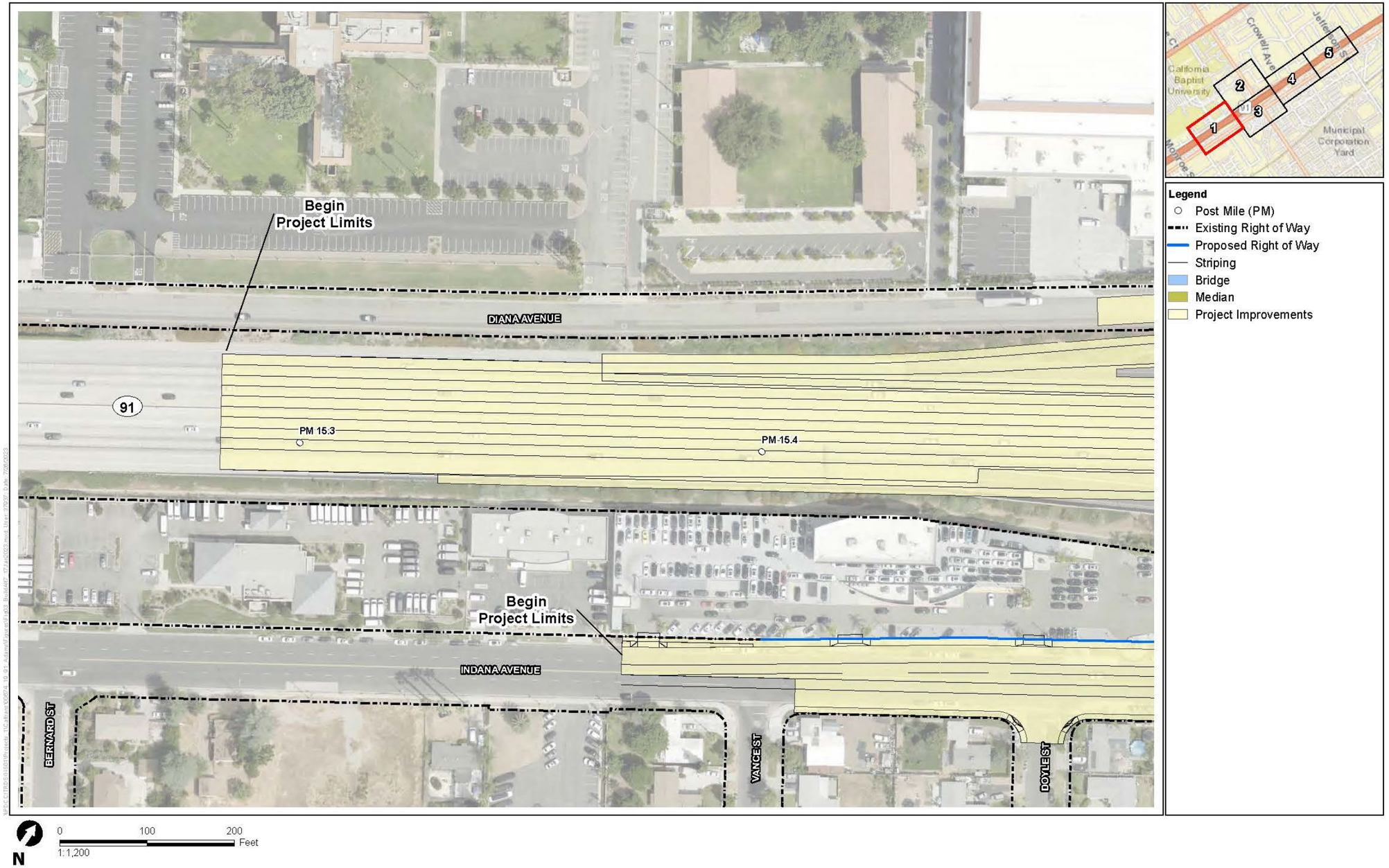

Figure 1-6A. Build Alternative 7 (Locally Preferred Alternative)

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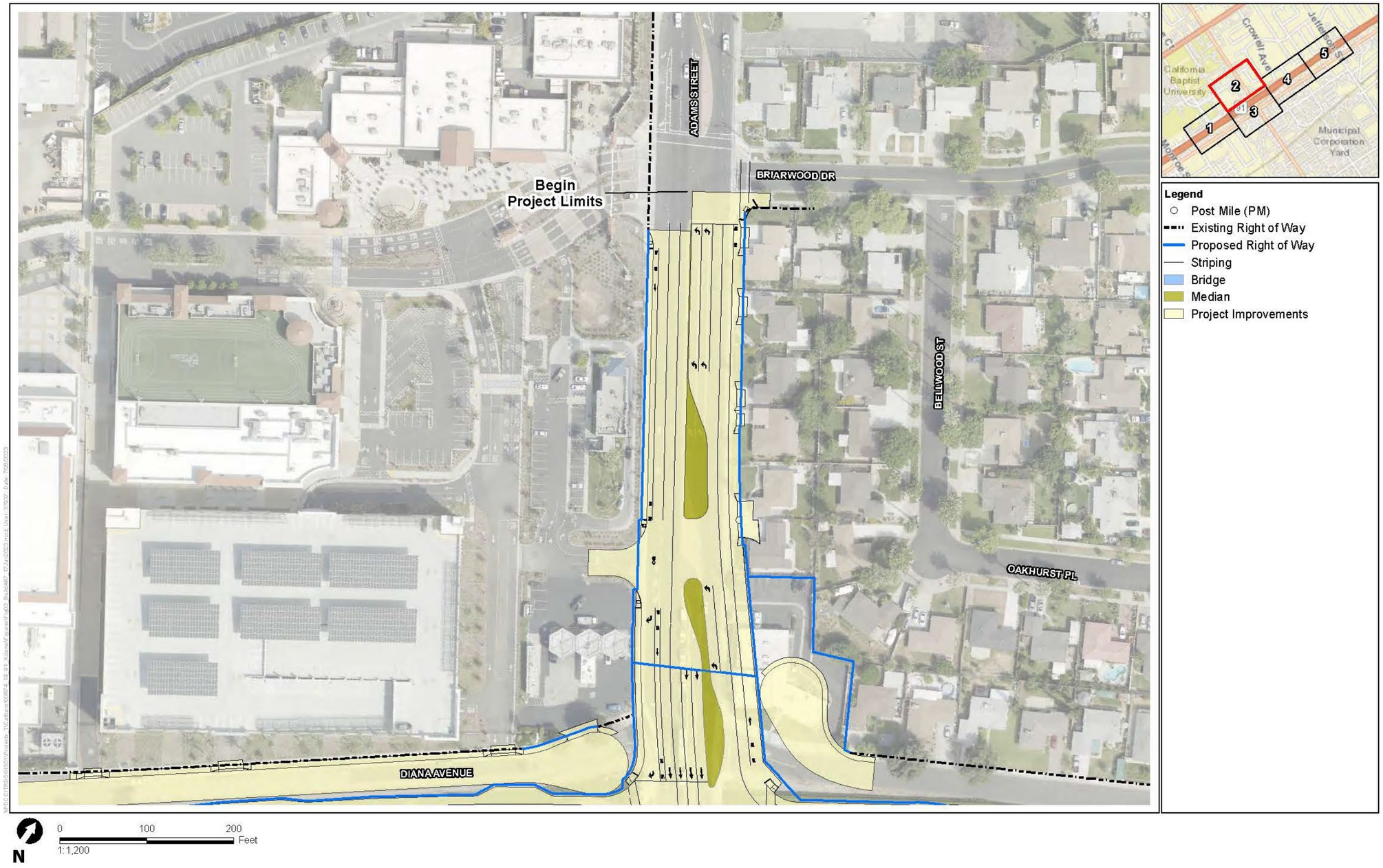

Figure 1-6B. Build Alternative 7 (Locally Preferred Alternative)

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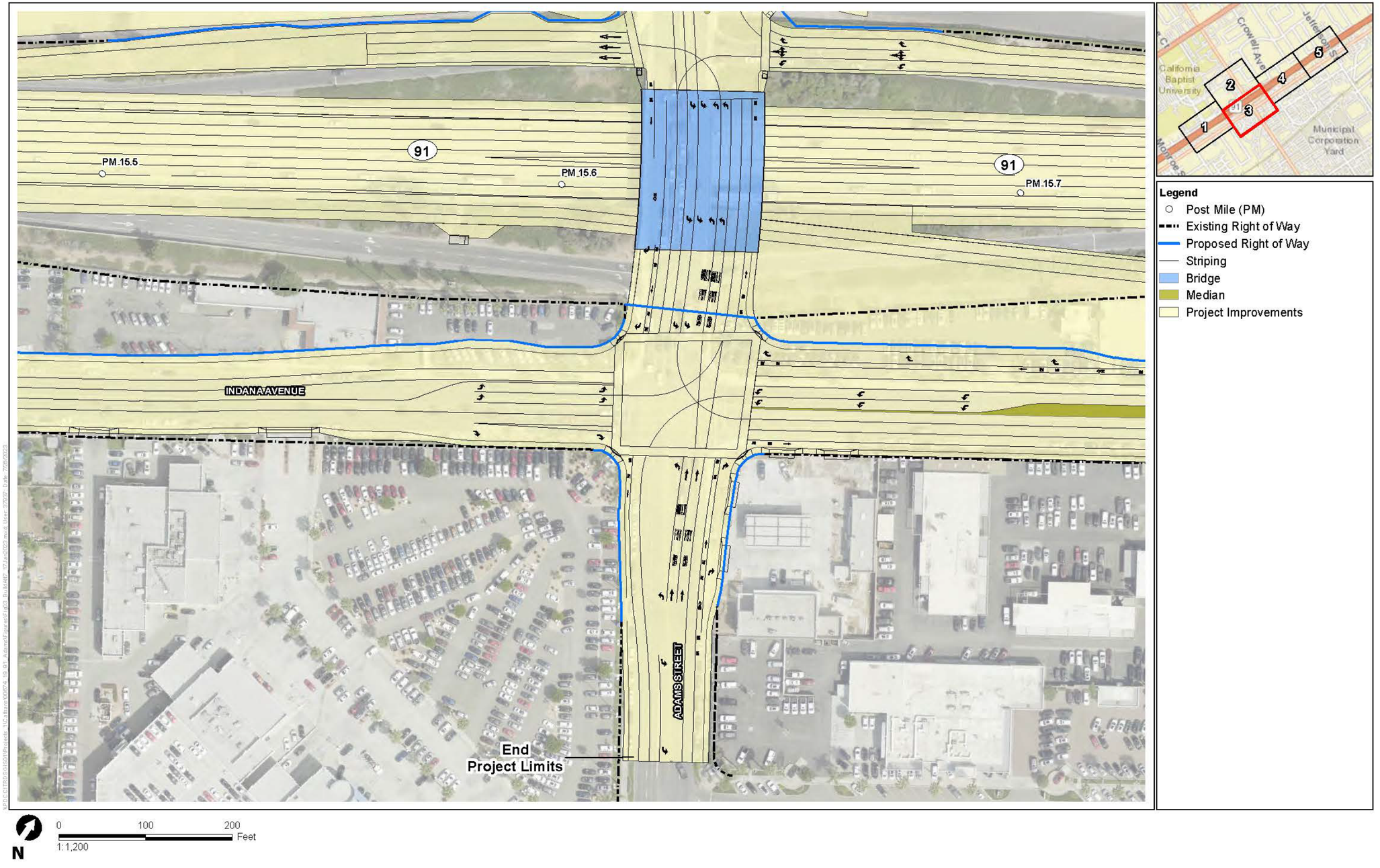

Figure 1-6C. Build Alternative 7 (Locally Preferred Alternative)

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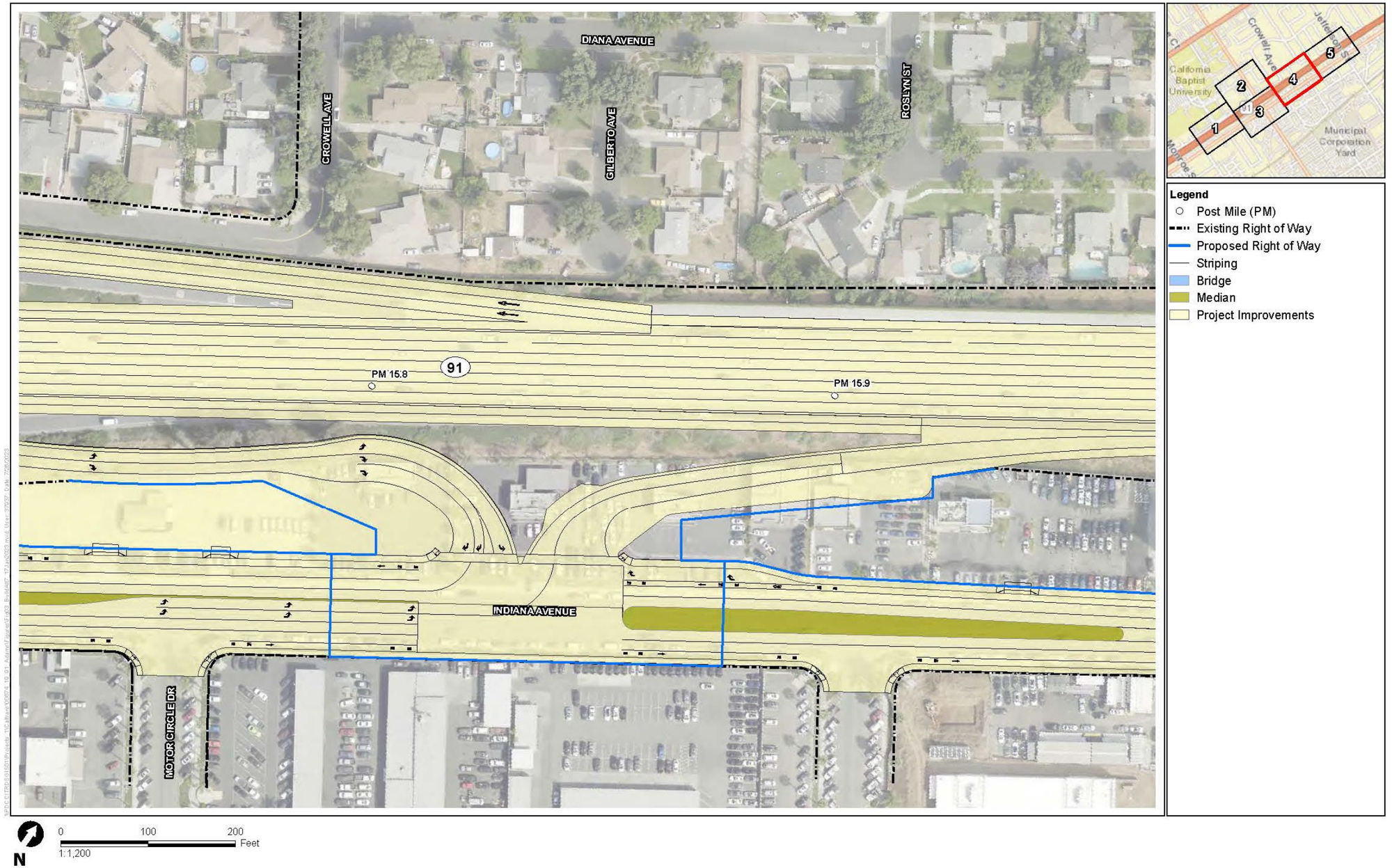

Figure 1-6D. Build Alternative 7 (Locally Preferred Alternative)

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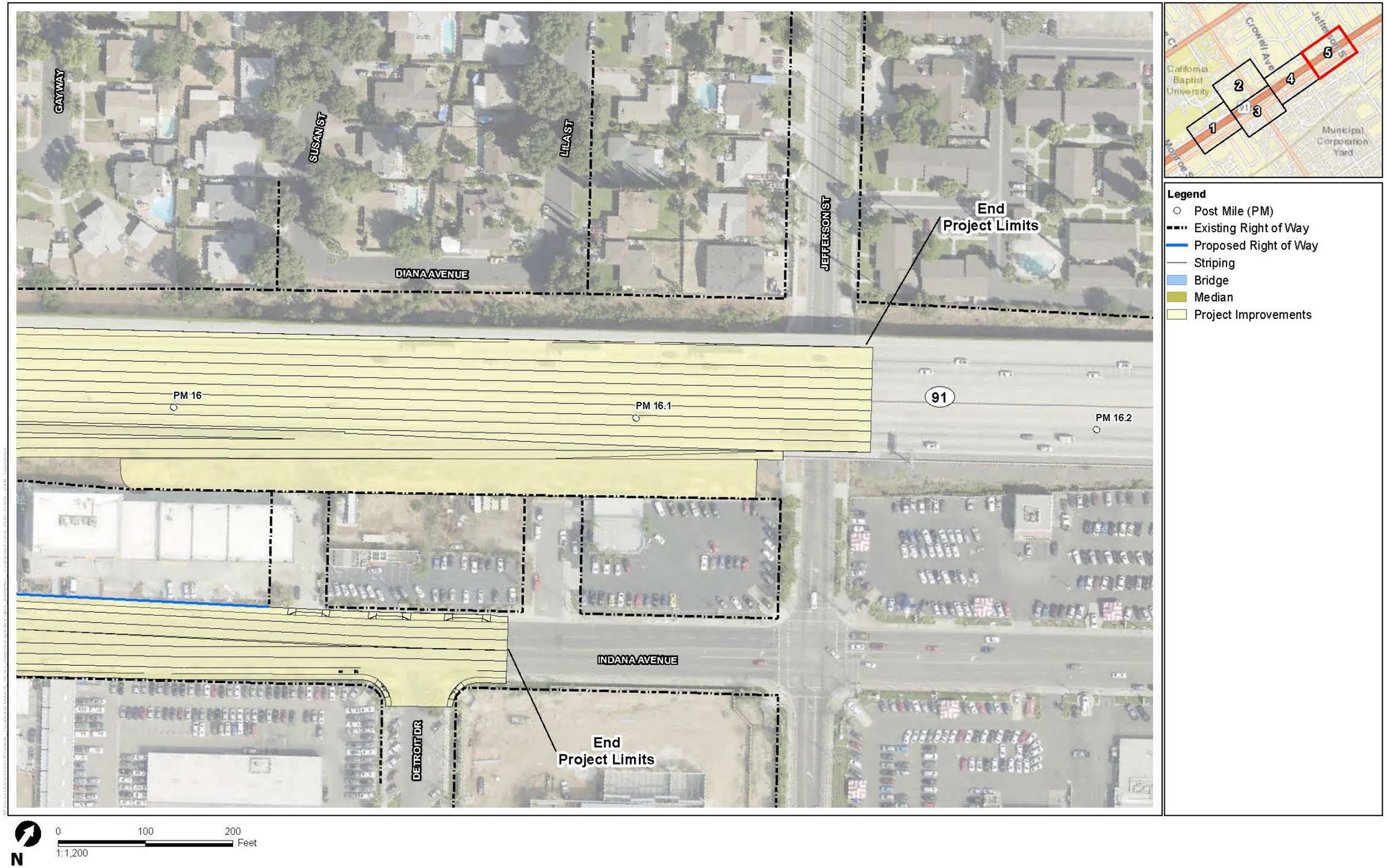

Figure 1-6E. Build Alternative 7 (Locally Preferred Alternative)

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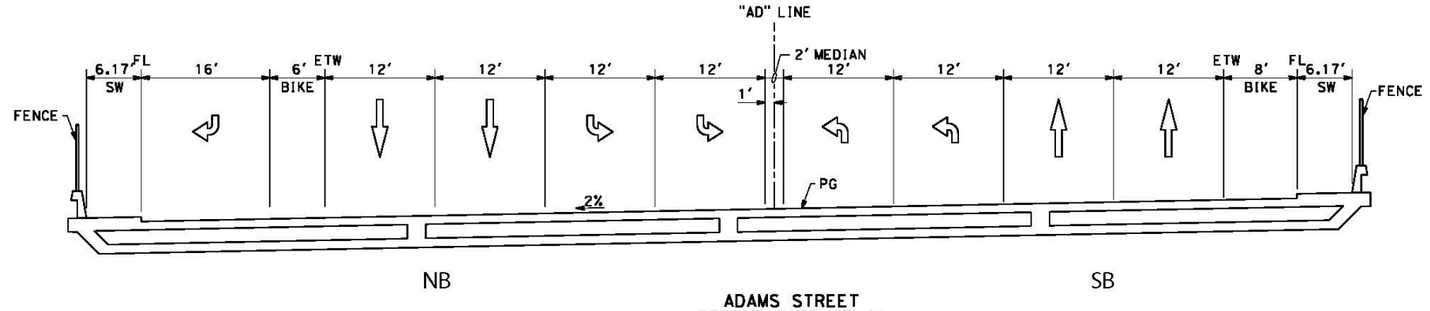
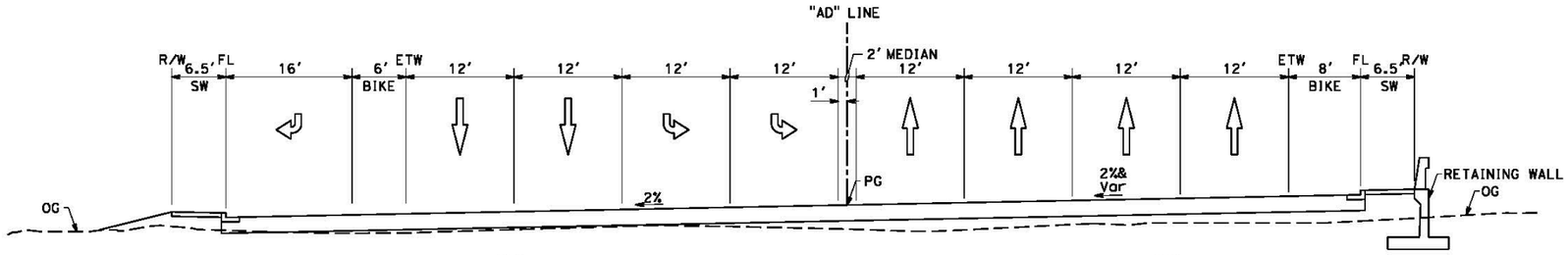
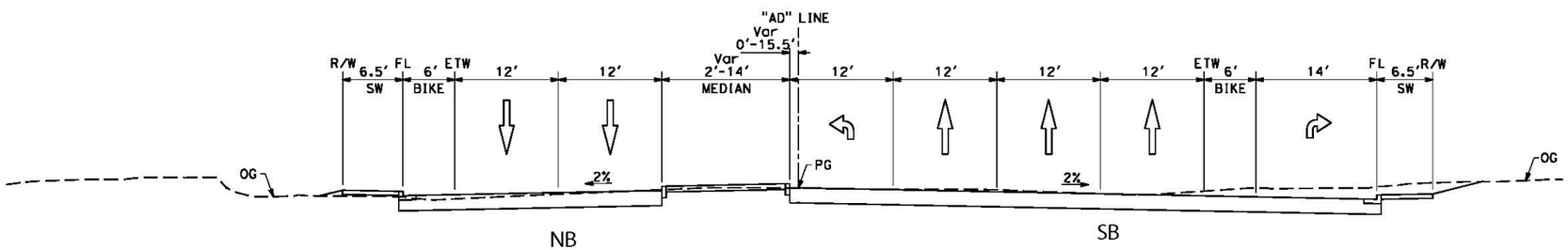


ADAMS STREET
BRIDGE OVER SR-91
"AD" Sta 33+12.17 TO 34+97.32



ADAMS STREET
INDIANA AVE TO BEGIN OF BRIDGE
"AD" Sta 29+96.12 TO 33+12.17



ADAMS STREET
SOUTH OF INDIANA AVE
"AD" Sta 27+20.00 TO 29+96.12

Figure 1-7A. Typical Cross Section, Build Alternative 7 (Locally Preferred Alternative)

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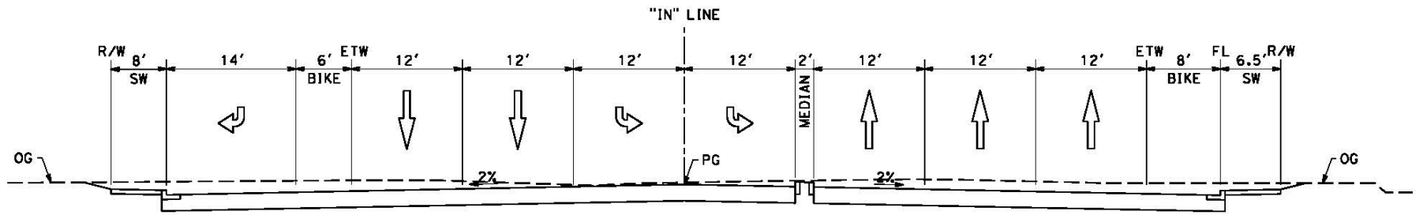
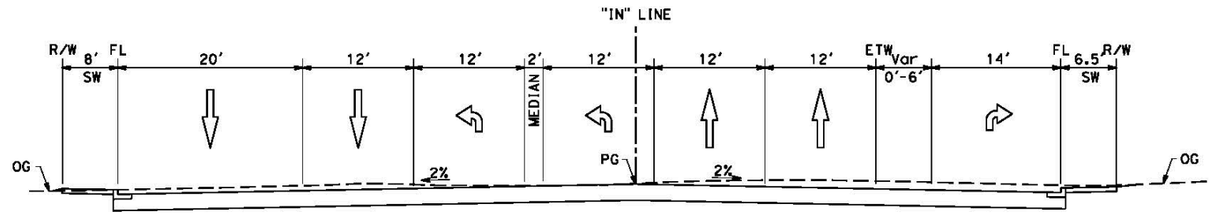
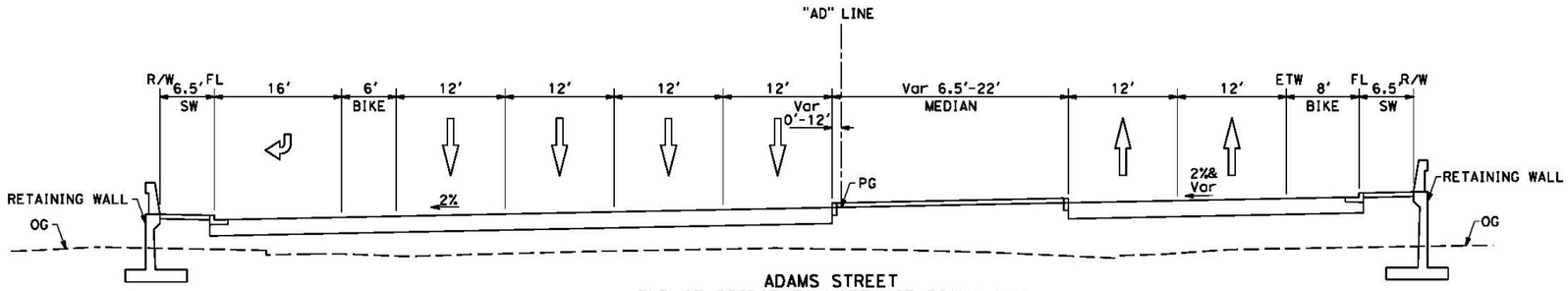


INDIANA AVE
EAST OF ADAMS STREET
"IN" Sta 24+31.23 TO 27+64.02



INDIANA AVE
WEST OF ADAMS STREET
"IN" Sta 21+91.03 TO 24+31.23



ADAMS STREET
END OF BRIDGE TO NORTH OF DIANA Ave
"AD" Sta 34+97.32 TO 38+07.33

Figure 1-7B. Typical Cross Section, Build Alternative 7 (Locally Preferred Alternative)

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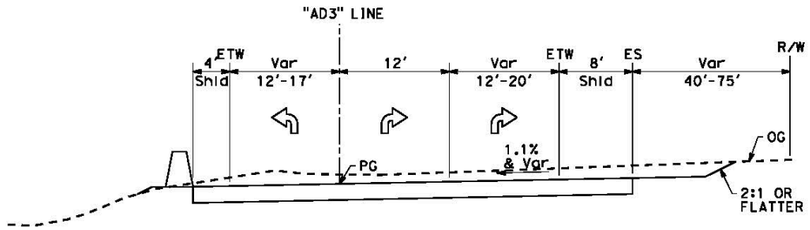
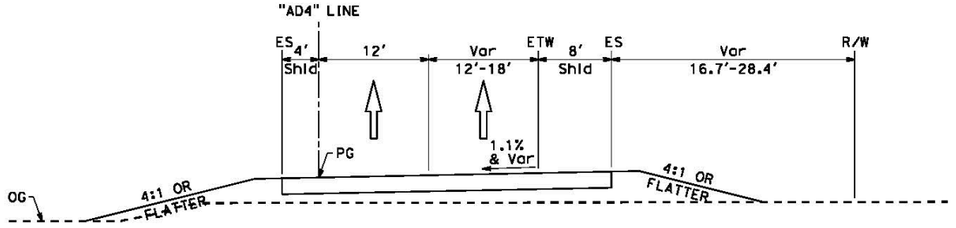
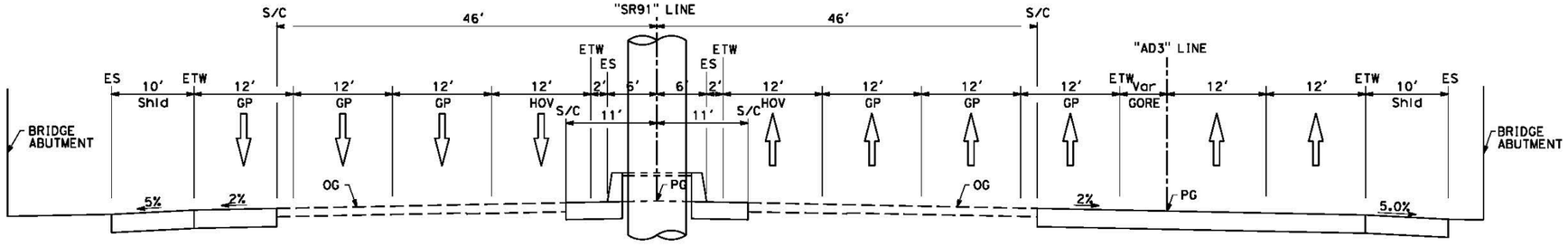


EB OFF-RAMP
TERMINUS
"AD3" Sta 152+77.57 TO 157+11.77



EB ON-RAMP
TERMINUS
"AD4" Sta 165+48.99 TO 169+39.97



ROUTE 91
WIDENING TO ACCOMMODATE OVERCROSSING MEDIAN FOUNDATION
"SR-91" Sta 139+96.73 TO 147+89.57

Figure 1-7C. Typical Cross Section, Build Alternative 7 (Locally Preferred Alternative)

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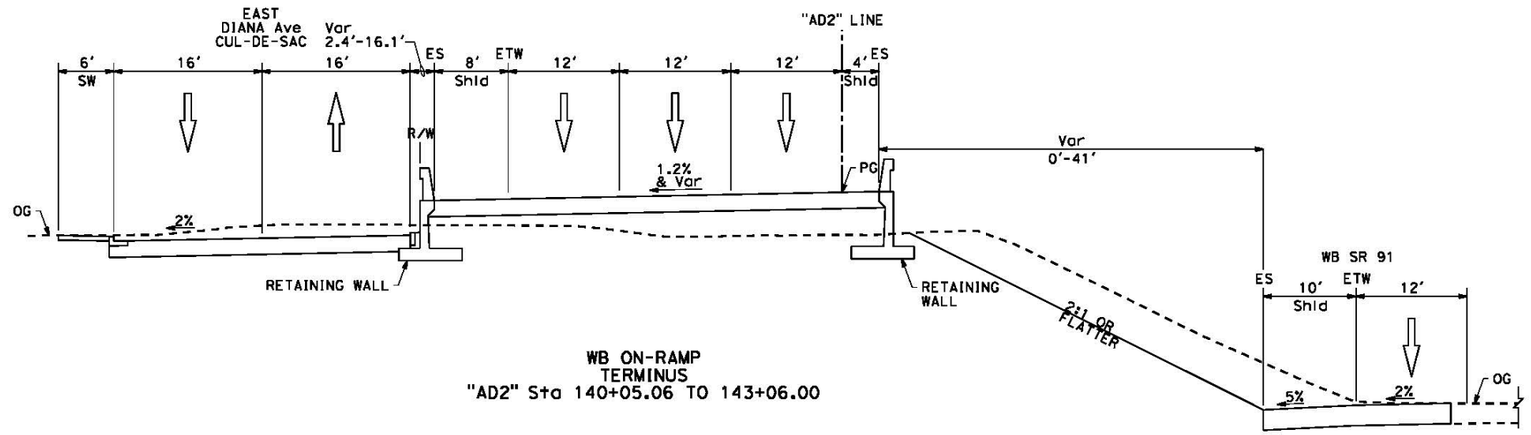
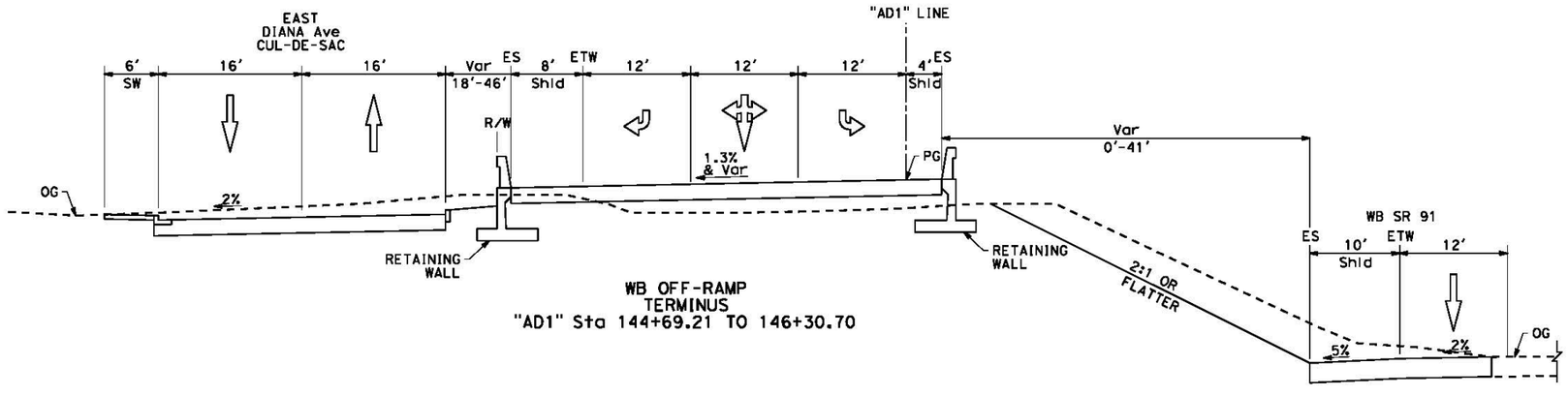


WB ON-RAMP
TERMINUS
"AD2" Sta 140+05.06 TO 143+06.00



WB OFF-RAMP
TERMINUS
"AD1" Sta 144+69.21 TO 146+30.70

Figure 1-7D. Typical Cross Section, Build Alternative 7 (Locally Preferred Alternative)

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1.5.1.1 ALTERNATIVE 1 – NO-BUILD ALTERNATIVE

Under this alternative, no reconstruction or improvements would be made to the existing SR-91/Adams Street interchange other than routine maintenance.

1.5.1.2 BUILD ALTERNATIVE 7 – HOOK RAMP CONFIGURATION (LOCALLY PREFERRED ALTERNATIVE)

Build Alternative 7 proposes a hook ramp configuration for the SR-91/Adams Street interchange. It would eliminate the intersection between the eastbound ramps and Adams Street. The eastbound ramps would be moved to create a hook ramp that would intersect Indiana Avenue east of the Adams Street overcrossing. The off-ramp terminals in both directions would be widened from two to three lanes. The eastbound off-ramp would consist of a dedicated left-turn lane and two dedicated right-turn lanes. The westbound off-ramp would consist of a dedicated left-turn lane, a through/left-turn/right-turn lane, and a dedicated right-turn lane. The westbound on-ramp would consist of three lanes that would taper to one lane before joining SR-91. The eastbound on-ramp would consist of two lanes that would taper to one lane before joining SR-91. The portion of Indiana Avenue between the eastbound ramps and Adams Street would be widened from two to three lanes in each direction. Indiana Avenue would be widened to provide dedicated turn lanes to the hook ramps.

Under Build Alternative 7, the existing Adams Street bridge would be replaced. In the northbound direction, the structure would consist of two through lanes, two dedicated left-turn lanes, a bike lane, and a six-foot-wide sidewalk. In the southbound direction the structure would consist of two through lanes, two dedicated left-turn lanes, a bike lane, and a six-foot-wide sidewalk.

A pump station is located in the southwest quadrant of the interchange along the outside shoulder of the eastbound off-ramp at the freeway level within State right of way. The proposed project would impact the existing pump station and require relocation farther to the south. The pump station would be redesigned to capture increased runoff due to the added impervious area. The existing two 45 horsepower duty pumps can continue to service the pump station with modifications. The existing duty pumps would take stormwater runoff and convey it to the bioretention basin. The current connection between the pump station and the concrete ditch would be abandoned and a diversion to the bioretention basin would be added to the discharge pipe. The pumps would continue to operate as they currently do, with discharge from the proposed best management practices (BMPs) released through an underdrain collector or from the overflow structure to a storm drain pipe that would connect to the existing concrete drainage ditch downstream of the bioretention basin. The bioretention basin would be sized to treat the required water quality volume and accommodate detention requirements.

Table 1-11 summarizes the nonstandard design features that would be constructed under Alternative 7 (Locally Preferred Alternative).

Table 1-11. Proposed Design Exceptions – Build Alternative 7 (Locally Preferred Alternative)

Design Standard from Highway Design Manual Tables 82.1A and 82.1B	Justification for Probability Rating
202.2(1) Standards for Superelevation	The superelevation was flattened for the proposed eastbound Adams Street off- and on-ramp at the ramp terminus to increase comfort for vehicles queued at the off-ramp or entering the on-ramp at a low speed. The minimum comfort speed would be provided.

Design Standard from Highway Design Manual Tables 82.1A and 82.1B	Justification for Probability Rating
302.1 Standard Shoulder Width	The proposed median shoulder width increases the existing width of 1 foot to 2 feet at the overcrossing to accommodate the new bridge columns. The width is constrained by the existing right of way width of the freeway.
305.1(3)(a) Freeways and Expressways minimum median width	The proposed median width increases the existing median width of 5 feet to 16 feet at the overcrossing to accommodate the new bridge columns. The median width is constrained by the existing right of way width of the freeway.
504.3(3) Distance between Ramp Intersections and Local Road Intersections	Along Adams Street the existing separation distance between the westbound ramps intersection and Indiana Avenue intersection is constrained. To provide standard separation right of way would be required to shift one and/or both intersections to provide the standard separation.
202.5(1) and 202.5(2) Superelevation Transition and Runoff	For the eastbound Adams Street off- and on-ramp, the proposed superelevation transition takes place entirely within the curve due to the restrictive hook ramp condition to tie into the cross street. The proposed superelevation rate of 6%/100 feet is provided, and the minimum comfort speed is also provided. Right of way would be required to lengthen the ramps beyond the proposed improvements.
504.3(2)(a) Auxiliary Lane - minimum length of 300 feet beyond the ramp convergence point	To provide standard 300-foot-long auxiliary lane at the eastbound Adams Street on-ramp the downstream Jefferson Street bridge would need to be reconstructed wider to accommodate the auxiliary lane. The LOS and safety would not be impacted by lack of auxiliary lane.

The estimated right of way and construction cost for Build Alternative 7 (Locally Preferred Alternative) is $72,000,000. The estimated structure cost is $12,000,000. Including right of way and support costs, the total estimated cost of Build Alternative 7 (Locally Preferred Alternative) is $80,000,000. Alternative 7 (Locally Preferred Alternative) would result in permanent right of way acquisition of 0.68 acres. Planned property acquisitions would affect commercial, office, residential properties as well as land owned by California Baptist University (see Table 2.2.5-1 in Section 2.2.5, *Relocations and Real Property Acquisition*).

Geotechnical Investigations

Geotechnical investigations would be required during final design of the SR-91 overcrossing improvements. It is anticipated that approximately 50 borings would be required during final design. Infiltration basins are proposed in the undeveloped areas between the on- and off-ramps and SR-91. A separate environmental clearance would be provided prior to any geotechnical investigations during Phase 1 (design). The depth of borings would be approximately 10 to 20 feet below existing ground surface for street and ramps and 70 to 80 feet below ground surface for pile foundation. Relatively undisturbed ring samples, Standard Penetration Tests, and disturbed bulk samples of the subsurface materials will be obtained from the borings at selected intervals for the purpose of laboratory testing and characterization of subsurface soils.

1.6 Project Features

Project features can include both design elements and standardized measures. These features are considered part of the project itself and are not subsequent actions proposed to mitigate or offset an adverse environmental impact. Please refer to Section 1.5.1.2 (Build Alternative 7 – Hook Ramp Configuration [Locally Preferred Alternative]) of this IS/EA for a detailed description of the design elements associated with the proposed project.

This project contains a number of standardized project measures which are employed on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the proposed project. These measures are addressed in more detail in the Environmental Consequences sections found in Chapter 2. The standardized measures included for the project address control of construction-related air quality and noise, discovery of unanticipated cultural resources, traffic management during construction, highway planting and weed abatement, and water quality and erosion control. The full description, timing of implementation, and parties responsible for implementing these project measures are identified in Appendix C (Environmental Commitments Record) of this IS/EA.

1.7 Transportation System Management (TSM) and Transportation Demand Management (TDM) Alternatives

Transportation System Management (TSM) strategies increase the efficiency of existing facilities; they are actions that increase the number of vehicle trips a facility can carry without increasing the number of through lanes. Examples of TSM strategies include ramp metering, auxiliary lanes, turning lanes, reversible lanes, and traffic signal coordination. TSM also encourages automobile, public and private transit, ridesharing programs, and bicycle and pedestrian improvements as elements of a unified urban transportation system. Modal alternatives integrate multiple forms of transportation modes, such as pedestrian, bicycle, automobile, rail, and mass transit.

Although the TSM measures alone could not satisfy the purpose and need of the project, the following TSM measures have been incorporated into the build alternative for this project:

- Sidewalk that extends on both sides of Adams Street and Indiana Avenue for the limits of the project (refer to Figure 1-7).
- Bike lanes that extend on both sides of Adams Street and Indiana Avenue for the limits of the project (refer to Figure 1-7).
- All interchange freeway entrance ramps will be metered and widened to two lanes.

1.8 Value Analysis

A Value Analysis (VA) was completed during the initial Project Approval & Environmental Document (PA&ED) phase of the project development. A workshop was carried out November 18–22, 2019, to evaluate potential new alternatives, review ways to minimize right of way impacts, and improve project value. Five VA alternatives were accepted by the project development team that would in some cases increase construction costs for improved performance and reduce construction schedule. A summary of accepted VA alternatives is shown in Table 1-12. The net effect of the accepted VA alternatives would be a 28 percent change in performance and a 37 percent change in value.

Table 1-12. Summary of Accepted Value Analysis Study Alternatives

Value Analysis Alternative		Initial Cost Savings	Construction Schedule Savings
3.0	Begin NB Adams Street/WB SR-91 left-turn movement south of Indiana Avenue	No change	No change
4.0	Begin SB Adams Street/EB SR-91 left-turn movement north of WB SR-91/Adams Street intersection	No change	No change
5.0	West of Adams Street along Indiana Avenue single longer left-turn lane in lieu of double left turn	$920,000	No change
7.2	Two-span over SR-91 with CA WF Precast	Increase $3,320,000	75 WD
8.2	Shifted EB hook ramps with two-span WF CA Precast	Increase $1,640,000	No change

Note: EB = eastbound; WB = westbound; WD = Working Days

During the PA&ED phase the project geometrics were further developed and VA Alternative 5.0 and 8.2 were removed. For VA Alternative 5.0 double left turns were incorporated west of Adams Street along Indiana Avenue. For VA Alternative 8.2 the beginning of the eastbound hook off-ramp was shifted west of the Adams Street overcrossing to improve visibility and increase deceleration length of the off-ramp.

VA Alternative 1.1, which consists of a large single oval roundabout that maintains the existing interchange movements, was carried forward. A traffic analysis using the project's PSR-PDS traffic forecasts and SIDRA software with the capability of evaluating roundabouts with up to eight legs and included HCM Capacity Mode was performed. The analysis forecasted this alternative to operate at LOS F during the AM and PM peak hours in 2045 conditions. In the PM hour the 95th percentile queue lengths were forecasted to exceed available storage for nearly all approaches.

Additionally, the ovalbout is an uncommon interchange configuration in California. Standards that apply to roundabouts are generally applicable in this instance; however, determination of standard geometry not specifically outlined in Caltrans' HDM would need to be developed based on close coordination with Caltrans oversight. This makes it difficult to determine how well the ovalbout would meet Caltrans' geometric standards. Along with the complications with the construction staging, these elements present risks for this alternative. As a result, this VA alternative was rejected by the Project Development Team (PDT).

1.9 Alternatives Considered but Eliminated from Further Discussion

An alternatives screening process was conducted with the PDT. The process began during the September 1, 2016, PDT meeting and was finalized during the October 6, 2016, PDT meeting, with the exception of Alternative 3. Alternative 3 was eliminated in conjunction with the PDT meeting conducted on September 15, 2022. A summary of the alternatives that were eliminated from further consideration is provided below.

- Alternative 2 – Hook Ramps (West): This alternative would move the eastbound ramp intersection from Adams Street to Indiana Avenue (west of Adams Street) using a hook ramp configuration. This would be similar to the configuration of the nearby interchange at Van Buren Boulevard and SR-91. This alternative would not provide standard intersection spacing. In addition, the right of way impacts are considered more severe than those of

Alternative 7 ((Locally Preferred Alternative) because of recent redevelopment in the area that would be affected under Alternative 2.

- Alternative 3 – Offset Intersection Configuration: This alternative would place the eastbound ramp intersection with Adams Street on the north side of SR-91 by constructing the eastbound on- and off-ramps over SR-91, creating a single offset intersection with the westbound ramps. This alternative would eliminate the intersection with the existing eastbound ramps at Adams Street and replace the Adams Street bridge. Due to existing right of way constraints, there is insufficient room for both the future mainline line and the two-lane exit ramp associated with this alternative. Additionally, a two-lane exit ramp at this location would have a nonstandard gore design.
- Alternative 4 – Single-Point Urban Interchange (SPUI): This alternative would create a SPUI interchange on SR-91 between all four on- and off-ramps. This configuration would require a short, isolated hook ramp from the eastbound off-ramp, which connects to Indiana Avenue. This alternative would be viable only if the hook ramp is moved to the ramp intersection at Adams Street; however, this is not feasible for the alternative. This alternative would include isolated off-ramps, which would require a design exception.
- Alternative 5 – Partial Cloverleaf: This alternative would use a partial cloverleaf at the eastbound ramps. The eastbound off-ramp would have a hook ramp that would connect to Indiana Avenue. A northbound loop ramp would be added to the southwest quadrant of the interchange. This alternative would not alleviate traffic congestion at the intersection of Indiana Avenue and Adams Street. This alternative would include isolated off-ramps, which would require a design exception.
- Alternative 6 – Offset Roundabout: Similar to Alternative 3, this alternative would use a roundabout at the intersection of all four on- and off-ramps at Adams Street, which are entirely on the north side of SR-91. This alternative would differ from Alternative 3 only in the type of intersection control selected. Specifically, Alternative 6 would differ from Alternative 3 in its use of a roundabout for intersection control. The roundabout in Alternative 6 would create geometric design challenges and substantial right of way acquisitions. This alternative would include isolated off-ramps, which would require a design exception.
- Alternative 8 – Roundabout: This alternative would use a roundabout at the intersection of Adams Street and Indiana Avenue. It would also integrate the eastbound ramps into the roundabout as well. The roundabout in Alternative 8 would create geometric design challenges and result in substantial right of way acquisitions.

Concept layouts for these alternatives were evaluated by the entire PDT, along with a screening matrix. The matrix was used to compare the alternatives to each other. A set of screening criteria was developed, reviewed, and confirmed by the PDT to compare the alternatives to one another. The majority of the screening criteria elements, including right of way impacts, local traffic circulation impacts, interchange operations, and freeway traffic impacts, were based on PDT discussions and preliminary data, including traffic data. Based on the discussions and the screening criteria, the PDT decided to move forward with Alternative 7 (Locally Preferred Alternative), in addition to Alternative 1 (No-Build Alternative).

Subsequent to preparation of the alternatives screening memorandum, the PDT evaluated the feasibility of lowering SR-91 rather than raising local facilities at the interchange. This potential alternative was dismissed because it would have the following impacts:

- It would extend the project limits significantly and require complete reconstruction of the freeway, thereby expanding the environmental footprint.

- It would require significant retaining wall construction throughout the expanded project limits.
- It would still require the overcrossing bridge to be replaced to extend the substructure to the new lowered freeway elevation.
- It would have adverse impacts on drainage by deepening the existing sump location and requiring complete reconstruction of the existing pump station and well structure.
- In order to maintain the existing number of freeway lanes during construction, significant right of way acquisitions would be required to shift lanes around work zones.

1.10 Final Decision-Making Process

After the public circulation period, all comments received will be considered and will receive a response in the final IS/EA. Caltrans will identify a preferred alternative and make the final determination regarding the project's effect on the environment. Under CEQA, if immitigable significant adverse impacts are not identified, Caltrans will prepare a Negative Declaration (ND) or Mitigated Negative Declaration (MND). Similarly, if Caltrans determines that the action would not significantly affect the environment, Caltrans, as assigned by FHWA, will issue a Finding of No Significant Impact (FONSI) in accordance with NEPA.

1.11 Permits and Approvals Needed

The following permits, licenses, agreements, and certifications listed in Table 1-13 would be required for project construction.

Table 1-13. Required Permits, Reviews, and Approvals

Agency	Permit/Approval	Status
California Water Resources Board	National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (NPDES Number CAS000003)	Caltrans will apply for and obtain prior to start of construction.
Federal Highway Administration	Air Quality Conformity Determination	Caltrans will apply after the preferred alternative is identified and prior to completion of the final environmental document (FED).
Western Riverside County Regional Conservation Authority (RCA)	Concurrence with Western Riverside County Multiple Species Habitat Conservation Plan Consistency Determination	To be conducted in the final design phase of the project.

Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

2.1 Topics Considered But Determined Not to Be Relevant

As part of the scoping and environmental analysis carried out for the project, the following environmental issues were considered, but no adverse impacts were identified. As a result, there is no further discussion about these issues in this chapter.

- **Coastal Zone:** The proposed project is not in the vicinity of a coastal zone.
- **Farmlands and Timberlands:** The proposed project is not in the vicinity of any farmlands or timberlands.
- **National Marine Fisheries Service Jurisdiction:** This project area is outside of National Marine Fisheries Service (NMFS) jurisdiction. Therefore, a NMFS species list is not required, and no effects on NMFS species are anticipated.
- **Wild and Scenic Rivers:** The proposed project is not in the vicinity of a designated Wild and Scenic River.
- **Natural Communities:** The Natural Environment Study/Minimal Impacts (NESMI) prepared for the project indicates that there are no sensitive natural communities in the project area.
- **Plant Species:** The NESMI prepared for the project indicates that there is no potential habitat for special-status plant species in the project area.
- **Wildfire:** The project site is not located in a designated high or very high fire hazard zone.

2.2 Human Environment

2.2.1 Existing and Future Land Use

The entirety of the project study area falls within the city of Riverside. The City of Riverside General Plan 2025 was reviewed for the purposes of this analysis (City of Riverside 2007a). Existing land use designations are defined as those that are currently within the project study area.

2.2.1.1 AFFECTED ENVIRONMENT

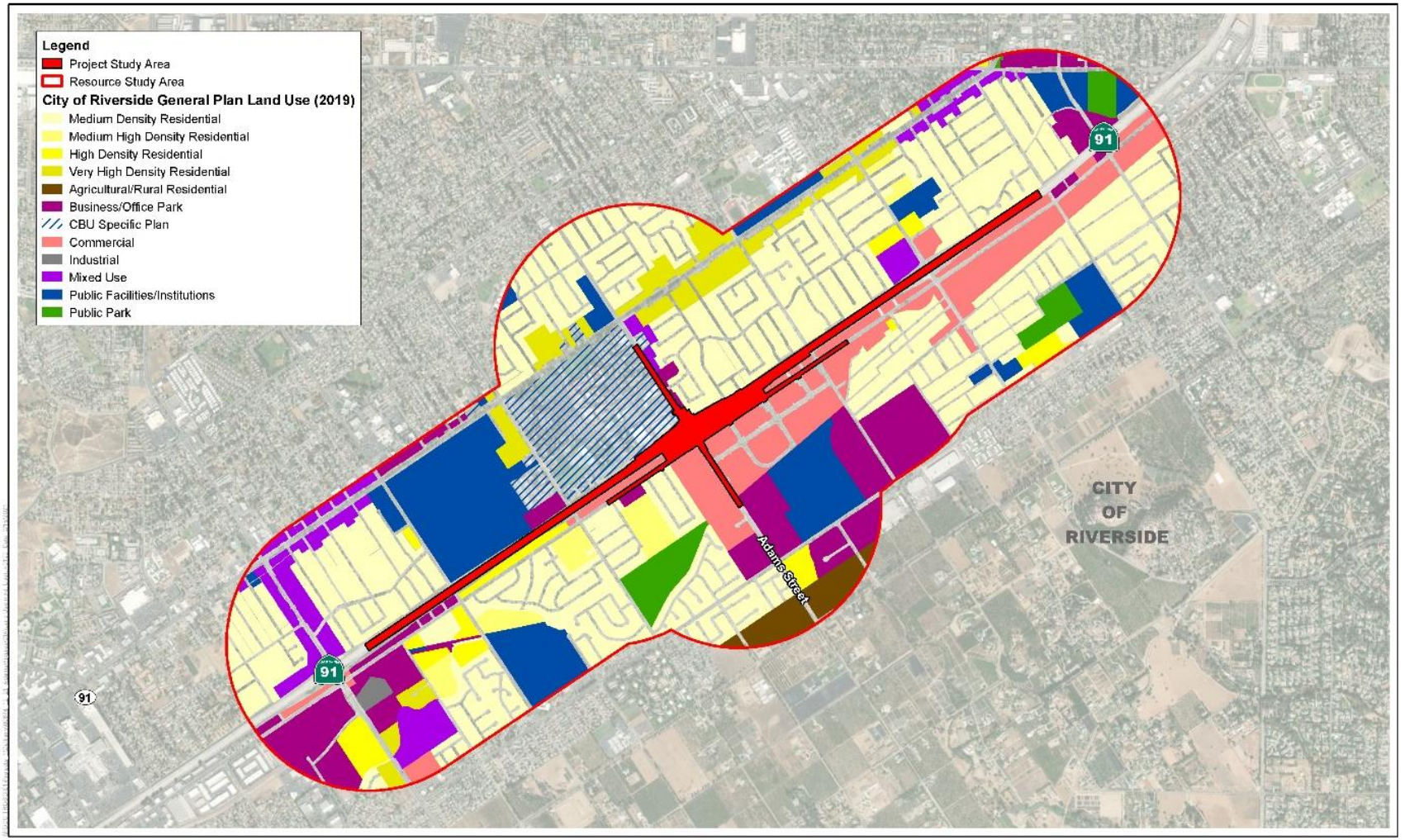
Existing Land Use

Existing land use designations in the project study area, per the City, are shown on Figure 2.2.1-1 (City of Riverside 2019). Table 2.2.1-1 summarizes the land use distribution within the project study area.

Table 2.2.1-1. Resource Study Area Land Use

Existing Land Use	Acres	Total Land Use (Percent)
Residential		
Medium-Density Residential	888.2	41.6%
Medium High-Density Residential	46.0	2.2%
High-Density Residential	59.9	2.8%
Very High-Density Residential	87.8	4.1%
Subtotal	*1,081.8*	*50.6%*
Non-Residential		
Agricultural/Rural Residential	0.6	0.0%
Business/Office Park	36.1	1.7%
California Baptist University Specific Plan	227.9	10.7%
Commercial	203.3	9.5%
Industrial	6.0	0.3%
Mixed Use	97.7	4.6%
Public Facilities/Institutions	280.6	13.1%
Public Park	54.1	2.5%
Subtotal	*1,055.7*	*49.4%*
Total	**2,137.5**	**100.0%**

Source: City of Riverside 2019



Land Use
SR-91/Adams Street Interchange Project

Source: City of Riverside 2019

Figure 2.2.1-1. Existing Land Use

City of Riverside

With a population of 326,414, the city of Riverside is the most populated city in Riverside County (U.S. Census Bureau 2019). The city of Riverside, which is within the western half of Riverside County, extends along State Route (SR) 60 from the Santa Ana River to the north to Central Avenue on the south, and along SR-91 from Buchanan Street to the west to approximately Center Street to the east. Just over half of the land uses within the resource study area (RSA) consist of residential land uses, ranging from medium-density to very high-density residential uses. Around the project study area, land uses are primarily commercial but also include uses associated with California Baptist University (CBU), as shown in Figure 2.2.1-1, above.

Future Land Use

Planned area development projects under consideration by the City and other agencies in the vicinity of the project are listed in Table 2.2.1-2.

Table 2.2.1-2. Planned Area Land Use

Name	Jurisdiction	Description	Status	Distance
SR-91 Landscaping Project (1L320)	Caltrans	Rehabilitate landscaping and irrigation systems between postmiles 15.6 and 21.6.	Preliminary engineering phase	Adjacent
SR-91 Managed Lane Project	Riverside County Transportation Commission (RCTC)	Possible conversion of High-Occupancy Vehicle (HOV) to High-Occupancy Toll (HOT) lane and addition of a general purpose lane along SR-91 in the study area.	Feasibility study phase	Adjacent
Parking Structure	City of Riverside	Propose 40-space parking structure on Winstrom Street.	Design review	Adjacent
California Baptist University Specific Plan	City of Riverside	The Specific Plan provides for CBU to evolve to a more urban intensive campus with closely integrated educational, residential, recreational, and other campus life facilities to best support the mission and vision of CBU.	Ongoing	Adjacent
Riverside Auto Center Specific Plan	City of Riverside	The Riverside Auto Center Specific Plan, last amended in November 2007, is intended to assist in the revitalization of the Auto Center, originally developed in 1965.	Ongoing	Adjacent
Kaiser Permanente Riverside Medical Center Expansion Project	City of Riverside	The proposed project plans to redevelop approximately 15.5 acres of the existing 37.5-acre medical center located at 10800 Magnolia Avenue to expand acute care medical service facilities and ancillary uses.	Environmental phase as of early 2022	3 miles southwest

2.2.1.2 CONSISTENCY WITH STATE, REGIONAL, AND LOCAL PLANS AND PROGRAMS AFFECTED ENVIRONMENT

The information in this section is based on the Community Impact Assessment (CIA) prepared for the project (Caltrans 2023a).

2.2.1.3 AFFECTED ENVIRONMENT

This section provides an analysis of the consistency of the SR-91/Adams Street Interchange Project with transportation and land use plans and policies included in state, regional, and local plans for various jurisdictions within the RSA. For instance, this proposed project is included in the 2023 Federal Transportation Improvement Program (FTIP) and Southern California Association of Governments (SCAG) 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) as project ID RIV131202 (SCAG 2020).

The following provides summaries of the various jurisdictions' regional, general, community, and specific plans and the project's consistency with relevant policies.

State Plans

California Transportation Plan 2040

California Transportation Plan 2040 provides a long-range policy framework for the state's transportation system, exploring the trends that will very likely influence travel behavior and transportation decisions over the next 25 years. The plan outlines policies, goals, strategies, and recommendations to meet future mobility needs and reduce greenhouse gas emissions.

Regional Plans

Several of the regional plans and studies listed below do not include goals and policies related to the proposed project; however, these plans and studies are related through their conclusions that ultimately support portions or the entirety of the project's purpose and need.

2020–2045 Regional Transportation Plan/Sustainable Communities Strategy

The 2020–2045 RTP/SCS, as adopted by SCAG, is a long-range plan that provides a vision for meeting future transportation and housing needs while balancing economic, environmental, and public health goals. The 2020–2045 RTP/SCS was prepared to address transportation needs in the SCAG region, which includes Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties.

Federal Transportation Improvement Program

The FTIP is a four-year program that lists all transportation projects that will be receiving federal funding in the SCAG region. The FTIP is part of the region's strategy to improve the safety and efficiency of the transportation system. The projects listed in the FTIP are consistent with SCAG's 2020–2040 RTP/SCS. The project is included in the 2023 FTIP under RTP ID RIV131202 and consistent with the scope included.

Riverside County Transportation Commission Long-Range Transportation Plan

The Riverside County Transportation Commission (RCTC) Long-Range Transportation Study, which is currently being updated, establishes a vision for an integrated transportation system in Riverside County. The 20-year plan helps RCTC prioritize and coordinate planning efforts in cooperation with state, regional, and local agencies.

Local Plans

General plans are comprehensive planning documents that municipalities develop to help form decisions regarding the ways in which their communities grow. They also help municipalities

serve their existing populations. General plans typically include elements such as land use and transportation elements.

County of Riverside General Plan

The County of Riverside General Plan, adopted in 2015, is a comprehensive, long-term general plan. The elements of the general plan make up the framework for decision-making regarding growth and development in the county. The elements contain goals and policies that are pertinent to the proposed project (County of Riverside 2015).

City of Riverside General Plan

The City of Riverside General Plan is a strategic, long-range plan. It is intended to guide the growth of a sustainable, resilient, and livable city through 2025. The plan was approved in November 2007.

California Baptist University Specific Plan

The CBU Specific Plan, adopted in January 2019, ensures that the CBU campus will develop in a manner that gives adequate consideration to land uses, infrastructure, cultural and natural resources, services, and public safety.

Riverside Auto Center Specific Plan

The Riverside Auto Center Specific Plan, last amended in November 2007, is intended to assist in revitalization of the Riverside Auto Center, which was originally developed in 1965.

2.2.1.4 ENVIRONMENTAL CONSEQUENCES

The SR-91/Adams Street Interchange Project would improve traffic operations at the SR-91 and Adams Street interchange. The Build Alternative would be consistent with applicable goals and polices that call for improved traffic and circulation. Therefore, the project would not result in inconsistencies with regional or local plans.

Table 2.2.1-3 describes the project's consistency with applicable goals and policies included in state, regional, and local plans.

Table 2.2.1-3. Project Consistency with Applicable Goals, Policies, and Objectives

Plan or Program	Element or Chapter	Goal	Policy	Consistency
California Transportation Plan 2040	Goals, Recommendations, and Next Steps	Goal: Improve multimodal mobility and accessibility for all people.		**Build Alternative 7 (Locally Preferred Alternative) – Consistent.** The build alternative would reduce congestion and improve traffic circulation while also improving multimodal mobility and accessibility by including a bike lane and six-foot-wide sidewalk on the new Adams Street bridge structure. **No-Build Alternative – Inconsistent.** Under the No-Build Alternative, mobility and accessibility will continue to deteriorate as traffic operations worsen.
California Transportation Plan 2040	Goals, Recommendations, and Next Steps	Goal: Support a vibrant economy.		**Build Alternative 7 – Consistent.** The build alternative would reduce congestion and improve traffic circulation to meet existing and

Plan or Program	Element or Chapter	Goal	Policy	Consistency
				projected access demand at the interchange, thereby maximizing mobility and accessibility in the area surrounding the interchange. These impacts could have indirect effects on goods movement and the economy, particularly at the Riverside Auto Center and California Baptist University. **No-Build Alternative – Inconsistent.** Under the No-Build Alternative, mobility and accessibility will continue to deteriorate as traffic operations worsen. These impacts could have negative indirect effects on goods movement and the economy.
California Transportation Plan 2040	Goals, Recommendations, and Next Steps	Goal: Improve public safety and security.		**Build Alternative 7 – Consistent.** Existing traffic operations at the SR-91/Adams Street interchange are suboptimal. The build alternative would reduce congestion and improve traffic circulation at the interchange, thereby directly contributing to improved public safety and security for those in and around the interchange. **No-Build Alternative – Inconsistent.** Under the No-Build Alternative, travel safety and security will continue to worsen as traffic operations worsen at the interchange.
California Transportation Plan 2040	Goals, Recommendations, and Next Steps	Goal: Practice environmental stewardship.		**Build Alternative 7 – Consistent.** The build alternative has been designed to reduce environmental impacts to the greatest extent practicable. This alternative includes elements to promote alternative multi-modal transportation modes such as walking, bicycle, and mass transit. These features include sidewalks and bicycle lanes that extend on both sides of Adams Street and Indiana Avenue. Furthermore, features that increase efficiency of the existing facility such as metering of all interchange freeway entrance ramps would also be incorporated within the project limits. Environmental review is being completed in accordance with the National Environmental Policy Act, the California Environmental Quality Act, and all requirements of the applicable regulatory agencies that the project is subject to, as identified in this environmental document. **No-Build Alternative – Inconsistent.** Under the No-Build Alternative, no design elements would be implemented to foster environmental

Plan or Program	Element or Chapter	Goal	Policy	Consistency
				stewardship. Operations at the interchange would continue to worsen under this alternative.
Southern California Association of Governments 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (SCAG 2020-2045 RTP/SCS)	Goals and Guiding Principles	**Goal:** Improve mobility, accessibility, reliability, and travel safety for people and goods.		**Build Alternative 7 – Consistent.** The build alternative would ease congestion and enhance operations at the interchange, thereby maximizing mobility and accessibility, improving and enhancing safety, and improving travel times. **No-Build Alternative – Inconsistent.** Under the No-Build Alternative, mobility, accessibility, travel safety, and reliability will continue to deteriorate as traffic operations worsen.
SCAG 2020–2045 RTP/SCS	Goals and Guiding Principles	**Goal:** Adapt to a changing climate and support an integrated regional development pattern and transportation network.		**Build Alternative 7 – Consistent.** The build alternative is included in the 2020–2045 RTP/SCS as RTP ID RIV131202 and therefore consistent with plans for the regional transportation system. **No-Build Alternative – Inconsistent.** Under the No-Build Alternative, no climate change adaptations would be implemented. Furthermore, the declining conditions at the interchange would not support an integrated regional development pattern and transportation network.
SCAG 2020–2045 RTP/SCS	Goals and Guiding Principles	**Goal:** Increase person and goods movement and travel choices within the transportation system.		**Build Alternative 7 – Consistent.** The build alternative would all improve productivity by improving traffic operations at the interchange. **No-Build Alternative – Inconsistent.** Under the No-Build Alternative, conditions at the interchange would continue to worsen.
SCAG 2020–2045 RTP/SCS	Goals and Guiding Principles	**Goal:** Reduce greenhouse gas emissions and improve air quality.		**Build Alternative 7 – Consistent.** Implementation of Build Alternative 7 would not increase GHG emissions relative to No-Build conditions. The alternative would marginally decrease emissions relative to those under No-Build Conditions in 2040. This is due to improvements in delay and congestion made possible by the build alternative. **No-Build Alternative – Inconsistent.** Under the No-Build Alternative, air quality and energy consumption would continue to worsen with traffic**.**
SCAG 2020–2045 RTP/SCS	Goals and Guiding Principles	**Goal:** Adapt to a changing climate and support an integrated regional development pattern and transportation network.		**Build Alternative 7 – Consistent.** Implementation of Build Alternative 7 would not increase GHG emissions relative to No-Build conditions. The build alternative would marginally

Plan or Program	Element or Chapter	Goal	Policy	Consistency
				decrease emissions relative to those under No-Build Conditions in 2040. This is due to improvements in delay and congestion made possible by the build alternative. **No-Build Alternative – Inconsistent.** Under the No-Build Alternative, air quality would continue to worsen with traffic.
SCAG 2020–2045 RTP/SCS	Goals and Guiding Principles	**Goal:** Leverage new transportation technologies and data-driven solutions that result in more efficient travel.		**Build Alternative 7 – Consistent.** The build alternative was analyzed through an alternatives screening process using data to simulate different design configurations. The screening process considered the severity of right-of-way impacts, circulation and interchange operations, alternative ramp configurations, and geometric design challenges, and included conceptual design layouts for evaluation. Traffic data modeling programs provided the data for circulation impacts, interchange operations, and freeway traffic impacts. This alternative would also implement ramp metering on westbound and eastbound on-ramps for more efficient travel. **No-Build Alternative – inconsistent.** Under the No-Build Alternative, no new transportation technologies or data-driven solutions would be implemented to provide solutions for more efficient travel in the interchange area.
Federal Transportation Improvement Program	The FTIP is a 4-year program that lists all transportation projects that will be receiving federal funding in the SCAG region.			**Build Alternative 7 – Consistent.** The project is included in the 2023 FTIP (FTIP ID RIV131202) and therefore consistent with this regional plan. **No-Build Alternative – Inconsistent.** The No-Build Alternative is not consistent with the FTIP.
RCTC Long-Range Transportation Plan	Quality of Life	**Environmental Stewardship**: – RCTC protects and preserves the county's environment for our residents.		**Build Alternative 7 – Consistent.** The build alternative has been designed to reduce environmental impacts to the greatest extent practicable. This alternative includes elements to promote alternative multi-modal transportation modes such as walking, bicycle, and mass transit. These features include sidewalks and bicycle lanes that extend on both sides of Adams Street and Indiana Avenue. Furthermore, features that increase efficiency of the existing facility such as metering of all interchange freeway entrance ramps would also be

Plan or Program	Element or Chapter	Goal	Policy	Consistency
				incorporated within the project limits. Environmental review is being completed in accordance with the National Environmental Policy Act, the California Environmental Quality Act, and all requirements of the applicable regulatory agencies that the project is subject to, as identified in this environmental document. **No-Build Alternative – Inconsistent.** Under the No-Build Alternative, no design elements would be implemented to foster environmental stewardship.
RCTC Long-Range Transportation Plan	Quality of Life	**Access**: – RCTC projects are the connection to employment, schools, community institutions, parks, medical facilities, and shopping in the community.		**Build Alternative 7 – Consistent.** The build alternative would reduce congestion and improve traffic circulation to meet existing and projected access demand at the interchange, thereby maximizing mobility and accessibility in the area surrounding the interchange. By improving traffic operations at the interchange, connections to the neighboring community, particularly the Riverside Auto Center and CBU, would be improved. **No-Build Alternative – Inconsistent.** Under the No-Build Alternative, traffic operations would continue to deteriorate. Circulation and congestion would continue to worsen impacting connections and the neighboring communities.
RCTC Long-Range Transportation Plan	Quality of Life	**Goods Movement**: – RCTC facilitates the funding and delivery of projects that mitigate the impact of increased goods movement flow through Riverside County.		**Build Alternative 7 – Consistent.** The build alternative would maximize productivity at the SR-91/Adam Street interchange by reducing congestion and idling times and improving traffic circulation, including goods movement, at the interchange. **No-Build Alternative – Inconsistent.** Under the No-Build Alternative, productivity would not be improved, and congestion, idling times, and circulation would continue to worsen.
RCTC Long-Range Transportation Plan	Operational Excellence	**Promises Fulfilled**: – Projects are completed on time, on budget; RCTC delivers on its promises as a steward of Riverside County residents' investment.		**Build Alternative 7 – Consistent.** Caltrans and the City of Riverside have engaged in extensive outreach to project stakeholders and the public and coordinated with all applicable local, state, and federal agencies and jurisdictions during design and implementation of this project. **No-Build Alternative - Inconsistent.** Under the No-Build Alternative, no public investment would be made to

Plan or Program	Element or Chapter	Goal	Policy	Consistency
				improve traffic operations at the interchange area.
RCTC Long-Range Transportation Plan	Responsible Partner	**Local Measure A Value**: – RCTC invests Measure A dollars into projects and programs that benefit local communities throughout the county.		**Build Alternative 7 – Consistent.** The build alternative would reduce congestion and improve traffic circulation to meet existing and projected access demand at the interchange, thereby maximizing mobility and accessibility in the area surrounding the interchange. **No-Build Alternative – Inconsistent.** Under the No-Build Alternative, congestion and traffic circulation would continue to decline reducing mobility and accessibility in the area surrounding the interchange.
County of Riverside General Plan	Circulation Element	**Policy C1.1**: Design the transportation system to respond to concentrations of population and employment activities, as designated by the Land Use Element and in accordance with the Circulation Plan.		**Build Alternative 7 – Consistent.** The build alternative would reduce congestion and improve traffic circulation to meet existing and projected access demand at the interchange. **No-Build Alternative – Inconsistent.** Under the No-Build Alternative, congestion and traffic circulation would continue to worsen at the interchange.
County of Riverside General Plan	Circulation Element	**Policy C1.5**: Evaluate the planned circulation system as needed to enhance the arterial highway network to respond to anticipated growth and mobility needs.		**Build Alternative 7 – Consistent.** The build alternative would reduce congestion and improve traffic circulation to meet existing and projected access demand at the interchange. The project is also included in the 2020–2045 SCAG RTP/SCS and 2023 FTIP (ID RIV131202c) and therefore consistent with applicable regional plans. **No-Build Alternative – Inconsistent.** Under the No-Build Alternative, congestion and traffic circulation would continue to worsen at the interchange.
County of Riverside General Plan	Circulation Element	**Policy C1.6**: Cooperate with and where appropriate lead local, regional, state, and federal agencies to establish an efficient circulation system.		**Build Alternative 7 – Consistent.** Caltrans and the City of Riverside have engaged in extensive outreach to project stakeholders and the public and coordinated with all applicable local, state, and federal agencies and jurisdictions during design and implementation of this project. **No-Build Alternative – Inconsistent.** Under the No-Build Alternative, traffic circulation would continue to worsen at the interchange.
County of Riverside General Plan	Circulation Element	**Policy C3.2**: Maintain the existing transportation network while providing for future expansion and improvement, based on travel demand, and		**Build Alternative 7 – Consistent.** The build alternative would reduce congestion and improve traffic circulation to meet existing and projected access demand at the

Plan or Program	Element or Chapter	Goal	Policy	Consistency
		the development of alternative travel modes.		interchange while allowing for future expansion of the facility. **No-Build Alternative – Inconsistent.** Under the No-Build Alternative, congestion and traffic circulation would continue to worsen at the interchange.
County of Riverside General Plan	Circulation Element	**Policy C3.13**: Design street intersections, where appropriate, to ensure the safe, efficient passage of through traffic and the negotiation of turning movements.		**Build Alternative 7 – Consistent.** Existing traffic operations at the SR-91/Adams Street interchange are suboptimal. The build alternative would reduce congestion and improve traffic circulation at the interchange, thereby directly contributing to improved public safety and security for those in and around the interchange. **No-Build Alternative – Inconsistent.** Under the No-Build Alternative, congestion and traffic circulation would continue to worsen and there would be no improvement to public safety and security for those in and around the interchange.
County of Riverside General Plan	Circulation Element	**Policy C.3.28**: Reduce transportation noise through proper roadway design and coordination of truck and vehicle routing.		**Build Alternative 7 - Consistent.** The build alternative would include the construction of soundwalls as abatement for potential noise impacts from project improvements. Walls would be constructed in a timely manner. Construction schedules would be coordinated amongst project proponents. **No-Build Alternative – Inconsistent.** Under the No-Build Alternative, no policy-specific elements would be implemented.
County of Riverside General Plan	Circulation Element	**Policy C5.1**: Encourage Caltrans to install and maintain landscaping and other mitigation elements along freeways and highways, especially when they are adjacent to existing residential or other noise-sensitive uses.		**Build Alternative 7 – Consistent.** The California Streets and Highways Code Section 92.3 directs Caltrans to use drought-resistant landscaping and recycled water when feasible and incorporate native wildflowers and native and climate-appropriate vegetation into the planting design when appropriate. **No-Build Alternative – Inconsistent.** Under the No-Build Alternative, no policy-specific elements would be implemented.
County of Riverside General Plan	Circulation Element	**Policy C5.2**: Encourage the use of drought-tolerant native plants and the use of recycled waters for roadway landscaping.		
County of Riverside General Plan	Land Use Element	**Policy LU1.5**: The County of Riverside shall participate in regional efforts to address issues regarding mobility, transportation, traffic congestion, economic development, air and water quality, watersheds, and habitat management with		**Build Alternative 7 – Consistent.** The build alternative would reduce congestion and improve traffic circulation to meet existing and projected access demand at the interchange. The project is included in the 2020–2044 SCAG RTP/SCS and 2023 FTIP (ID RIV131202) and

Plan or Program	Element or Chapter	Goal	Policy	Consistency
		cities, local and regional agencies, stakeholders, Indian nations, and surrounding jurisdictions.		therefore consistent with applicable regional planning efforts. **No-Build Alternative –Inconsistent.** Under the No-Build Alternative, congestion and traffic circulation would continue to worsen at the interchange.
City of Riverside General Plan	Circulation and Community Mobility Element	**Objective CCM-1**: Facilitate freeway and regional roadway improvements and construction to alleviate congestion and air pollution and minimize regional cut-through traffic within Riverside.		**Build Alternative 7 – Consistent.** The build alternative would reduce congestion and improve traffic circulation at the interchange while reducing idling times, thereby reducing air quality impacts caused by idling vehicles. **No-Build Alternative –Inconsistent.** Under the No-Build Alternative, air quality and accessibility will continue to deteriorate as traffic operations worsen.
City of Riverside General Plan	Circulation and Community Mobility Element	**Objective CCM-2**: Build and maintain a transportation system that combines a mix of transportation modes and transportation system management techniques that is designed to meet the needs of Riverside's residents and businesses while minimizing the transportation system's impacts on air quality, the environment, and adjacent development.		**Build Alternative 7 – Consistent.** The build alternative would reduce congestion and improve traffic circulation. It would also improve multimodal mobility and accessibility by including a bike lane and six-foot-wide sidewalk on the new Adams Street bridge structure. By reducing idling times at the interchange, the project would reduce air quality impacts caused by idling vehicles. **No-Build Alternative 7 – Inconsistent.** Under the No-Build Alternative, air quality and accessibility will continue to deteriorate as traffic operations worsen.
City of Riverside General Plan	Circulation and Community Mobility Element	**Objective CCM-5**: Cooperate in implementation of regional and inter-jurisdictional transportation plans and improvements to the regional transportation system.		**Build Alternative 7 – Consistent.** The build alternative would reduce congestion and improve traffic circulation to meet existing and projected access demand at the interchange. The project is included in the 2020–2045 SCAG RTP/SCS and 2023 FTIP (ID RIV131202) and therefore consistent with applicable regional planning efforts. **No-Build Alternative – Inconsistent.** Under the No-Build Alternative, congestion and traffic circulation would continue to worsen at the interchange.
City of Riverside General Plan	Land Use and Urban Design Element	**Objective LU-76**: Ensure the long-term viability of the Riverside Auto Center.		**Build Alternative 7 – Consistent.** The build alternative would reduce congestion and improve traffic circulation to meet existing and projected access demand at the interchange, thereby maximizing mobility and accessibility in the area surrounding the interchange. By improving traffic operations at the

Plan or Program	Element or Chapter	Goal	Policy	Consistency
				interchange, connections to the neighboring community, particularly the Riverside Auto Center and CBU, would be improved. **No-Build Alternative – Inconsistent.** Under the No-Build Alternative, congestion and traffic circulation would continue to worsen at the interchange creating long term impacts on the area surrounding the interchange including the Riverside Auto Center.
City of Riverside General Plan	Land Use and Urban Design Element	**Objective LU-77**: Enhance the non-automotive areas of Presidential Park, including residential and industrial areas, and maintain long-term compatibility among the neighborhood's diverse uses.		**Build Alternative 7 – Consistent.** The build alternative would reduce congestion and improve traffic circulation along Adams Street and Indiana Avenue near SR-91. These are primary roadways in the neighborhood. The project would not disrupt non-automotive areas of the Presidential Park neighborhood. **No-Build Alternative – Inconsistent.** Under the No-Build Alternative, congestion and traffic circulation would continue to worsen at the interchange.
City of Riverside General Plan	Land Use and Urban Design Element	**Objective LU-78**: Maintain Ramona's established residential character while allowing for higher-intensity, transit-oriented residential and mixed residential-commercial development on opportunity sites, particularly along Magnolia and California Avenues.		**Build Alternative 7 – Consistent.** The build alternative would reduce congestion and improve traffic circulation along Adams Street near SR-91, which is a primary gateway into the neighborhood. The project would not disrupt the established residential character of the neighborhood. **No-Build Alternative – Consistent.** Under the No-Build Alternative, no construction or changes would occur.
California Baptist University Specific Plan	Chapter 2: Planning Framework	**Objective 4**: Accommodate diverse modes of mobility for all persons traveling to, from, and within the CBU campus.		**Build Alternative 7 – Consistent.** The build alternative would reduce congestion and improve traffic circulation to meet existing and projected access demand at the interchange, thereby maximizing mobility and accessibility in the area surrounding the interchange. By improving traffic operations at the interchange, connections to the neighboring community, particularly CBU, would be improved. This alternative also includes facilities intended to promote connectivity of alternative multi-modal transportation for pedestrians and bicycle movement. Features include bicycle lanes and sidewalks along Adams Street through the interchange area. **No-Build Alternative – Inconsistent.** Under the No-Build Alternative, congestion and traffic circulation would

Plan or Program	Element or Chapter	Goal	Policy	Consistency
				continue to worsen at the interchange and connections to the surrounding area including CBU would continue to deteriorate.
California Baptist University Specific Plan	Chapter 2: Planning Framework	**Objective 4, Policy 4.1**: Ensure consistency with City of Riverside street standards, as potentially modified, regarding ultimate roadway configuration and improvements for those public roadway segments abutting the campus.		**Build Alternative 7 – Consistent.** Caltrans and the City of Riverside have engaged in extensive outreach to project stakeholders and the public, including CBU, and coordinated with all applicable local, state, and federal agencies and jurisdictions during design and implementation of this project. **No-Build Alternative – Inconsistent.** Under the No-Build Alternative, congestion and traffic circulation would continue to worsen at the interchange.
California Baptist University Specific Plan	Chapter 2: Planning Framework	**Objective 4, Policy 4.4**: Pursue the vacation of Diana Avenue to provide reasonable control over access and vehicle speeds along this southern campus edge.		**Build Alternative 7 – Consistent.** As proposed under the build alternative, Diana Avenue at CBU would be closed to Adams Street as a part of the project. **No-Build Alternative – Inconsistent.** Under the No-Build Alternative, there would be no project; thus, Diana Avenue would remain open.
Riverside Auto Center Specific Plan	Goals and Objectives	**Identity**: Provide a clear identity to the center from the freeway, at entry points, and within the center itself.		**Build Alternative 7 – Consistent.** The build alternative would reduce congestion and improve traffic circulation to meet existing and projected access demand at the interchange, thereby maximizing mobility and accessibility to and from the Riverside Auto Center and SR-91. **No-Build Alternative – Inconsistent.** Under the No-Build Alternative, congestion and traffic circulation would continue to worsen at the interchange creating long term impacts on the area surrounding the interchange including the Riverside Auto Center.

Source: Caltrans 2021.
Caltrans = California Department of Transportation; CBU = California Baptist University; CEQA = California Environmental Quality Act; NEPA = National Environmental Protection Act; FTIP = Federal Transportation Improvement Program; RCTC = Riverside County Transportation Commission; SCAG 2020–2045 RTP/SCS = *Southern California Association of Governments 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy*; SR = State Route.

2.2.1.5 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Measure **TRAF-1,** as detailed in Section 2.2.8, would be implemented to minimize traffic circulation impacts during construction. Measure **AQ-1,** as detailed in Section 2.3.6, would be implemented to minimize air quality impacts related to project construction. In addition, measure **NOI-1,** as detailed in Section 2.3.7, would be implemented to minimize noise impacts during project construction.

2.2.2 Parks and Recreational Facilities

The information in this section is based on the CIA prepared for the project (Caltrans 2023a).

2.2.2.1 REGULATORY SETTING

The Park Preservation Act (California Public Resources Code [PRC] Sections 5400–5409) prohibits local and state agencies from acquiring any property that is in use as a public park at the time of acquisition unless the acquiring agency pays sufficient compensation or provides land, or both, to enable the operator of the park to replace the park land and any park facilities on that land.

2.2.2.2 AFFECTED ENVIRONMENT

There are 3 parks, 4 public schools with recreational facilities, and 13 planned or existing bikeways within the RSA. Class II bikeways, which are often referred to as bike lanes, provide a striped lane for one-way travel on a street or highway. Class III bikeways, or bike routes, provide for shared use with motor vehicle traffic. These are identified only by signing (City of Riverside 2021).

The Section 4(f) resources—including public parks, trails, and other recreational facilities within 0.5 mile of the project limits—are described in Table 2.2.2-1 and shown on Figure 2.2.2-1.

Table 2.2.2-1. Public Parks, Trails, and Other Recreational Facilities within 0.5 Mile of the Project Limits

Jurisdiction	Name	Location	Approximate Distance from the Project	Type	Amenities
City of Riverside	Don Derr Park	3003 Monroe St	Adjacent to SR-91	Park	A 21-acre park owned by the City of Riverside. Amenities include two lighted ball fields with two lighted sports field overlays, basketball courts, a playground, snack bar, picnic tables, barbeques, restrooms, and onsite parking
City of Riverside	Villegas Park	7240 Marguerita	Adjacent to SR-91	Park	Lighted ball fields, a lighted soccer field, basketball court, handball courts, a covered picnic area, community center with gym, playground, pool, picnic tables, barbeques, restrooms, and onsite parking
City of Riverside	Shamel Park	3650 Arlington Ave	Adjacent to SR-91	Park	Lighted ball fields, lighted tennis courts, a covered picnic area, horseshoe courts, pool, picnic tables, a snack bar, barbeques, restrooms, and onsite parking
Riverside Unified School District	Madison Elementary School	3635 Madison Street	1,200 feet north of SR-91	Rec facility	Playground

Jurisdiction	Name	Location	Approximate Distance from the Project	Type	Amenities
Riverside Unified School District	Ramona High School	7675 Magnolia Avenue	3,000 feet north of SR-91	Rec facility	Ball fields, track, tennis, basketball courts
Riverside Unified School District	Chemawa Middle School	8830 Magnolia Avenue	1,600 feet north of SR-91	Rec facility	Track, basketball courts, field
Riverside Unified School District	Arlington High School	2951 Jackson Street	1,800 feet south of SR-91	Rec facility	Track, fields, tennis, basketball courts

Source: California Department of Transportation 2021

Source: City of Riverside 2019

Figure 2.2.2-1. Parks and Recreational Resources

Section 4(f) Resources

Section 4(f) of the U.S. Department of Transportation Act of 1966, codified in federal law at 49 United States Code (USC) 303, declares that "it is the policy of the United States government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

Section 4(f) specifies that the Secretary of Transportation may approve a transportation program or project… "requiring use of the publicly owned land of a park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance or land of a historic site of national, state, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if:

- There is no prudent and feasible alternative to using that land; and
- The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use."

Section 4(f) further requires consultation with the Department of the Interior and, as appropriate, the involved offices of the Department of Agriculture and the Department of Housing and Urban Development in developing transportation projects and programs that use lands protected by Section 4(f). If historic sites are involved, then coordination with the State Historic Preservation Officer is also needed.

Responsibility for compliance with Section 4(f) has been assigned to Caltrans pursuant to 23 USC 326 and 327, including determinations and approval of Section 4(f) evaluations as well as coordination with those agencies that have jurisdiction over a Section 4(f) resource that may be affected by a project action.

There are parks and recreational facilities within the project vicinity that are protected by Section 4(f) of the Department of Transportation Act of 1966. However, this project will not "use" those facilities as defined by Section 4(f). Please see Appendix F under the heading "Resources Evaluated Relative to the Requirements of Section 4(f)" for additional details.

2.2.2.3 ENVIRONMENTAL CONSEQUENCES

No-Build Alternative

The No-Build Alternative would not result in changes within the project study area. Therefore, the No-Build Alternative would not result in temporary or permanent impacts on recreational facilities.

Build Alternative 7 (Locally Preferred Alternative)

Temporary Impacts

No temporary impacts on parks or recreational resources are anticipated as a result of the build alternative because none are close enough to the project study area to be affected by construction activities.

The proposed build alternative for the project would not result in a use of any 4(f) resources, therefore no further evaluation is presented within this document.

Permanent Impacts

Two planned Class II bikeways along Adams Street and Indiana Avenue would be introduced as a part of the build alternative. No permanent impacts on parks or recreational resources are anticipated as a result of the build alternative.

2.2.2.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Measure **TRAF-1,** as detailed in Section 2.2.8, in addition to other applicable standard measures and best management practices, will be implemented to minimize traffic circulation impacts during construction. No other AMMs are required in this regard.

2.2.3 Growth

The information in this section is based on the CIA prepared for the project (Caltrans 2023a).

2.2.3.1 REGULATORY SETTING

The Council on Environmental Quality (CEQ) regulations, which established the steps necessary to comply with the National Environmental Policy Act (NEPA) of 1969, require evaluation of the potential environmental effects of all proposed federal activities and programs. This provision includes a requirement to examine indirect effects, which would potentially occur in areas beyond the immediate influence of a proposed action and at some time in the future. The CEQ regulations (40 Code of Federal Regulations [CFR] 1508.8) refer to these consequences as indirect impacts. Indirect impacts may include changes in land use, economic vitality, and population density, which are all elements of growth.

The California Environmental Quality Act (CEQA) also requires the analysis of a project's potential to induce growth. The CEQA Guidelines (Section 15126.2[d]) require that environmental documents "…discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment…"

Methodology

A "first-cut" screening was conducted pursuant to Caltrans' Guidance for Preparers of Growth-related, Indirect Impact Analyses to assess what influence implementation of the Adams Street Interchange Project might have on growth and development in the area. The following is based on the above referenced guidance.

2.2.3.2 AFFECTED ENVIRONMENT

Additional population and employment growth within the project study area is expected to take place through infill development on vacant parcels or redevelopment within existing land uses. Land within the project study area is predominantly developed, with limited opportunity for a new, unplanned large-scale development. The majority of the project study area is surrounded by commercial, residential, and land uses associated with CBU.

SCAG population, household, and employment growth forecasts for the city of Riverside and the SCAG region, for comparison, are provided in Tables 2.2.3-1 through 2.2.3-3.

Table 2.2.3-1. Population Growth Forecast, SCAG Region and City of Riverside

City/County/Region	Year		Percent Growth (%)
	2016	2045	
SCAG Region[1]	18,832,000	22,504,000	19.5%
City of Riverside	325,300	395,800	21.7%

Source: SCAG 2020
[1] SCAG region includes the following counties: Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura.
SCAG = Southern California Association of Governments

Table 2.2.3-2. Household Growth Forecast, SCAG Region and City of Riverside

City/County/Region	Year		Percent Growth (%)
	2015	2040	
SCAG Region[1]	6,012,000	7,633,000	27.0%
City of Riverside	94,500	115,100	21.8%

Source: SCAG 2020
[1] SCAG region includes the following counties: Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura.

Table 2.2.3-3. Employment Growth Forecast, SCAG Region and City of Riverside

City/County/Region	Year		Percent Growth (%)
	2015	2040	
SCAG Region[1]	8,389,000	10,049,000	19.8%
Riverside County	145,400	188,700	29.8%

Source: SCAG 2020
[1] SCAG region includes the following counties: Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura.

As shown in Tables 2.2.3-1 through 2.2.3-3, population growth and employment growth in Riverside County are expected to grow at a much faster pace than that in the rest of the SCAG region, although projected household growth would be lower.

Because of the predominately developed land in the project study area and lack of undeveloped private vacant land, there are limited opportunities for large-scale new development to occur. Projected growth trends would be accommodated within the project study area.

2.2.3.3 ENVIRONMENTAL CONSEQUENCES

No-Build Alternative

The No-Build Alternative would not result in improvements within the proposed project study area; therefore, no growth-related impacts would occur. However, the No-Build Alternative would not be consistent with the regional and local mobility goals of SCAG or the City and would not meet the goals and objectives of SCAG's 2020–2045 RTP/SCS. In addition, the proposed project is listed in SCAG's 2020–2045 RTP/SCS in an effort to improve overall regional mobility; therefore, the No-Build Alternative would not be consistent with 2020–2045 RTP/SCS. Regional planning documents, such as the 2020–2045 RTP/SCS and the land use elements of local general plans, anticipate and respond to the growth planned within the SCAG region, including the proposed project study area. The No-Build Alternative would not influence the level of growth within the city or the proposed project study area because the area is primarily built out, and areas available for development or redevelopment are limited. Therefore, the No-Build

Alternative would not be anticipated to influence the amount, location, or distribution of growth or housing and jobs in the proposed project study area or the City. Under the No-Build Alternative, existing congestion would remain within the proposed project study area and is projected to continue in the future.

Build Alternative 7 (Locally Preferred Alternative)

Direct growth-inducing impacts are generally associated with the extension of infrastructure to an undeveloped area and the provision of urban services, which reduces development constraints for other nearby areas and serves to induce further development. Indirect, or secondary, growth-inducing impacts consist of growth in an area from additional demand for employment, housing, and goods and services associated with population increases caused by, or influenced by, new development.

Potential growth-related impacts were evaluated using the first-cut screening analysis (see below). Because no new transportation facilities would be constructed, the results of the analysis indicate that the project would not change accessibility.

How, if at all, does the project potentially change accessibility?

The existing tight diamond interchange includes closely spaced intersections and inadequate storage between intersections, resulting in significant delays at the interchange and leading up to the interchange. All the existing distances are less than the Mandatory Design standard of 400 feet as required by the Highway Design Manual (HDM) Index 504.3(3).

Build Alternative 7 (Locally Preferred Alternative) would eliminate the intersection between the eastbound ramps and Adams Street. The eastbound ramps would be moved to create a hook ramp that would intersect Indiana Avenue east of the Adams Street overcrossing. The off-ramp terminals in both directions would be widened from two to three lanes. The portion of Indiana Avenue between the eastbound ramps and Adams Street would be widened from two to three lanes in each direction. Indiana Avenue would be widened to provide dedicated turn lanes to the hook ramps.

The proposed project would also replace and widen the existing Adams Street bridge. In the northbound direction, the structure would consist of two through lanes, two dedicated left-turn lanes, a bike lane, and a six-foot-wide sidewalk. In the southbound direction the structure would consist of two through lanes, two dedicated left-turn lanes, a bike lane, and a six-foot-wide sidewalk.

The SR-91/Adams Street Interchange Project includes bicycle lanes and sidewalks along Adams Street through the interchange area. In the immediate vicinity of the interchange. The project would include facilities intended to promote connectivity for system linkages related to pedestrian and bicycle movement.

Land use adjacent to the project site includes residential uses, commercial/retail uses, and California Baptist University north of SR-91. Residential and commercial/retail uses are also located south of SR-91. The SR-91/Adams Street interchange provides access to the Riverside Auto Center, an area south of the freeway with major automobile dealerships. Continued growth in the region is anticipated, and further development of residential, commercial/retail, and industrial uses will create an even greater need for improvement of the operation (e.g., level of service [LOS]) of the interchange.

The project proposes to improve operations at the SR-91/Adams Street interchange, which would create benefits for those traveling within the project vicinity. The build alternative would not change access but would instead facilitate improved mobility through improved operations at

the current interchange. No vacant lands that are currently inaccessible would become permanently accessible and therefore more likely to be developed following construction of Adams Street interchange.

The project would assist in lowering the current rates of unemployment and create short-term jobs for the surrounding area during the construction phase of the project. Although the project would generate additional employment opportunities during construction of the project, the majority of these jobs are expected to be filled by residents of neighboring cities and surrounding communities. In addition, the project would accommodate existing and planned growth but would not influence growth beyond what is currently planned. As such, the project would not induce substantial unplanned population growth in the area, either directly or indirectly.

Although the project would improve traffic operations at the interchange area, the project would not create new opportunities for access to areas that are not already afforded access under the existing conditions at the interchange; therefore, while traffic operations at the Adams Street interchange would be improved with implementation of the project, the project would not substantially change accessibility to adjacent and nearby properties.

How, if at all, do the project type, project location, and growth-pressure potentially influence growth?

The project involves the reconstruction of the existing Adams Street Exchange. The existing interchange provides access to commercial, industrial, and residential areas north and south of the interchange.

The build alternative would address existing operational deficiencies but would not foster growth in excess of what is projected by SCAG and local and regional general plans. The build alternative would not be expected to influence the amount, location, and/or distribution of growth in the City of Riverside or within the project study area because no new roadways are proposed and much of the project study area is built out. Utilities, land uses, and community facilities would not be affected because the build alternative is not growth- inducing and would not result in reasonably foreseeable growth.

Continued growth in the region is anticipated, and further development of residential, commercial/retail, and industrial uses will create a greater need for improvement of traffic operations at the SR-91/Adams Street interchange. Some westbound freeway segments and ramps in the study area are forecast to operate at LOS E in horizon year 2047 under the No-Build Alternative. The eastbound freeway segments and ramps in the study area are forecast to operate at LOS D or better in horizon year 2047 under the No-Build Alternative. Under the build alternative, several westbound freeway segments are forecast to operate at LOS D or better, with the exception of East of Madison Street Off-ramp, Madison Street Off-ramp, and West of Van Buren Boulevard On-ramp, which are forecast to operate at LOS E or F in horizon year 2047 under Build Alternative 7.

While the project would improve traffic operations at the interchange, it is not expected that the degree of improvement in traffic operations would result in a change in traffic patterns or travel behavior such that it would result in development seeking to locate (or relocate) in the immediate vicinity of the interchange as compared to the existing interchange conditions.

The project is on an existing interstate facility near existing roadways, providing access to existing and already planned development. The project has been designed to accommodate present and projected increases in traffic volumes expected as a result of previously implemented and planned development in the area; therefore, project-related growth is not anticipated as a result of the project.

Based on the analysis above, the build alternative does not require further analysis of growth-related impacts.

Is project-related growth reasonably foreseeable under NEPA?

Under NEPA, reasonably foreseeable events are those that are likely to occur or are probable, rather than those that are merely possible. Development in the Adams Street interchange area is governed by the City's General Plan. Although the project would provide operational improvements to local access, it is not expected that the project would affect growth at the local or regional level. The project would not remove any impediments to growth or introduce new facilities as no new travel patterns are anticipated.

If there is project-related growth, how, if at all, will that impact resources of concern?

The project is not expected to accelerate or otherwise influence growth beyond what is already expected in the project area. Based on the above, no further analysis with respect to growth is required for this project.

2.2.3.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

As stated above, the proposed build alternative would not have any impacts on growth. Therefore, no avoidance, minimization, and/or mitigation measures are proposed at this time.

2.2.4 Community Character and Cohesion

2.2.4.1 REGULATORY SETTING

The National Environmental Policy Act (NEPA) of 1969, as amended, established that the federal government use all practicable means to ensure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings (42 United States Code [USC] 4331[b][2]). The Federal Highway Administration (FHWA) in its implementation of NEPA (23 USC 109[h]) directs that final decisions on projects are to be made in the best overall public interest. This requires taking into account adverse environmental impacts, such as destruction or disruption of human-made resources, community cohesion, and the availability of public facilities and services.

Under the California Environmental Quality Act (CEQA), an economic or social change by itself is not to be considered a significant effect on the environment. However, if a social or economic change is related to a physical change, then social or economic change may be considered in determining whether the physical change is significant. Since this project would result in physical change to the environment, it is appropriate to consider changes to community character and cohesion in assessing the significance of the project's effects.

Community profiles were developed for each of the census tracts within RSA and compared to profiles of California, Riverside County, and the City of Riverside. Demographic information and data for these communities include age, population, ethnicity/race, and income data. Housing characteristics include housing units, occupancy, and housing density.

2.2.4.2 AFFECTED ENVIRONMENT

The information in this section is based on the CIA (Caltrans 2023a) and the draft Relocation Impact Memorandum (Caltrans 2021X) prepared for the project. Community profiles were developed for each community within the project footprint and compared to profiles for Riverside County. As summarized in Tables 2.2.3-1 through 2.2.3-3 in the prior section, Riverside County is

anticipated to grow another 21.7 percent by 2045, outpacing the rest of the SCAG region (Caltrans 2023a). Specifics regarding regional characteristics of Riverside County compared to the RSA census tracts at the local level are discussed in further detail in subsequent sections.

Neighborhoods/Communities/Community Character

Neighborhoods

The RSA is located generally within two established neighborhoods, the Presidential Park neighborhood on the south side of SR-91 and the Ramona neighborhood on the north side of SR-91.

The Presidential Park neighborhood is generally bounded by Jefferson Street on the northeast, SR-91 on the northwest, and Jackson Street on the southwest, midway between Lincoln and Victoria Avenues. The northern portion of the neighborhood features the Riverside Auto Center as well as a number of government facilities, including the City's Utility Operations Center, the City Corporate Yard, and the City Emergency Operations Center. The southwest portion of the neighborhood is predominately single-family residences. The 21-acre Don Derr Park in the center of the neighborhood includes various sports fields, basketball courts, and a covered picnic and barbeque facility.

The Ramona neighborhood is a centrally located neighborhood in the city of Riverside, generally bounded by Madison Street, SR-91, Arlington Avenue, and Jackson Street. The neighborhood consists mostly of medium-density, single-family homes, with some higher-density homes located along Magnolia Avenue, a historic roadway running through the middle of the neighborhood. Significant institutions within the neighborhood include the Heritage House Museum, Ramona and Sherman Indian High Schools, and CBU.

Communities and Community Character

Census data collected for the demographic study area were compared to county- and city-level data to identify significant population characteristics of affected communities. A community is defined as "a population rooted in one place, where the daily life of each member involves contact with, and dependence on other members." Physical barriers such as highways, waterways, open spaces, and activity centers sharply affect average home values, selected demographic characteristics, and resident perceptions of communities or neighborhoods. Community cohesion is the degree to which residents feel a sense of belonging to their neighborhood, their level of commitment to the community, or a strong attachment to neighbors, groups, and institutions. The following sections evaluate indicators that can be used to measure a community's level of cohesion.

Age

Communities with a high percentage of elderly residents (65 years or older) tend to include people who are more active in the community because of the time they have available for community activities. They demonstrate a greater social commitment to their communities (Caltrans 2023a).

Table 2.2.4-1 summarizes the population and age indicators within the census tracts that overlap the project footprint.

Table 2.2.4-1. Age

	Population	Median Age	Under 18 Years of Age (%)	18 to 64 Years of Age (%)	65 and Over Years of Age (%)
State					
California	39,283,497	36.5	23.0%	63.1%	14.0%
County					
Riverside County	2,411,439	35.6	25.5%	60.4%	14.1%
City					
Riverside City	326,414	31.6	23.8%	65.5%	10.7%
Census Tracts (Resource Study Area)					
Census Tract 312	7,184	34	24.8%	63.0%	12.2%
Census Tract 313	3,277	29.5	28.7%	64.5%	6.8%
Census Tract 314.01	7,635	31.6	31.7%	58.3%	10.0%
Census Tract 314.02	7,793	34.1	25.4%	62.4%	12.3%
Census Tract 315.01	7,993	22.5	15.5%	74.6%	9.9%
Census Tract 316.01	4,499	35.4	24.6%	63.7%	11.7%
Census Tract 317.03	4,115	36.3	21.5%	68.4%	10.2%
Census Tract 317.04	5,838	35.6	24.3%	63.5%	12.1%
Resource Study Area Average	**--**	**31.9**	**24.4%**	**64.8%**	**10.9%**

Source: U.S. Census Bureau 2020, Table B01001

The median ages of the populations within the RSA are generally similar to those in the rest of the city of Riverside, which contains a larger proportion of working-age residents (between the ages of 18 and 64) than the rest of the county and fewer elderly residents than the county.

Race and Ethnicity

The homogeneity of the population generally contributes to higher levels of cohesion. Communities that are ethnically homogenous often speak the same language and are more likely to engage in social interaction on a routine basis. Table 2.2.4-2 summarizes the race and ethnicity of the demographic study area.

The race and ethnicity profile of the RSA is generally similar to the rest of the city of Riverside. The only outlier is Census Tract 313, in which 96.1 percent of residents identify as Hispanic or Latino, which is much higher than the 57.8 percent average within the remaining areas of the RSA.

Table 2.2.4-2. Race and Ethnicity

	Population	Hispanic or Latino (%)	White (%)	Black or African American (%)	Asian (%)	Native Hawaiian or Other Pacific Islander (%)	American Indian and Alaskan Native (%)	Some other Race (%)	Two or More Races (%)	Total Minority (%)
State										
California	39,283,497	39.0%	37.2%	5.5%	14.3%	0.4%	0.4%	0.3%	3.0%	62.8%
County										
Riverside County	2,411,439	48.9%	35.3%	6.1%	6.3%	0.3%	0.4%	0.2%	2.4%	64.7%
City										
Riverside City	326,414	53.7%	29.8%	5.8%	7.4%	0.2%	0.3%	0.3%	2.5%	70.2%
Census Tracts (Resource Study Area)										
Census Tract 312	7,184	55.4%	40.4%	0.7%	3.5%	0.0%	0.0%	0.0%	0.0%	59.6%
Census Tract 313	3,277	96.1%	1.6%	0.9%	0.5%	0.0%	0.0%	0.8%	0.0%	98.4%
Census Tract 314.01	7,635	56.0%	31.8%	9.6%	1.0%	0.0%	0.0%	0.0%	1.6%	68.2%
Census Tract 314.02	7,793	50.3%	41.2%	3.6%	1.8%	0.0%	0.1%	0.7%	2.4%	58.8%
Census Tract 315.01	7,993	50.4%	34.3%	4.5%	4.9%	0.9%	1.7%	0.0%	3.4%	65.7%
Census Tract 316.01	4,499	65.1%	25.5%	3.6%	5.3%	0.0%	0.0%	0.5%	0.0%	74.5%
Census Tract 317.03	4,115	61.6%	28.4%	2.0%	5.8%	0.0%	0.3%	0.1%	1.9%	71.6%
Census Tract 317.04	5,838	53.4%	30.1%	4.0%	10.8%	0.0%	0.1%	0.0%	1.6%	69.9%
Resource Study Area Average	--	57.8%	31.9%	4.0%	4.1%	0.1%	0.3%	0.2%	1.5%	68.1%

Source: U.S. Census Bureau 2020, Table B03002

Housing/Household Characteristics

Communities with a higher percentage of families with children are generally more cohesive than communities composed largely of single individuals because children tend to establish friendships with other children in their communities. The U.S. Census Bureau does not provide specific data regarding children per household; however, persons per household are used as a proxy for households with children. Housing occupancy and tenure can also be indicators of community cohesion. A higher percentage of owner-occupied residences indicates a household's financial stake in the community, while housing tenure allows households to establish greater social networks and develop an identity with the community (Caltrans 2021). Table 2.2.4-3 summarizes some key housing statistics for the project study area.

The proportion of family households within the RSA is generally similar to that of the rest of the county and city of Riverside. Within the RSA, Census Tract 313 has the highest proportion of family households, at 85.2 percent. Residences within the RSA are primarily single-family homes, which is consistent with what is mapped in the Land Use section. Owner occupancy as a whole is slightly lower in the RSA than the city and more than 15 percent lower than the rest of Riverside County. Overall, the number of households within the RSA since before 2010 (more than 10 years) is not noticeably different from the number in the county or city of Riverside. The exception is Census Tract 313 where 62 percent of households have lived there since before 2010 versus just 44 percent in the rest of the city of Riverside.

Table 2.2.4-3. Housing/Household Characteristics

	Number of Households	Average Household Size	Average Family Size	Percentage Family Household	Total Housing Units	Single-Family Homes (%)	Multi-Family Homes (%)	Vacancy Rate (%)	Owner Occupied (%)	Renter Occupied (%)	Percent of Household Members in Same Housing Unit (prior to 2010) (%)
State											
California	13,044,266	3.0	3.5	68.7%	14,175,976	64.8%	31.4%	8.0%	54.8%	45.2%	48.2%
County											
Riverside County	724,893	3.3	3.9	72.7%	840,501	73.6%	17.5%	13.8%	66.3%	33.7%	45.1%
City											
City of Riverside	90,722	3.4	4.0	72.3%	95,991	68.1%	29.4%	5.5%	54.0%	46.0%	44.2%
Census Tracts (Resource Study Area)											
Census Tract 312	1,970	3.6	4.2	77.1%	2,141	95.2%	4.8%	8.0%	61.8%	38.2%	53.5%
Census Tract 313	621	5.3	5.2	85.2%	656	96.0%	1.2%	5.3%	64.1%	35.9%	62.0%
Census Tract 314.01	2,131	3.6	4.0	74.5%	2,250	49.4%	50.6%	5.3%	38.7%	61.3%	40.6%
Census Tract 314.02	2,245	3.4	4.0	67.2%	2,343	56.7%	43.3%	4.2%	40.1%	59.9%	41.6%
Census Tract 315.01	1,479	3.8	4.6	71.5%	1,587	60.2%	39.8%	6.8%	46.2%	53.8%	40.0%
Census Tract 316.01	1,155	3.9	4.5	68.1%	1,270	78.6%	21.4%	9.1%	46.1%	53.9%	43.3%
Census Tract 317.03	1,131	3.6	4.1	75.1%	1,167	77.6%	21.2%	3.1%	58.5%	41.5%	48.9%
Census Tract 317.04	1,733	3.4	4.3	63.4%	1,776	76.2%	23.8%	2.4%	55.4%	44.6%	48.9%
Resource Study Area Average	--	3.6	4.3	71.7%	--	70.7%	29.1%	5.5%	49.6%	50.4%	46.0%

Source: U.S. Census Bureau 2020, Tables B09019, B19013, B25003, B25024, B25038, B25002

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COMMUNITY COHESION SUMMARY

The analysis above looked at key indicators of community cohesion, including minority populations, the likelihood of households with children, percentages of elderly populations, owner occupancy, and housing tenure. Upon review of the RSA, the indicators listed above are not greatly distinguished from the rest of the county and city of Riverside such that it would be suggested that there are higher levels of community cohesion within the RSA compared to the rest of the county and city of Riverside. The exception to this is Census Tract 313, which features a high minority population (98 percent), large percentage of family households (85 percent), above-average length of tenure (62 percent), and high percentages of home ownership (64 percent) compared to the rest of the county and city of Riverside. In particular, this could suggest that there are higher-than-normal levels of community cohesion in Census Tract 313 (Caltrans 2021).

2.2.4.3 ENVIRONMENTAL CONSEQUENCES

Regional Population Characteristics

No-Build Alternative

The No-Build Alternative would maintain the existing configuration of the SR-91/Adams Street interchange. It would not involve construction or result in changes to existing conditions. Therefore, no impacts on the regional population would result under this alternative.

Build Alternative 7 (Locally Preferred Alternative)

Temporary Impacts

Short-term construction activities would result in temporary effects on the RSA by causing a temporarily increase in traffic and congestion during construction. Temporary effects would not result in long-term changes to regional population characteristics. The project would result in minor changes in land use. It would have a minor influence on economic vitality but would not be anticipated to affect population density or encourage the construction of additional housing.

Permanent Impacts

The RSA is predominately developed. Few private undeveloped parcels are located in the area. The build alternative is not anticipated to substantially affect population characteristics in a manner that has not already been accounted for in the County of Riverside and/or City of Riverside general plans.

Neighborhoods/Communities/Community Character/Housing

No-Build Alternative

The No-Build Alternative would maintain the existing configuration of the SR-91/Adams Street interchange and would not result in changes to existing conditions. Therefore, the No-Build Alternative would not result in impacts on community character.

Build Alternative 7 (Locally Preferred Alternative)

Temporary Impacts

Construction of Build Alternative 7 would result in temporary construction easements (TCEs) on non-residential properties. During construction, these areas would be closed to the public; however, affected properties would be capable of continuing operation throughout construction.

Following construction, the City of Riverside would ensure that areas affected by the TCEs required for construction would be restored to their original condition, where feasible. Any increase in traffic volumes on the surrounding roadways would be minimized by providing alternative routes and access points. Therefore, temporary road or lane closures during construction would not prevent access to community facilities or businesses during project construction.

The SR-91/Adams Street interchange serves as the primary access point to the CBU campus. This is a significant constituent that could experience temporary disruptions associated with project construction. As part of measure **TRAF-1,** discussed in Section 2.2.8 *Traffic and Transportation*, Caltrans would coordinate with local emergency providers and communicate with the surrounding community prior to construction to minimize construction-related impacts as a part of the Traffic Management Plan (TMP). Lane and road closures would be scheduled to minimize or avoid effects on the local communities to the extent feasible. Sidewalks would be temporarily closed for construction (i.e., widening/realigning roadways), thereby restricting access for pedestrians. Furthermore, the staging and moving of equipment could temporarily restrict bicycle and pedestrian access. As part of the TMP, detour routes would be planned for bicyclists and pedestrians. Existing on-street parking would be reinstated at the completion of construction activities along arterial roadways. In addition, with implementation of measure **COM-1**, Caltrans would continue to coordinate closely with CBU officials through project design and construction in order to communicate construction-related delays and identify additional workarounds that could reduce temporary impacts on those trying to access the CBU campus.

Construction would result in temporary noise and air quality disruptions from construction activities (i.e., transport and use of equipment). However, the disruptions would last for only the duration of construction activities, a period of approximately 24 months, and would be short term. Implementation of avoidance and minimization measure **NOI-1**, as specified in the Noise Study Report (NSR) prepared for this project (ICF 2022a), would mandate construction hours and noise requirements and minimize noise disturbances at sensitive areas during construction. Sound control will conform to the provisions in Section 14-8.02, Noise Control, of the Standard Specifications and Special Provisions (SSP 14-8.02). According to requirements of these specifications, construction noise cannot exceed 86 A-weighted decibels (dBA) at 50 feet from the job site from 9:00 p.m. to 6:00 a.m. Therefore, although construction could result in temporary impacts on access and quality of life, which could contribute to temporarily diminished community character and cohesion, these impacts would not last beyond construction.

Permanent Impacts

The RSA is predominately developed and within a highly urbanized environment. Build Alternative 7 would be constructed at an existing freeway interchange, and operation would not separate the community from facilities or services or permanently influence the character of affected communities.

Several criteria were considered to determine potential permanent impact of the build alternative on community character and cohesion. The criteria consider whether the build alternative would:

- Increase or decrease public access to facilities and services
- Divide neighborhoods
- Separate residences from community facilities
- Induce growth

- Change quality of life
- Increase urbanization or isolation

If the response to any of the criteria questions is "yes," the project has the potential to affect the character and cohesion of the neighborhood.

Although several of the census tracts in the RSA exhibit certain characteristics of a neighborhood that indicate higher degrees of community cohesion, Build Alternative 7 is not anticipated to result in substantial impacts related to the criteria listed above. Construction of the build alternative would require that direct connection between Diana Avenue and Adams Street be discontinued. West of Adams Street, other entrances to this part of the Ramona neighborhood are readily accessible in the vicinity, particularly at Briarwood Drive. As such, the closure of access from Diana Avenue adjacent to the SR-91 westbound off-ramp would not divide the neighborhood, nor substantially decrease access of the public to and from this area of the Ramona neighborhood. On the other side of Ramona Street, consistent with Objective 4, Policy 4.4, CBU has been exploring avenues to limit traffic along Diana Avenue in that area as a way to control traffic coming into and out of the CBU campus. Closure of Diana Avenue from Adams Street at this location would thus be consistent with the goals of CBU and would not divide a neighborhood or separate residences from the CBU campus because there are other access points (Caltrans 2021).

Build Alternative 7 would result in the displacement of 10 nonresidential businesses, the majority of which are auto-related businesses. However, displaced properties would be relocated prior to construction within the same community or another nearby community in compliance with the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970. As such, Build Alternative 7 is not anticipated to have a noticeable impact on the community character of the RSA.

2.2.4.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Measure **TRAF-1**, as detailed in Section 2.2.8, would be implemented to minimize impacts related to community disruption during construction. Measures **AQ-1** through **AQ-4**, as detailed in Section 2.3.6, would be implemented to minimize impacts on community air quality during project construction. In addition, measure **NOI-1**, as detailed in Section 2.3.7, would be implemented to minimize noise impacts during project construction.

Finally, measure **COM-1** will be implemented to reduce impacts on communities to less than significant as follows:

COM-1CBU Coordination. Caltrans will coordinate closely with CBU officials through project design and construction in order to communicate construction-related delays and identify additional workarounds that could reduce temporary impacts on those trying to access the CBU campus.

2.2.5 Relocations and Real Property Acquisition

The information in this section is based on the CIA (Caltrans 2023a) and Relocation Impact Report (Caltrans 2022b) prepared for the project.

2.2.5.1 REGULATORY SETTING

The Department's Relocation Assistance Program (RAP) is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Uniform

Act), and Title 49 Code of Federal Regulations (CFR) Part 24. The purpose of the RAP is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. Please see Appendix B for a summary of the RAP.

All relocation services and benefits are administered without regard to race, color, national origin, persons with disabilities, religion, age, or sex. Please see Appendix A for a copy of the Department's Title VI Policy Statement.

2.2.5.2 AFFECTED ENVIRONMENT

A general characterization of the RSA as a whole is provided in Sections 4.1 through 4.3 of the CIA. As summarized in Table 2.2.3-1, Riverside County is anticipated to grow another 21.7 percent by 2045, outpacing the rest of the SCAG region. There are 30 community facilities within the RSA, including four shopping centers; 12 religious facilities (or places of worship); nine educational facilities of various types, including elementary schools, middle schools, high schools, and university facilities; three museums; and two libraries. The most prominent of these are CBU and the Riverside Auto Center.

Replacement Area

The replacement area is defined as the area where displacees would most likely find replacement properties (i.e., sites where affected residents and businesses could relocate). For the purposes of this study, the replacement area includes a large area of western Riverside County, including parts of the cities of Riverside, Corona, Eastvale, Jurupa Valley, Fontana, Rialto, San Bernardino, Colton, and Moreno Valley, as shown in Exhibit C of the Relocation Impact Statement prepared for this project (Caltrans 2020b).

2.2.5.3 ENVIRONMENTAL CONSEQUENCES

No-Build Alternative

The No-Build Alternative would maintain the existing configuration of the SR-91/Adams Street interchange and would not result in changes to existing conditions. Therefore, the No-Build Alternative would not result in the need to acquire properties, either permanently or temporarily.

Build Alternative 7 (Locally Preferred Alternative)

Table 2.2.5-1. Build Alternative 7 (Locally Preferred Alternative) Land Use Impacts

APN	Address	Land Use	Impact Type
231-070-003	8423 Indiana Ave, Riverside, Ca 92504	Commercial (auto related)	Partial Acquisition
231-080-004	8341 Indiana Ave, Riverside, Ca 92504	Commercial (auto related)	Full Acquisition
231-080-014	8315 Indiana Ave, Riverside, Ca 92504	Commercial (auto related)	Full Acquisition
231-200-020	8330 Indiana Ave, Riverside, Ca 92504	Commercial (auto related)	Partial Acquisition
231-134-009	8237 Indiana Ave, Riverside, Ca 92504	Commercial (auto related)	Full Acquisition
231-134-019	8237 Indiana Ave, Riverside, Ca 92504	Commercial (auto related)	Full Acquisition
231-134-005	8227 Indiana Ave, Riverside, Ca 92504	Commercial (vacant)	Partial Acquisition
231-143-023	8227 Indiana Ave, Riverside, Ca 92504	Commercial (auto related)	Partial Acquisition
231-143-024	8155 Indiana Ave, Riverside, Ca 92504	Commercial (auto related)	Full Acquisition

APN	Address	Land Use	Impact Type
231-143-017	8155 Indiana Ave, Riverside, Ca 92504	Commercial (auto related)	Full Acquisition
231-143-016	8155 Indiana Ave, Riverside, Ca 92504	Commercial (auto related)	Full Acquisition
231-154-004	8099 Indiana Ave, Riverside, Ca 92504	Commercial (auto related)	Full Acquisition
231-154-007	8089 Indiana Ave, Riverside, Ca 92504	Commercial (auto related)	Full Acquisition
231-154-014	8069 Indiana Ave, Riverside, Ca 92504	Commercial (auto related)	Partial Acquisition/TCE
231-154-016	8043 Indiana Ave, Riverside, Ca 92504	Commercial (auto related)	Partial Acquisition
231-221-005	3399 Adams St, Riverside, Ca 92504	Commercial (gas station)	Partial Acquisition
231-080-031	3522 Adams St, Riverside, ca 92504	CBU	Partial Acquisition/TCE
231-080-009	3502 Adams St, Riverside, Ca 92504	Commercial (gas station)	Partial Acquisition/TCE
231-133-031	3501 Adams St, Riverside, Ca 92504	Office	Full Acquisition
231-133-030	3507 Adams St, Riverside, Ca 92504	CBU	TCE
231-133-029	3517 Adams St, Riverside, Ca 92504	CBU	TCE
231-133-028	3527 Adams St, Riverside, Ca 92504	Residential	TCE
231-133-027	3537 Adams St, Riverside, Ca 92504	CBU	TCE
231-133-026	3547 Adams St, Riverside, Ca 92504	CBU	TCE
231-133-025	8292 Briarwood Dr, Riverside, Ca 92504	CBU	TCE

APN = assessor's parcel number

Temporary

Construction of Build Alternative 7 could result in temporary direct effects on the RSA. Temporary construction activities would require TCEs and other easements from land uses adjacent to or within the project footprint, as shown in Table 2.2.5-1 above. TCEs would include the temporary use of adjacent properties for utility work, staging purposes, or use as a safety buffer. Construction is expected to last approximately 24 months. TCEs proposed for non-residential properties could reduce parking availability or disrupt access to buildings and services. With implementation of measure **TRAF-1**, a Traffic Management Plan (TMP) would be prepared and executed to minimize potential access effects on local businesses. Strategies to be executed as part of the TMP could include the dissemination of public information, the use of alternate routes and, if needed, parking strategies, lane closures, and emergency response and transit route coordination. Sidewalks would be maintained throughout construction of the build alternative to the greatest extent practicable. Once construction is completed, access would resume as under normal conditions. Prior to construction, the City of Riverside would coordinate all potential land use changes as a result of the proposed build alternative. Following construction, the City of Riverside would ensure that areas affected by the TCEs required for construction would be restored to their original condition.

Construction of the build alternative could result in indirect effects on the RSA. Indirect impacts from construction of the build alternative could include temporary elevated traffic levels, a changed aesthetic environment, worsened air quality, increased noise levels, and other short-term impacts on the surrounding environment due to construction activities.

Permanent Impacts

As shown in Table 2.2.5-2, Build Alternative 7 would result in 10 non-residential relocations, 3 of which would be at a strip mall on the corner of Adams Street and Diana Avenue. The other relocations are 7 auto-related business displacements along Indiana Avenue to facilitate reconstruction of the SR-91 eastbound on- and off-ramps.

Table 2.2.5-2. Displacements

Alternative	Residential Displacements	Property Address
Build Alternative 7 (Locally Preferred Alternative)	0	7 Auto Related (170 employees) 2 Retail (10 employees) 1 Office (15 employees)

Source: Caltrans 2020b

Characteristics of the non-residential properties requiring relocation under the build alternative (i.e., age of the business/property and estimated number of employees) would be confirmed after site surveys and owner/occupant interviews are conducted during the PS&E phase of the project (Caltrans 2023a). However, based on field inspection and professional experience with similar businesses it is expected that a total of 195 employees would be displaced with these businesses.

Table 2.2.5-3 provides a summary of relocation resources available for displaced non-residential properties.

Table 2.2.5-3. Summary of Relocation Resources Available

Relocation Resource	For Rent – Appropriate Zoning and Site Requirements	For Sale – Appropriate Zoning and Site Requirements	Total Sites
Office	55 sites	15 sites	70
Retail	22 sites	28 sites	50
Auto-Related	1 site	3 sites	4
Commercial-Strip Mall	27 sites	3 sites	30
Industrial Properties	14 sites	4 sites	18

Sources: MLS 2022, LoopNet 2020, CoStar 2022.

Based on current real estate listings as of September 2022, it is apparent that there are adequate opportunities for the retail and office occupants to locate and secure a reasonable replacement site within typical project schedule constraints. As shown in Table 2.2.5-3, with the additional auto-related displacements and 140 employees estimated to be displaced, there are limited “auto-related” replacement parcels, especially with freeway visibility that the proposed affected parcels currently enjoy. The limited availability of compatible replacement properties would provide a challenge for all auto-related businesses to relocate at the same time. Additionally, depending on the level of auto “repair” facilities within each business, added time and expenses may be required for Conditional Use Permits, Air Quality Permits, and other industry regulatory requirements. Typical relocation timeframes for an auto-related business should be about 6 to 8 months, but if Alternative 7 is chosen, and all seven auto-related businesses are displaced, additional time, resources, and funds may be required to successfully relocate them.

Replacement sites farther from the proposed project study area, compared to the existing locations of the displacement properties, could require longer commute times for employees or longer travel times for existing clientele. Longer travel times could affect the ability of the businesses to re-establish themselves in the replacement area and possibly result in impacts on the City’s tax base. Finally, the automotive businesses are small businesses that may have financial constraints associated with adding moving expenses to existing business-related expenditures.

With implementation of measure **COM-2,** advisory assistance services, such as bilingual and ethnic aides, would be provided to effectively communicate the relocation claims process to minority-owned businesses, in accordance with Section 10.01.09.01 (Advisory Assistance) and Section 10.01.09.02 (Specific Advisory Assistance) of the Caltrans Right of Way Manual (Caltrans 2021). Caltrans would require a longer timeline to vacate properties, in order to give businesses time to secure a replacement property, or convert vacant properties, in accordance with Section 10.02.05.06 (Relocation Compliance with Uniform Act) of the Caltrans Right of Way Manual. In accordance with 49 CFR 24.205, advance payments would be provided to facilitate relocation of businesses for hardship situations upon pre-approval, and professional moving services would be provided. If there is a lack of available replacement properties at the time of project construction, up to a 50-mile radius from the displacement area would be included, which is the area that is eligible for moving-related reimbursements under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (49 CFR Part 24 Subpart D).

Finally, owner/occupant interviews would be conducted during the Final Design phase of the project to provide a larger understanding of household demographics and financial challenges for each owner and occupant, in accordance with Sections 10.02.05.05 (Contact with Data Sources, Property Owners, and Displacees) and 10.02.05.07 (Survey Methods) of the Caltrans Right of Way Manual.

With compliance with measure **COM-2**, Build Alternative 7 would not result in adverse effects related to non-residential displacements.

2.2.5.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

COM-2 Provide advisory assistance services, such as bilingual and ethnic aides, to effectively communicate the relocation claims process to minority-owned businesses, in accordance with Section 10.01.09.01 (Advisory Assistance) and Section 10.01.09.02 (Specific Advisory Assistance) of the Caltrans Right of Way Manual (Caltrans 2021). In accordance with Section 10.05.02.00 (Relocation Planning), to assist in relocation planning, each business will be interviewed by the Relocation Assistance Program agent prior to the initiation of negotiations to determine the relocation needs and preferences of each entity to be displaced, to explain the relocation assistance program, to resolve issues, and to estimate the time and difficulty in locating replacement property.

Caltrans would require a longer timeline to vacate properties in order to give a business time to secure a replacement property or convert vacant properties in accordance with Section 10.02.05.06 (Relocation Compliance with Uniform Act) of the Caltrans Right of Way Manual (Caltrans 2021). In accordance with 49 CFR Part 24.205, advance payments to facilitate relocation of businesses for hardship situations on pre-approval and professional moving services would also be provided.

2.2.6 Environmental Justice

The information in this section is based on the CIA prepared for the project (Caltrans 2023a).

2.2.6.1 REGULATORY SETTING

All projects involving a federal action (funding, permit, or land) must comply with Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, signed by President William J. Clinton on February 11, 1994. This EO directs federal agencies to take the appropriate and necessary steps to identify and address

disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Low income is defined based on the Department of Health and Human Services poverty guidelines. For 2022, this was $27,750 for a family of four.

All considerations under Title VI of the Civil Rights Act of 1964, and related statutes, have also been included in this project. The Department's commitment to upholding the mandates of Title VI is demonstrated by its Title VI Policy Statement, signed by the Director, which can be found in Appendix A of this document.

The Uniform Act ensures that persons displaced as a result of a federal action or an action involving federal funds are fairly and reasonably compensated. The California Relocation Assistance Law is the state counterpart to the Uniform Act. This law requires state and local governments to provide relocation assistance and benefits to displaced persons for their actions.

Environmental justice refers to "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies" (U.S. Environmental Protection Agency n.d.).

Fair treatment means no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental, and commercial operations or policies (U.S. Environmental Protection Agency 1999).

Meaningful involvement means:

- People have an opportunity to participate in decisions about activities that would potentially affect their environment and/or health;
- The public's contribution can influence the regulatory agency's decision;
- Community concerns will be considered in the decision-making process; and
- Decision makers will seek out and facilitate the involvement of those potentially affected (U.S. Environmental Protection Agency n.d.).

2.2.6.2 AFFECTED ENVIRONMENT

Low-income and minority populations ("environmental justice populations") are identified by analyzing the demographic and economic characteristics of the affected area and comparing those to the characteristics of the larger community. Therefore, for the purposes of this analysis, the most recent data from the U.S. Census Bureau American Community Survey 2019–2023 was used.

Minority Populations

For the purpose of this study, a *minority* is a person who is a member of the following population groups: Black, Hispanic or Latino, Asian American, American Indian and Alaskan Native, and Native Hawaiian and Other Pacific Islander.

Minority populations were identified where either:

- The minority population of the affected area exceeds 50 percent, or

- The minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis. (Council on Environmental Quality 1997)

For purposes of this analysis, Riverside County was the community of comparison, and *meaningfully greater* was conservatively defined as any census tract within the resource study area with a minority population that is 5 percent or greater than that of Riverside County.

Table 2.2.6-1 compares the demographics of California, Riverside County, the City of Riverside, and the census tracts within the RSA.

Table 2.2.6-1. Minority and Low-Income Populations

Jurisdiction	Total Population	Percent Minority	Percent Hispanic or Latino	Median Household Income
California	39,283,497	59.5%	39.0%	$75,235
Riverside County	2,411,439	62.0%	48.9%	$67,005
City of Riverside	326,414	67.4%	53.7%	$69,045
Census Tract 312	7,184	59.6%	55.4%	$77,982
Census Tract 313	3,277	97.6%	96.1%	$64,837
Census Tract 314.01	7,635	66.6%	56.0%	$51,942
Census Tract 314.02	7,793	55.8%	50.3%	$54,757
Census Tract 315.01	7,993	62.3%	50.4%	$69,272
Census Tract 316.01	4,499	74.0%	65.1%	$50,757
Census Tract 317.03	4,115	69.7%	61.6%	$75,129
Census Tract 317.04	5,838	68.3%	53.4%	$73,352
Census Tract Summary	**–**	**66.4%**	**57.8%**	**$64,234**

Source: U.S. Census Bureau 2020, Table B03002, B19013

According to the 2019–2023 ACS 5-year estimates data, all RSA census tracts consist of more than 50-percent minority populations. As such, every census block group within the Environmental Justice Study Area is defined as a minority population for purposes of this analysis.

Overall, 66.4 percent of the RSA identifies as a minority population, with Hispanic or Latino as the predominant minority population. In particular, Census Tracts 313, 314.01, 316.01, 317.03, and 317.04, are more than 5 percent larger than the minority population in Riverside County as a whole. Census Tract 313, in particular, has substantially larger percentages of Hispanic and Latino populations compared with the rest of the county.

Low-Income Populations

According to the *2022 Poverty Guidelines for the 48 Contiguous States and the District of Columbia* from the U.S. Department of Health and Human Services, the poverty level for a family or household of four is an annual income of $27,750 or less (U.S. Department of Health and Human Services 2022). A household includes all persons occupying a housing unit.

According to the 2019–2023 ACS 5-year estimates data, the median household income for Riverside County is $67,005. Although this is less than the median household income for California, it is still considerably higher than the federal poverty threshold. The median household income for the RSA is $64,234. As depicted in Table 2.2.6-1, none of the census

tracts within the RSA would qualify as an area with a low-income population, using the threshold established by the U.S. Department of Health and Human Services.

Given the higher standard of living in Riverside County compared with the rest of the country, the *2022 State Income Limits for Riverside County from the California Department of Housing and Community Development* (California Department of Housing and Community Development 2022) was used to identify low-income populations for the purposes of this analysis. According to the 2022 state income limits, the very low-income limit for a household of four in Riverside County is $44,000 (California Department of Housing and Community Development 2022). This limit was used to identify low-income populations for the purposes of this analysis. In addition, federal and state low-income programs may have income eligibility requirements that are much greater compared with the poverty guidelines. Even by using this criterion, none of the RSA census tracts qualify as a low-income population.

Equity

The California Environmental Protection Agency (CalEPA), in accordance with Senate Bill 535, has created the CalEnviroScreen tool, which is a California Communities Environmental Health Screening Tool that identifies disadvantaged communities. Funds appropriated by the California Legislature, such as the Green Gas Reduction Fund, specifically target investment in disadvantaged communities. On behalf of CalEPA, the California Office of Environmental Health Hazard Assessment has released version 4.0 of CalEnviroScreen, which identifies California communities that are disproportionately burdened by, and are especially sensitive to, multiple sources of pollution, using environmental, health, and socioeconomic information and data. Environmental indicators include air quality, water quality, traffic density, and hazardous waste. Demographic indicators include asthma, cardiovascular disease, low birth weight in infants, educational attainment, housing-burdened low-income households, linguistic isolation, poverty level, and unemployment.

Scores representing pollution burden are produced for each census tract in California and mapped to identify and compare different areas. As of July 1, 2022, CalEPA designates the following four categories of geographic areas as disadvantaged:

- Census tracts receiving the highest 25 percent of overall scores in CalEnviroScreen 4.0 (1,984 tracts);
- Census tracts lacking overall scores in CalEnviroScreen 4.0 due to data gaps, but receiving the highest 5 percent of CalEnviroScreen 4.0 cumulative pollution burden scores (19 tracts);
- Census tracts identified in the 2017 disadvantaged communities designation as disadvantaged, regardless of their scores in CalEnviroScreen 4.0 (307 tracts); and
- Lands under the control of federally recognized tribes. For purposes of this designation, a tribe may establish that a particular area of land is under its control even if not represented as such on CalEPA's disadvantaged communities map and therefore should be considered a disadvantage community by requesting a consultation with the CalEPA Deputy Secretary for Environmental Justice, Tribal Affairs and Border Relations at TribalAffairs@calepa.ca.gov.

Figure 2.2.6-1 identifies Census Tracts 313, 314.01, 316.01, and 317.04 as disadvantaged communities within the proposed RSA. Additionally, Table 2.2.6-2 shows each individual CalEnviroScreen 4.0 score for those tracts identified as disadvantaged within the project's RSA.

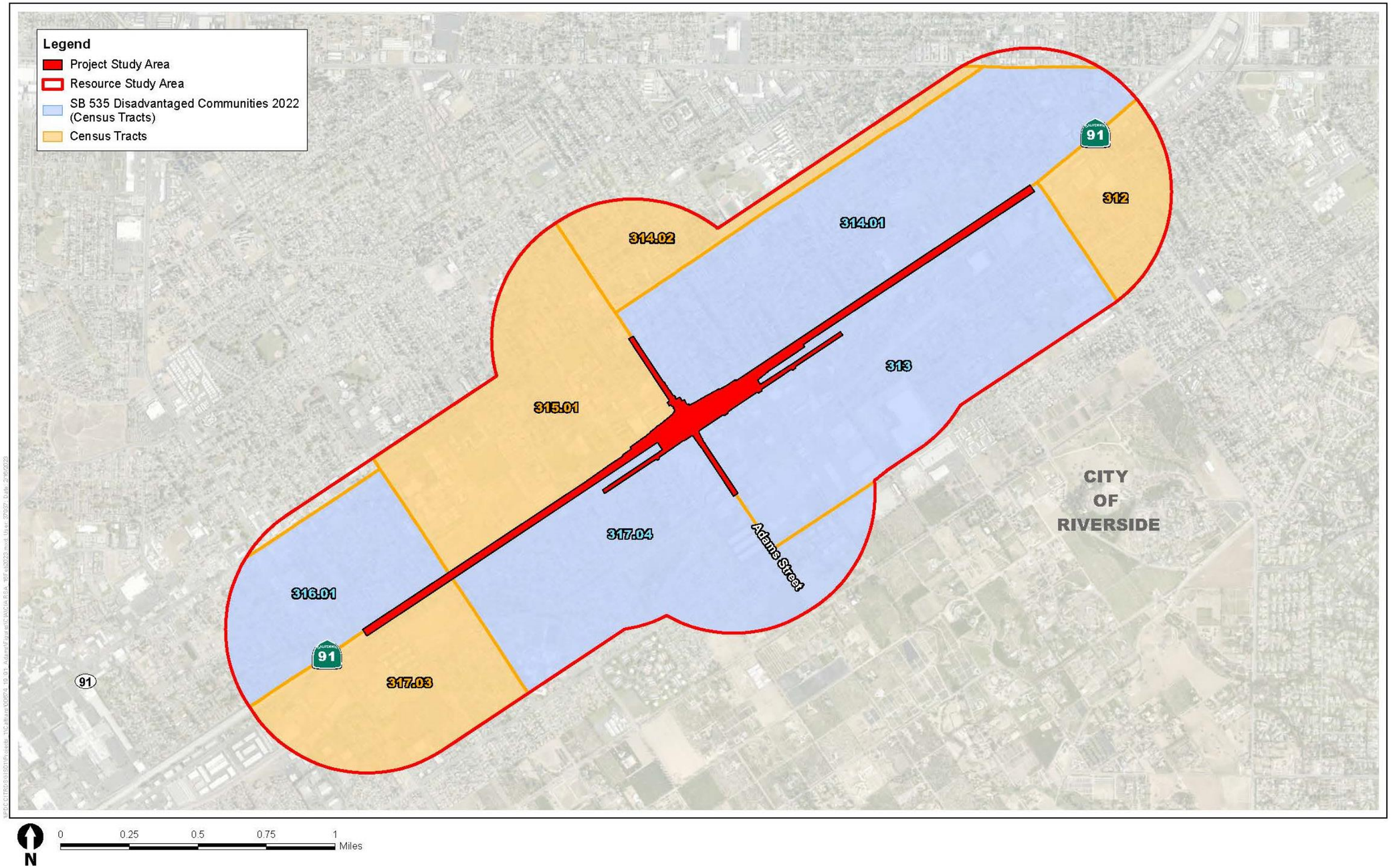

Figure 2.2.6-1 Disadvantaged Communities Identified in the Resource Study Area

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Table 2.2.6-2. CalEnviroScreen 4.0 Scores for Census Tracts

Census Tract	Score Percentile
313	91.0
314.01	81.9
316.01	92.9
317.04	71.0

Source: OEHHA 2022

Table 2.2.6-2 shows Census Tracts 313, 314.01, and 316.01 fall within CalEnviroScreen's top 25 percent of overall scores.

2.2.6.3 ENVIRONMENTAL CONSEQUENCES

Federal Highway Administration Environmental Justice Order 6640.23A defines a disproportionately high and adverse effect on environmental justice populations as an adverse effect that either is predominately borne by a minority population and/or a low-income population, or will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that would be suffered by the nonminority population and/or non-low-income population.

An adverse effect is defined as "the totality of significant individual or cumulative human health or environmental effects" (Federal Highway Administration Order 6640.23A). When determining whether an action would disproportionately affect an environmental justice population, mitigation and enhancement measures and potential offsetting benefits to the affected minority or low-income populations are considered. The data used to complete this analysis indicate that every Census Tract within the Environmental Justice Study Area is defined as a minority population for purposes of this analysis. As such, there are environmental justice populations distributed throughout the Environmental Justice Study Area.

No-Build Alternative

The No-Build Alternative would not result in any changes to existing conditions. The No-Build Alternative would not result in effects on minority or low-income populations compared to baseline conditions and would not result in the need to relocate any residence or business. However, it would not achieve the transportation and safety improvements that are expected to result from the build alternative.

Build Alternative 7 (Locally Preferred Alternative)

Temporary Impacts

There would be short-term temporary road or lane closures during construction that would potentially affect travel times; however, the proposed project would not prevent access to any community facilities or businesses during project construction. As part of measure **TRAF-1,** Caltrans would coordinate with local emergency providers and communicate with the surrounding community prior to construction to minimize construction-related impacts as a part of the TMP. Lane and road closures would be scheduled to minimize or avoid affecting the local communities to the extent feasible. The staging and moving of equipment would potentially temporarily restrict bicycle and pedestrian access. Sidewalks would be temporarily closed for construction (i.e., widening/realigning roadways), restricting access for pedestrians. As part of the TMP, detour routes would be planned for bicyclists and pedestrians. At the completion of

construction activities along arterial roadways, existing on-street parking availability would be reinstated. Therefore, the proposed construction activities would not have a disproportionately high and adverse effect on any minority populations.

Temporary construction activities would lead to the short-term degradation of air quality from the release of particulate emissions and construction emissions. Site preparation and bridge construction will involve clearing, grading, performing cut-and-fill activities, improving existing roadways, and paving roadway surfaces. During construction, short-term degradation of air quality is expected from the release of particulate emissions generated by excavation, grading, hauling, and other activities. Emissions from construction equipment powered by gasoline or diesel engines are also anticipated. Additionally, construction is expected to temporarily increase traffic congestion in the area, thereby increasing emissions from traffic during the delays. These emissions would be temporary and limited to the immediate area surrounding the construction site. Implementation of air quality measures **AQ-1** through **AQ-4**, as specified in Section 2.3.6, *Air Quality*, would reduce air quality impacts resulting from construction activities. These include, but are not limited to, development of a dust control plan, measures to control dust and particulate matter (e.g., water, dust palliative, soil binder, mulch, track-out reduction measures, and covering transported loads), requirements to maintain and tune construction equipment, restrictions on idling, establishment of environmentally sensitive areas, and scheduling of construction traffic, particularly in areas within 500 feet of sensitive land uses (i.e., residences). The proposed project would also comply with all applicable laws and regulations related to air quality in accordance with Caltrans' Standard Specifications in Section 14-9 (2018). Therefore, while there are communities surrounding the construction site that are identified as minority populations, temporary impacts on air quality would not be disproportionately high or adverse to environmental justice populations because implementation of exhaust and fugitive dust emissions control measures would avoid or minimize temporary impacts on air quality.

The proposed project would result in potential short-term noise impacts during construction. Construction activities could result in temporary noise impacts from the transport and use of construction equipment and vehicles. Equipment involved in construction is expected to generate noise levels ranging from 80 to 89 dBA at a distance of 50 feet. These disruptions would be short term, and implementation of avoidance and minimization measure **NOI-1**, as specified in the NSR prepared for this project (ICF 2022a), would mandate construction hours and noise requirements and minimize noise disturbances at sensitive areas during construction. Sound control will conform to the provisions in Section 14-8.02, Noise Control, of the Standard Specifications and Special Provisions (SSP 14-8.02). According to requirements of these specifications, construction noise cannot exceed 86 dBA at 50 feet from the job site activities from 9:00 p.m. to 6:00 a.m. Therefore, while there are communities surrounding the construction site that are minority populations, temporary noise impacts would not be disproportionately high or adverse to environmental justice populations.

There would be temporary visual impacts during project construction, primarily from the presence of construction equipment. Construction equipment would be visible to vehicles traveling near the staging areas along the SR-91/Adams Street interchange. However, staging areas would be shielded from view to the extent possible and would be temporary and short term, lasting only the duration of construction, which is anticipated to be approximately 24 months. Nighttime construction would be needed. In compliance with Section 7-1.04, Public Safety, of Caltrans Standard Specifications guidance, City or Caltrans staff, working with contractors, will ensure that no lighting is aimed toward drivers, businesses, or residences. Additionally, any existing vegetation that would be disturbed or removed within the project limits

during construction would be replanted and erosion control measures applied to disturbed soil areas.

Temporary impacts would be distributed throughout the RSA and would affect all of the census block groups comparably, regardless of demographic or socioeconomic characteristics. These short-term impacts would also be reduced through implementation of avoidance, minimization, and abatement measures as discussed below, and would cease after project construction.

Permanent Impacts

Once operational, the project would improve the existing circulation system. Further, it would benefit nearby communities, including minority and low-income populations, by improving traffic operations at the SR-91/Adams Street interchange and enhancing bicycle and pedestrian facilities. Under the build alternative, neighborhood integrity and community cohesion are anticipated to be similar to existing conditions. The project is not expected to result in a substantial permanent social or economic change, and benefits would be shared by all communities within the RSA.

Relocation impacts are discussed in detail in Section 2.2.5, *Relocations and Real Property Acquisition*. Relocations would occur in a minority community given the demographic makeup of this area. Owner/occupant interviews would be conducted during the Final Design phase of the project to provide a greater understanding of household demographics and financial challenges for each respective owner and occupant, in accordance with Sections 10.02.05.05 (Contact with Data Sources, Property Owners, and Displacees) and 10.02.05.07 (Survey Methods) of the Caltrans Right of Way Manual. If Build Alternative 7 is chosen and all seven auto-related businesses are displaced, additional time, resources, and funds could be required to successfully relocate these businesses. Any businesses that would be displaced by this project would be compensated in accordance with the Uniform Relocation Act. Therefore, these relocations would not result in a high and adverse impact on environmental justice populations.

The project would have no meaningful effect on air quality once operational. In addition, traffic noise levels under design year build conditions are not predicted to approach or exceed the noise abatement criteria levels at outdoor areas of frequent human use in the project area. No traffic noise impacts are predicted to occur due to operation of this project. Once constructed, the proposed project would be consistent with the existing visual character of the project area. Widening of the roadway and other associated changes under the proposed project would be consistent with the existing visual environment and, with compliance with the Corridor Master Plan and implementation of the mitigation measures **VIS-1** and **VIS-2**, would not conflict with applicable zoning and other regulations governing scenic quality during construction and operation or substantially increase daytime or nighttime light and glare.

Based on the above discussion and analysis, the build alternative would not cause disproportionately high and adverse effects on any minority or low-income populations in accordance with the provisions of EO 12898. No further environmental justice analysis is required.

2.2.6.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Implementation of standard Caltrans procedures and Caltrans Standard Specifications measures would reduce temporary impacts of the build alternative during construction, and the build alternative would not cause disproportionately high and adverse effects on any minority or low-income population. Additionally, as discussed above, implementation of **TRAF-1, NOI-1, AQ-1 through AQ-4, VIS-1 and VIS-2** would reduce any impacts to less than significant. As such, no additional avoidance, minimization, and/or mitigation measures are proposed.

2.2.7 Utilities/Emergency Services

2.2.7.1 AFFECTED ENVIRONMENT

There are existing utilities and overhead power lines within the project limits. Emergency services include law enforcement, crime prevention, preservation of public order, judicial court security, fire suppression, fire prevention, paramedic response, swift water rescue, hazardous materials response, and other types of emergency services. Emergency services within the project study area are listed in Table 2.2.7-1.

Table 2.2.7-1. Emergency Services Facilities in Resource Study Area

#	Name	Community Facility Type	Address
1	Riverside Fire Department Station #2	Fire Station	9449 Andrew St
2	California Highway Patrol	Police Station	8118 Lincoln Ave
3	Riverside Police Department Lincoln Station	Police Station	8193 Magnolia Ave
4	Emergency Operations Center	City of Riverside Facility	3085 St Lawrence St

Utilities and service systems crossing or adjacent to the RSA include overhead power transmission and distribution lines, as well as water and sewer lines.

In addition, the City of Riverside has two utility facilities located within the RSA as listed in Table 2.2.7-2.

Table 2.2.7-2. City of Riverside Utility Facilities in Resource Study Area

#	Name	Community Facility Type	Address
1	Utility Operations Center	City of Riverside Facility	2911 Adams St
2	Municipal Corporation Yard	City of Riverside Facility	8095 Lincoln Ave

In the RSA, water is serviced by various water districts, depending on location.

Solid Waste Disposal

The Integrated Waste Management Act of 1989 (Assembly Bill 939) requires jurisdictions to comply with the state's waste reduction goals. The closest active landfill operated by Waste Management is the El Sobrante Landfill, located approximately 9.5 miles southwest of the RSA. With a capacity to process up to 70,000 tons of waste per week, it is an integral part of Riverside County's waste disposal system, processing about 43 percent of the county's annual waste. The landfill is anticipated to operate until it reaches design capacity, estimated to be around 2030 (Riverside County Waste Management Department 2009).

2.2.7.2 ENVIRONMENTAL CONSEQUENCES

No-Build Alternative

The No-Build Alternative does not propose any improvements on SR-91 within the project area, and no impacts on utilities or emergency services would occur.

Build Alternative 7 (Locally Preferred Alternative)

Temporary Impacts

Emergency Services

The build alternative would not result in the partial acquisition or TCE from any emergency service facility within 500 feet of the project study area. However, the build alternative would involve construction activities that would require rerouting of traffic, nearby temporary lane closures, and other activities, that could result in access issues during construction. Traffic-related impacts would be minimized by providing alternative routes and access points.

Construction activities would potentially result in traffic delays that could affect the ability of fire, law enforcement, and emergency service providers to meet response-time goals. However, the affected emergency service response times associated with construction would be temporary, and detour routes would be provided. With implementation of measure **TRAF-1**, Caltrans would coordinate with local emergency providers and communicate with the surrounding community prior to construction to minimize construction-related impacts as a part of the TMP.

Utilities

The build alternative could require the relocation of existing facilities due to project-related ground disturbance, resulting in intermittent disruptions of utilities during construction. Caltrans would coordinate with utilities if any disruptions to service during relocations would be scheduled to minimize effects on service and utility operations. Utility work is anticipated to be conducted prior to construction of the build alternative to eliminate potential conflicts in advance. In addition, under measure **UT-1,** utility relocation plans will be prepared in consultation with the affected utility provider for overhead power lines that will need to be relocated. Caltrans will focus on relocating utilities within the state right-of-way or other existing public rights-of-way or easements. If relocation outside of existing or additional public rights-of-way or easements required for the project is necessary, such relocation will be prioritized.

This utility work would be conducted in coordination with the construction contractor.

Solid Waste Disposal

Construction of the build alternative would result in the generation of demolition debris and construction debris, consisting primarily of concrete, steel, and asphalt. Some of this material is appropriate for landfill disposal; however, a large portion of construction debris is typically recycled or reused because of its economic advantage over new materials. The fraction of debris deemed not suitable for recycling or reuse, and mostly consisting of inert materials, could be disposed of in an inert landfill, thereby saving valuable sanitary-landfill capacity in municipal landfills. No solid waste-disposal impacts are expected; however, it can be assumed that the construction contractor would likely use the El Sobrante Landfill, which has the capacity to serve the needs of the proposed project.

Once construction is complete, the build alternative would not generate solid waste. The disposal of all solid waste material generated by the build alternative would comply with all federal, state, and local statutes and regulations.

Permanent Impacts

Emergency Services

Improvements from the build alternative would enhance traffic circulation and could thereby reduce emergency response times. Because the build alternative does not propose any new land uses or housing, the project is not expected to increase the need for law enforcement and fire protection services in the RSA. Therefore, permanent impacts resulting from the build

alternative would be beneficial as related to emergency response times, and there would be no impacts related to demand for emergency services.

Utilities

All utilities would be restored upon completion of utility relocation activities under the build alternative; thus, no long-term impacts are anticipated.

Solid Waste Disposal

Because Assembly Bill 939 requires jurisdictions to divert waste, the build alternative would be required to reduce and direct waste away from landfills during the construction phase. Construction of the build alternative would result in the generation of demolition debris and construction debris, consisting primarily of concrete, steel, and asphalt. Some of this material is appropriate for landfill disposal; however, a high fraction of construction debris is typically recycled or reused because of its economic advantage over new materials. The fraction of debris deemed not suitable for recycling or reuse and mostly consisting of inert materials could be disposed of in an inert landfill, thereby saving valuable sanitary landfill capacity in municipal landfills. No solid waste disposal impacts are expected; however, it can be assumed that the construction contractor would likely use the El Sobrante Landfill, which has the capacity to serve the needs of the project.

Once construction is complete, the build alternative would not generate solid waste. The disposal of all solid waste material generated by the build alternative would comply with all federal, state, and local statutes and regulations.

2.2.7.3 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Measure **TRAF-1** will be implemented to minimize traffic circulation impacts during construction. In addition, the measures **UT-1, COM-1,** and **COM-2** will be implemented:

UT-1 Utility relocation plans will be prepared in consultation with the affected utility provider for overhead power lines that will need to be relocated. Caltrans will focus on relocating utilities within the state right-of-way or other existing public rights-of-way or easements. If relocation outside of existing or additional public rights-of-way or easements required for the project is necessary, such relocation will be prioritized.

2.2.8 Traffic and Transportation/Pedestrian and Bicycle Facilities

2.2.8.1 REGULATORY SETTING

The Department, as assigned by the Federal Highway Administration (FHWA), directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of Federal-aid highway projects (see 23 Code of Federal Regulations [CFR] 652). It further directs that the special needs of the elderly and the disabled must be considered in all Federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

In July 1999, the U.S. Department of Transportation (USDOT) issued an Accessibility Policy Statement pledging a fully accessible multimodal transportation system. Accessibility in federally assisted programs is governed by the USDOT regulations (49 CFR 27) implementing Section 504 of the Rehabilitation Act (29 United States Code [USC] 794). The FHWA has enacted

regulations for the implementation of the 1990 Americans with Disabilities Act (ADA), including a commitment to build transportation facilities that provide equal access for all persons. These regulations require application of the ADA requirements to Federal-aid projects, including Transportation Enhancement Activities.

2.2.8.2 AFFECTED ENVIRONMENT

Information in this section is based on the Traffic Operations Analysis Report (Caltrans 2021h) prepared for the project.

Project alternatives were analyzed under the existing year (2020), opening year (2027), and design year (2047) conditions. The study scenarios for the traffic operations analysis include the following:

- Existing (2020) Conditions
- Opening Year (2027) No-Build Alternative
- Opening Year (2027) Build Alternative 7 (Locally Preferred Alternative)
- Design Year (2047) No-Build Alternative
- Design Year (2047) Build Alternative 7 (Locally Preferred Alternative)

Study Area

Based on discussions with Caltrans and City of Riverside, the existing study area intersections are shown in Figure 2.2.8-1 and summarized as follows:

- Van Buren Boulevard/SR-91 Westbound Ramps
- SR-91 EB Ramps/Indiana Avenue
- Van Buren Boulevard/Indiana Avenue
- Adams Street/Magnolia Avenue
- Adams Street/Briarwood Drive
- Adams Street/Diana Avenue
- Adams Street/SR-91 Westbound Ramps
- Adams Street/SR-91 Eastbound Ramps
- Adams Street/Indiana Avenue
- Adams Street/Auto Center Drive
- Adams Street/Lincoln Drive
- Jefferson Street/Indiana Avenue
- Madison Street/SR-91 Westbound Ramps
- Madison Street/SR-91 Eastbound Ramps
- Madison Street/Indiana Avenue

The study area includes locations that may be affected by the project, including the adjacent SR-91 interchanges to the east and west. While the roadway network in the study area skewed at nearly a 45-degree angle, for the purposes of the analysis, SR-91 (and other parallel roads) is considered to be running east-west while Adams Street, Van Buren Boulevard, and Madison Street are considered to be running north-south.

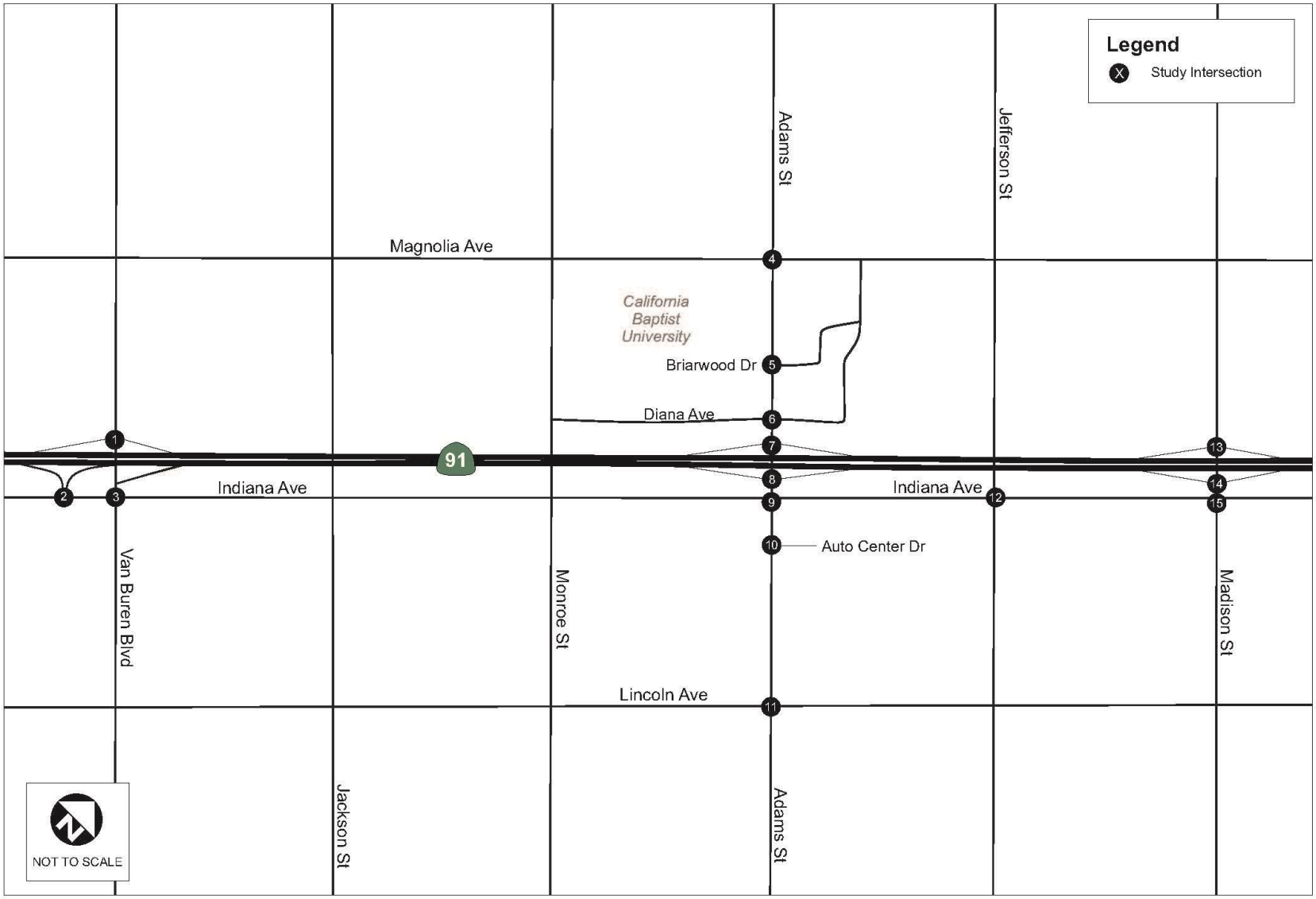


Figure 2.2.8-1. Traffic Analysis Study Area

Freeway Analysis Methodology

Level of service (LOS) is a standard index of the service provided by a transportation facility from the traveler's perspective. LOS is a concept that is defined in the Highway Capacity Manual (HCM) and can range from A (free-flow conditions) through F (severely congested conditions). LOS A represents travel at free-flow speeds with complete mobility. LOS B represents slightly increased congestion and decreased mobility; however, operations still remain near free-flow speeds. LOS A and LOS B characterize desirable traffic flow conditions (refer to Table 2.2.8-1 and Figure 1-3).

Table 2.2.8-1. Freeway Segment and Ramp Junctions LOS Criteria

LOS	Basic Freeway Segment Density (pc/mi/ln)	Ramp Merge/Diverge and Freeway Weaving Density (pc/mi/ln)
A	0–11	0–10
B	> 11–18	> 10–20
C	> 18–26	> 20–28
D	> 26–35	> 28–35
E	> 35–45	> 35
F	> 45 or Demand exceeds capacity	Demand exceeds capacity

Note: pc = passenger cars, mi = mile, ln = lane
When Volume-to-Capacity (V/C) ratio exceeds 1.0, the facility is considered to operate at LOS F.

The Department's goal for basic freeway segment operations, including SR-91 within the traffic analysis study area, is between LOS C and LOS D or better.

Intersection Analysis Methodology

For arterial intersections, LOS is a measure of average traffic operating conditions at intersections during an hour. The SimTraffic simulation tool (based on the Synchro software) is used to develop intersection operations within this report. For each scenario, a total of 10 simulation runs are prepared, which consist of four 15-minute intervals within each run. The total "vehicles entered" and "vehicles exited" for the network are compared for the 10 simulation runs to ensure calibration. The network simulations achieve a 1 percent to 2 percent tolerance between entering and exiting vehicles, which is generally considered acceptable. Table 2.2.8-2 presents a description of LOS for signalized and unsignalized intersections.

Table 2.2.8-2. Level of Service Definitions for Signalized and Unsignalized Intersections (6th Edition Highway Capacity Operations Method)

	Unsignalized Delay	Signalized Intersections	
Level of Service	Average Control Delay (seconds/vehicle)	Average Stopped Delay per Vehicle (seconds)	Description
A	<10.0	<10.0	Operations with very low delay occurring with favorable progression and/or short cycle length.
B	>10.0 to 15.0	>10.0 to 20.0	Operations with low delay occurring with good progression and/or short cycle lengths.
C	>15.0 to 25.0	>20.0 to 35.0	Operations with average delays resulting from fair progression and or/longer cycle lengths. Individual cycle failures begin to appear.

Level of Service	Unsignalized Delay Average Control Delay (seconds/vehicle)	Signalized Intersections Average Stopped Delay per Vehicle (seconds)	Description
D	>25.0 to 35.0	>35.0 to 55.0	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.
E	>35.0 to 50.0	>55.0 to 80.0	Operations with high delay values indicating poor progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.
F	>50.0	>80.0	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.

Note: Volume over capacity greater than or equal to one (V/C≥1) will be considered LOS F.

Analysis Evaluation Criteria

Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State highway facilities. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. For the purpose of this study, LOS D is assumed to be the criteria for SR-91 mainline segments, on- and off-ramps, and ramp terminal intersections.

The City's General Plan has established that the LOS should be LOS D or better for major intersections in the City. Therefore, LOS D is considered as the criteria for acceptable operations for the purpose of this project.

Existing Traffic Volumes

Freeway Operations Analysis

Table 2.2.8-3 presents the existing year 2020 AM and PM peak hour density and LOS for eastbound SR-91 within the study area.

Table 2.2.8-3. Existing (2020) Eastbound SR-91 Freeway LOS

Eastbound Freeway Segment	Facility Type	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
West of Indiana Avenue Off-ramp (at Van Buren Boulevard)	Basic	18.7	C	20.2	C
Indiana Avenue Off-ramp	Diverge	18.7	C	20.2	C
Between Indiana Avenue Off-ramp and Indiana Avenue On-ramp	Basic	21.6	C	21.2	C
Between Indiana Avenue On-ramp and Van Buren Boulevard On- ramp	Basic	17.4	B	17.2	B
Van Buren Boulevard On-ramp	Merge	14.4	B	14.0	B
Between Van Buren Boulevard On-ramp and Adams Street Off-ramp	Basic	18.5	C	18.4	C
Between Adams Street Off-ramp and Adams Street On-ramp	Basic	21.7	C	21.4	C

Eastbound Freeway Segment	Facility Type	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
Adams Street On-ramp	Merge	27.5	C	27.4	C
Between Adams Street On-ramp and Madison Street Off-ramp	Basic	25.0	C	25.5	C
Madison Street Off-ramp	Diverge	25.6	C	26.3	C
Between Madison Street Off-ramp and Madison Street On-ramp	Basic	24.1	C	23.4	C
Madison Street On-ramp	Merge	25.1	C	23.8	C
East of Madison Street On-ramp	Basic	28.2	D	27.3	D
Eastbound SR-91 Freeway Facility		*17.0*	*B*	*16.9*	*B*

Source: Caltrans 2021h
Note: pc = passenger cars, mi = mile, ln = lane

As shown in Table 2.2.8-3, the eastbound freeway segments and ramps in the study area are currently operating at LOS D or better in the existing year 2020.

Table 2.2.8-4 summarizes the westbound SR-91 freeway facility LOS in the existing year 2020 within the study area.

Table 2.2.8-4. Existing (2020) Westbound SR-91 Freeway LOS

Westbound Freeway Segment	Facility Type	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
East of Madison Street Off-Ramp	Basic	28.0	D	29.8	D
Madison Street Off-ramp	Diverge	30.6	D	31.4	D
Between Madison Street Off-ramp and Madison Street On-ramp	Basic	23.4	C	25.6	C
Madison Street On-ramp	Merge	18.6	C	20.0	C
Between Madison Street On-ramp and Adams Street Off-ramp	Basic	18.7	C	19.6	C
Adams Street Off-ramp	Diverge	18.7	C	19.6	C
Between Adams Street Off-ramp and Adams Street On-ramp	Basic	20.9	C	24.8	C
Adams Street On-ramp	Merge	16.9	B	19.9	C
Between Adams Street On-ramp and Van Buren Boulevard Off-ramp	Basic	16.8	B	19.6	C
Between Van Buren Boulevard Off-ramp and Van Buren Boulevard On- ramp	Basic	20.0	C	23.0	C
Van Buren Boulevard On-ramp	Merge	30.7	D	30.1	D
West of Van Buren Boulevard On-ramp	Basic	28.6	D	29.7	D
Westbound SR-91 Freeway Facility		*16.3*	*B*	*18.1*	*C*

Source: Caltrans 2021h
Note: pc = passenger cars, mi = mile, ln = lane

As shown in Table 2.2.8-4, the westbound SR-91 freeway segments and ramps in the study area are currently operating at LOS D or better in the existing year 2020.

Intersections Operations Analysis

Table 2.2.8-5 presents the existing year 2020 peak hour LOS results for the study intersections within the study area.

Table 2.2.8-5. Existing (2020) Intersection Peak Hour LOS

Intersection		Traffic Control	AM Peak Hour		PM Peak Hour	
			Delay (s)	LOS	Delay (s)	LOS
1	Van Buren Boulevard/SR-91 WB Ramps	Signalized	29.9	C	36.3	D
2	SR-91 EB Ramps/Indiana Avenue	Signalized	14.3	B	23.7	C
3	Van Buren Boulevard/Indiana Avenue	Signalized	**552.0**	**F**	**58.9**	**E**
4	Adams Street/Magnolia Avenue	Signalized	**113.9**	**F**	**59.8**	**E**
5	Adams Street/Briarwood Drive	Signalized	**85.0**	**F**	**70.1**	**E**
6	Adams Street/Diana Avenue	Stop-control	31.8	D	31.8	D
7	Adams Street/SR-91 WB Ramps	Signalized	15.2	B	9.8	A
8	Adams Street/SR-91 EB Ramps	Signalized	38.1	D	39.4	D
9	Adams Street/Indiana Avenue	Signalized	**60.8**	**E**	**69.3**	**E**
10	Adams Street/Auto Center Drive	Stop-control	10.0	A	20.5	C
11	Adams Street/Lincoln Drive	Signalized	16.1	B	10.2	B
12	Jefferson Street/Indiana Avenue	Signalized	14.0	B	14.3	B
13	Madison Street/SR-91 WB Ramps	Signalized	17.4	B	13.0	B
14	Madison Street/SR-91 EB Ramps	Signalized	38.1	D	48.2	D
15	Madison Street/Indiana Avenue	Signalized	31.4	C	48.1	D

Source: Caltrans 2021h
EB= eastbound; LOS = Level of Service, s = seconds; WB = eastbound.

As shown in Table 2.2.8-5, the majority of the study intersections currently operate at LOS D or better. However, the following four study intersections operate at LOS E or F in the existing year 2020:

- Van Buren Boulevard/Indiana Avenue (AM and PM peak hour)
- Adams Street/Magnolia Avenue (AM and PM peak hour)
- Adams Street/Briarwood Drive (AM and PM peak hour)
- Adams Street/Indiana Avenue (AM and PM peak hour)

2.2.8.3 ENVIRONMENTAL CONSEQUENCES

Temporary Impacts

No-Build Alternative

Under the No-Build Alternative, no construction would occur; therefore, temporary impacts—such as lane closures, nighttime construction, and flagging—would not occur.

Build Alternative 7 (Locally Preferred Alternative)

Temporary impacts on traffic circulation and access would occur during construction of Build Alternative 7. Staged construction would be required to construct the project. Construction would require temporary, short-term freeway closures to erect falsework for the new bridge construction. Temporary, short-term roadway closures would potentially be required on Adams Street and Indiana Avenue to erect new traffic signals and to complete other work elements. The freeway and street closures could temporarily delay shipments, affect business parking, and impede business access. Closures and construction-related staging could also occur at night or on weekends, during non-peak hours for commuting. Full freeway lane, freeway ramp, and arterial street closures would also be required during nighttime hours or on weekends. However, detours would be provided. Although access to some businesses in the immediate vicinity of the project corridor could be restricted, access would be maintained at all times during construction.

TCEs adjacent to Adams Street and Indiana Avenue would affect some of the existing parking capacity at those locations. At completion of construction activities, parking capacity would be reinstated. The subject properties support an ample supply of parking, and the few spaces affected during construction would not substantially affect business operations or customer service. The few parking spaces affected by TCEs during construction would be restored once construction activities conclude at each respective location.

During construction of the build alternative, the staging and moving of equipment could temporarily restrict bicycle and pedestrian access, though no existing bike lanes would be directly affected by the project. In addition to staging areas, sidewalks would be temporarily closed for construction, restricting access for pedestrians.

Public transportation routes within the RSA could temporarily experience service delays and disruptions during construction, particularly to RTA Route 14, which travels through Indiana Avenue within the project study area. No public transportation stops would be directly affected by the build alternative.

As part of measure **TRAF-1**, Caltrans would coordinate with local emergency providers and communicate with the surrounding community prior to construction to minimize construction-related impacts as a part of the TMP. Lane and road closures would be scheduled to minimize or avoid affecting the local communities to the extent feasible. The staging and moving of equipment could temporarily restrict bicycle and pedestrian access. Sidewalks would be temporarily closed for construction (i.e., widening/realigning roadways), restricting access for pedestrians. As part of the TMP, detour routes would be planned for bicyclists and pedestrians. A construction staging plan would be implemented, and detour routes would be planned to minimize hazards for bicyclists and pedestrians. Prior to construction, Caltrans would coordinate with RTA to provide rerouting information, including operating schedules, to the public at least one month in advance to minimize impacts. At the completion of construction activities along arterial roadways, existing on-street parking availability would be reinstated. In addition, with implementation of measure **COM-1**, Caltrans will continue to coordinate closely with CBU officials through project design and construction in order to clearly communicate construction-related delays and to identify additional workarounds that could reduce temporary impacts on people trying to access the CBU campus.

Permanent Impacts

Opening Year 2027 Conditions

For each alternative, traffic operations are evaluated using peak-hour density/LOS for freeway mainline and ramps and delay/LOS for intersections The detailed traffic forecasting

methodology is contained in the Traffic Operations Analysis Report approved by the Department in 2021.

Freeway Operations Analysis

Table 2.2.8-6 summarizes the opening year 2027 eastbound SR-91 freeway facility LOS in the study area for the No-Build Alternative.

Table 2.2.8-6. Opening Year 2027 Eastbound SR-91 Freeway LOS – No-Build Alternative

Eastbound Freeway Segment	Facility Type	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
West of Indiana Avenue Off-Ramp (at Van Buren Boulevard)	Basic	19.6	C	20.7	C
Indiana Avenue Off-ramp	Diverge	19.6	C	20.7	C
Between Indiana Avenue Off-ramp and Indiana Avenue On-ramp	Basic	22.8	C	22.1	C
Between Indiana Avenue On-ramp and Van Buren Boulevard On- ramp	Basic	18.2	C	17.9	B
Van Buren Boulevard On-ramp	Merge	14.6	B	14.4	B
Between Van Buren Boulevard On-ramp and Adams Street Off-ramp	Basic	19.2	C	19.0	C
Between Adams Street Off-ramp and Adams Street On-ramp	Basic	22.1	C	22.1	C
Adams Street On-ramp	Merge	28.1	D	28.5	D
Between Adams Street On-ramp and Madison Street Off-ramp	Basic	25.7	C	26.9	D
Madison Street Off-ramp	Diverge	26.1	C	27.1	C
Between Madison Street Off-ramp and Madison Street On-ramp	Basic	24.7	C	24.6	C
Madison Street On-ramp	Merge	26.1	C	25.0	C
East of Madison Street On-ramp	Basic	29.3	D	29.0	D
Eastbound SR-91 Freeway Facility		*17.6*	*B*	*17.6*	*B*

Source: Caltrans 2021h

Note: pc = passenger cars, mi = mile, ln = lane

As shown in Table 2.2.8-6, the SR-91 eastbound freeway segments and ramps in the study area are forecast to operate at LOS D or better in opening year 2027 under the No-Build Alternative.

Table 2.2.8-7 summarizes the opening year 2027 westbound SR-91 freeway facility LOS in the study area for the No-Build Alternative.

Table 2.2.8-7. Opening Year 2027 Westbound SR-91 Freeway LOS – No-Build Alternative

Westbound Freeway Segment	Facility Type	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
East of Madison Street Off-Ramp	Basic	30.3	D	31.8	D
Madison Street Off-ramp	Diverge	32.0	D	32.5	D
Between Madison Street Off-ramp and Madison Street On-ramp	Basic	24.7	C	26.9	D
Madison Street On-ramp	Merge	19.5	C	20.9	C
Between Madison Street On-ramp and Adams Street Off-ramp	Basic	19.6	C	20.5	C
Adams Street Off-ramp	Diverge	19.6	C	20.5	C
Between Adams Street Off-ramp and Adams Street On-ramp	Basic	21.8	C	25.8	C
Adams Street On-ramp	Merge	17.7	B	21.0	C
Between Adams Street On-ramp and Van Buren Boulevard Off-ramp	Basic	17.7	B	20.7	C
Between Van Buren Boulevard Off-ramp and Van Buren Boulevard On- ramp	Basic	21.0	C	24.3	C
Van Buren Boulevard On-ramp	Merge	31.6	D	31.2	D
West of Van Buren Boulevard On-ramp	Basic	30.0	D	31.5	D
Westbound SR-91 Freeway Facility		*17.2*	*B*	*19.0*	*C*

Source: Caltrans 2021h
Note: pc = passenger cars, mi = mile, ln = lane

As shown in Table 2.2.8-7, the SR-91 westbound freeway segments and ramps in the study area are forecast to operate at LOS D or better in opening year 2027 under the No-Build Alternative.

Table 2.2.8-8 presents the opening year 2027 eastbound SR-91 freeway facility LOS in the study area for Build Alternative 7 (Locally Preferred Alternative).

Table 2.2.8-8. Opening Year 2027 Eastbound SR-91 Freeway LOS – Build Alternative 7 (Locally Preferred Alternative)

Eastbound Freeway Segment	Facility Type	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
West of Indiana Avenue Off-Ramp (at Van Buren Boulevard)	Basic	19.6	C	20.7	C
Indiana Avenue Off-ramp	Diverge	19.6	C	20.7	C
Between Indiana Avenue Off-ramp and Indiana Avenue On-ramp	Basic	22.8	C	22.1	C
Between Indiana Avenue On-ramp and Van Buren Boulevard On- ramp	Basic	18.2	C	17.9	B
Van Buren Boulevard On-ramp	Merge	14.6	B	14.4	B
Between Van Buren Boulevard On-ramp and Adams Street Off- ramp	Basic	19.2	C	19.0	C
Between Adams Street Off-ramp and Adams Street On-ramp	Basic	22.1	C	22.1	C

Eastbound Freeway Segment	Facility Type	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
Adams Street On-ramp	Merge	29.4	D	29.9	D
Between Adams Street On-ramp and Madison Street Off-ramp	Overlap	28.1	D	28.5	D
Madison Street Off-ramp	Diverge	31.9	D	33.0	D
Between Madison Street Off-ramp and Madison Street On-ramp	Basic	24.7	C	24.6	C
Madison Street On-ramp	Merge	26.1	C	25.0	C
East of Madison Street On-ramp	Basic	29.3	D	29.0	D
Eastbound SR-91 Freeway Facility		*17.3*	*B*	*17.3*	*B*

Source: Caltrans 2021h
Notes: pc = passenger cars, mi = mile, ln = lane

As shown in Table 2.2.8-8, the eastbound freeway segments and ramps in the study area are forecast to operate at LOS D or better in opening year 2027 under Build Alternative 7 (Locally Preferred Alternative).

Table 2.2.8-9 summarizes the opening year 2027 westbound SR-91 freeway facility LOS in the study area under Build Alternative 7 (Locally Preferred Alternative).

Table 2.2.8-9. Opening Year 2027 Westbound SR-91 Freeway LOS – Build Alternative 7 (Locally Preferred Alternative)

Westbound Freeway Segment	Facility Type	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
East of Madison Street Off-Ramp	Basic	30.3	D	31.8	D
Madison Street Off-ramp	Diverge	32.0	D	32.5	D
Between Madison Street Off-ramp and Madison Street On-ramp	Basic	24.7	C	26.9	D
Madison Street On-ramp	Merge	19.5	C	20.9	C
Between Madison Street On-ramp and Adams Street Off-ramp	Basic	19.6	C	20.5	C
Adams Street Off-ramp	Diverge	19.6	C	20.5	C
Between Adams Street Off-ramp and Adams Street On-ramp	Basic	21.8	C	25.8	C
Adams Street On-ramp	Merge	17.7	B	21.0	C
Between Adams Street On-ramp and Van Buren Boulevard Off-ramp	Basic	17.7	B	20.7	C
Between Van Buren Boulevard Off-ramp and Van Buren Boulevard On- ramp	Basic	21.0	C	24.3	C
Van Buren Boulevard On-ramp	Merge	31.6	D	31.2	D
West of Van Buren Boulevard On-ramp	Basic	30.0	D	31.5	D
Westbound SR-91 Freeway Facility		*17.2*	*B*	*19.0*	*C*

Source: Caltrans 2021h
Notes: pc = passenger cars, mi = mile, ln = lane

As shown in Table 2.2.8-9, the westbound freeway segments and ramps in the study area are forecast to operate at LOS D or better in opening year 2027 under Build Alternative 7 (Locally Preferred Alternative).

Intersection Operations Analysis

Table 2.2.8-10 presents the opening year 2027 peak hour LOS results at the study intersections for the No-Build Alternative.

Table 2.2.8-10. Opening Year 2027 No-Build Intersection Peak Hour LOS – No-Build Alternative

Intersection		Traffic Control	AM Peak Hour		PM Peak Hour	
			Delay (s)	LOS	Delay (s)	LOS
1	Van Buren Boulevard/SR-91 WB Ramps	Signalized	33.8	C	49.0	D
2	SR-91 EB Ramps/Indiana Avenue	Signalized	14.4	B	28.6	C
3	Van Buren Boulevard/Indiana Avenue	Signalized	59.6	E	62.4	E
4	Adams Street/Magnolia Avenue	Signalized	121.3	F	105.6	F
5	Adams Street/Briarwood Drive	Signalized	93.8	F	93.7	F
6	Adams Street/Diana Avenue	Stop-control	35.2	E	34.8	D
7	Adams Street/SR-91 WB Ramps	Signalized	15.1	B	10.4	B
8	Adams Street/SR-91 EB Ramps	Signalized	52.4	D	46.6	D
9	Adams Street/Indiana Avenue	Signalized	65.4	E	73.9	E
10	Adams Street/Auto Center Drive	Stop-control	56.3	F	35.8	E
11	Adams Street/Lincoln Drive	Signalized	20.0	B	13.7	B
12	Jefferson Street/Indiana Avenue	Signalized	22.6	C	18.7	B
13	Madison Street/SR-91 WB Ramps	Signalized	25.9	C	24.3	C
14	Madison Street/SR-91 EB Ramps	Signalized	45.2	D	50.9	D
15	Madison Street/Indiana Avenue	Signalized	44.9	D	51.7	D

Source: Caltrans 2021h
Note: s = seconds; EB = eastbound; WB = westbound

As shown in Table 2.2.8-10, the majority of the study intersections are forecast to operate at LOS D or better in the opening year 2027 under the No-Build Alternative. However, the following intersections are forecast to operate at LOS E or F in the opening year 2027 under the No-Build Alternative:

- Van Buren Boulevard/Indiana Avenue (AM and PM peak hour)
- Adams Street/Magnolia Avenue (AM and PM peak hour)
- Adams Street/Briarwood Drive (AM and PM peak hour)
- Adams Street/Diana Avenue (stop-controlled, AM peak hour)
- Adams Street/Indiana Avenue (AM and PM peak hour)
- Adams Street/Auto Center Drive (stop-controlled, AM and PM peak hour).

Table 2.2.8-11 presents the opening year 2027 peak hour LOS results at the study intersections for Build Alternative 7 (Locally Preferred Alternative).

Table 2.2.8-11. Opening Year 2027 Intersection Peak Hour LOS – Build Alternative 7 (Locally Preferred Alternative)

Intersection		Traffic Control	AM Peak Hour		PM Peak Hour	
			Delay (s)	LOS	Delay (s)	LOS
1	Van Buren Boulevard/SR-91 WB Ramps	Signalized	32.8	C	45.4	D
2	SR-91 EB Ramps/Indiana Avenue	Signalized	14.9	B	24.4	C
3	Van Buren Boulevard/Indiana Avenue	Signalized	59.3	E	63.6	E
4	Adams Street/Magnolia Avenue	Signalized	75.7	E	43.8	D
5	Adams Street/Briarwood Drive	Signalized	14.8	B	14.4	B
6	Adams Street/Diana Avenue	Removed with the Build Alternative				
7	Adams Street/SR-91 WB Ramps	Signalized	29.6	C	15.1	B
8	SR-91 EB Ramps/Indiana Avenue	Signalized	11.8	B	14.5	B
9	Adams Street/Indiana Avenue	Signalized	24.3	C	27.6	C
10	Adams Street/Auto Center Drive	Stop-control	3.0	A	3.5	A
11	Adams Street/Lincoln Drive	Signalized	19.7	B	14.5	B
12	Jefferson Street/Indiana Avenue	Signalized	21.4	C	22.0	C
13	Madison Street/SR-91 WB Ramps	Signalized	22.3	C	25.1	C
14	Madison Street/SR-91 EB Ramps	Signalized	45.7	D	52.4	D
15	Madison Street/Indiana Avenue	Signalized	50.4	D	54.4	D

Source: Caltrans 2021h
Notes: s = seconds; EB = eastbound; WB = westbound

As shown in Table 2.2.8-11, both the Adams Street/SR-91 westbound ramps and SR-91 eastbound ramps/Indiana Avenue intersections are forecast to operate at LOS C or better during peak hour conditions under Build Alternative 7 (Locally Preferred Alternative). In addition, under Build Alternative 7 (Locally Preferred Alternative), the Adams Street/Indiana Avenue intersection is forecast to improve in delay/LOS as compared to the No-Build Alternative.

Horizon Year 2047 Conditions

For each alternative, traffic operations are evaluated using peak-hour density/LOS for freeway mainline and ramps and delay/LOS for intersections. The detailed traffic forecasting methodology is contained in the Traffic Operations Analysis Report approved by the Department in 2021.

Freeway Operations Analysis

Table 2.2.8-12 summarizes the horizon year 2047 eastbound SR-91 freeway facility LOS in the study area under the No-Build Alternative.

Table 2.2.8-12. Horizon Year 2047 Eastbound SR-91 Freeway LOS – No-Build Alternative

Eastbound Freeway Segment	Facility Type	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
West of Indiana Avenue Off-Ramp (at Van Buren Boulevard)	Basic	21.1	C	20.8	C
Indiana Avenue Off-ramp	Diverge	21.1	C	20.8	C
Between Indiana Avenue Off-ramp and Indiana Avenue On-ramp	Basic	25.0	C	22.3	C

Eastbound Freeway Segment	Facility Type	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
Between Indiana Avenue On-ramp and Van Buren Boulevard On- ramp	Basic	19.6	C	18.5	C
Van Buren Boulevard On-ramp	Merge	16.6	B	17.4	B
Between Van Buren Boulevard On-ramp and Adams Street Off- ramp	Basic	21.0	C	20.7	C
Between Adams Street Off-ramp and Adams Street On-ramp	Basic	22.8	C	23.9	C
Adams Street On-ramp	Merge	29.6	D	31.3	D
Between Adams Street On-ramp and Madison Street Off-ramp	Basic	27.4	D	30.8	D
Madison Street Off-ramp	Diverge	27.0	C	29.1	D
Between Madison Street Off-ramp and Madison Street On-ramp	Basic	26.0	C	27.8	D
Madison Street On-ramp	Merge	28.4	D	27.9	C
East of Madison Street On-ramp	Basic	32.2	D	33.6	D
Eastbound SR-91 Freeway Facility		*18.9*	*C*	*24.7*	*C*

Source: Caltrans 2021h
Notes: pc = passenger cars, mi = mile, ln = lane

As shown in Table 2.2.8-12, the eastbound freeway segments and ramps in the study area are forecast to operate at LOS D or better in horizon year 2047 under the No-Build Alternative.

Table 2.2.8-13 summarizes the horizon year 2047 westbound SR-91 freeway facility LOS in the study area for the No-Build Alternative.

Table 2.2.8-13. Horizon Year 2047 Westbound SR-91 Freeway LOS – No-Build Alternative

Westbound Freeway Segment	Facility Type	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
East of Madison Street Off-Ramp	Basic	37.5	E	37.7	E
Madison Street Off-ramp	Diverge	35.4	E	34.9	D
Between Madison Street Off-ramp and Madison Street On-ramp	Basic	28.2	D	30.4	D
Madison Street On-ramp	Merge	21.9	C	23.1	C
Between Madison Street On-ramp and Adams Street Off-ramp	Basic	22.1	C	22.7	C
Adams Street Off-ramp	Diverge	22.1	C	22.7	C
Between Adams Street Off-ramp and Adams Street On-ramp	Basic	24.2	C	28.4	C
Adams Street On-ramp	Merge	19.9	C	24.2	C
Between Adams Street On-ramp and Van Buren Boulevard Off-ramp	Basic	19.8	C	23.7	C
Between Van Buren Boulevard Off-ramp and Van Buren Boulevard On- ramp	Basic	23.5	C	27.6	D
Van Buren Boulevard On-ramp	Merge	33.7	D	33.6	D
West of Van Buren Boulevard On-ramp	Basic	33.8	D	36.3	E

Westbound Freeway Segment	Facility Type	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
Westbound SR-91 Freeway Facility		19.4	C	21.5	C

Source: Caltrans 2021h
Note: pc = passenger cars, mi = mile, ln = lane

As shown in Table 2.2.8-13, some westbound freeway segments and ramps in the study area are forecast to operate at LOS E in horizon year 2047 under the No-Build Alternative. However, the overall freeway facility is forecast to operate at LOS C.

Table 2.2.8-14 presents the horizon year 2047 eastbound SR-91 freeway facility LOS in the study area for Build Alternative 7 (Locally Preferred Alternative).

Table 2.2.8-14. Horizon Year 2047 Eastbound SR-91 Freeway LOS – Build Alternative 7 (Locally Preferred Alternative)

Eastbound Freeway Segment	Facility Type	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
West of Indiana Avenue Off-Ramp (at Van Buren Boulevard)	Basic	21.1	C	20.8	C
Indiana Avenue Off-ramp	Diverge	21.1	C	20.8	C
Between Indiana Avenue Off-ramp and Indiana Avenue On-ramp	Basic	25.0	C	22.3	C
Between Indiana Avenue On-ramp and Van Buren Boulevard On- ramp	Basic	19.6	C	18.5	C
Van Buren Boulevard On-ramp	Merge	16.6	B	17.4	B
Between Van Buren Boulevard On-ramp and Adams Street Off- ramp	Basic	21.0	C	20.7	C
Between Adams Street Off-ramp and Adams Street On-ramp	Basic	22.8	C	23.9	C
Adams Street On-ramp	Merge	30.9	D	32.6	D
Between Adams Street On-ramp and Madison Street Off-ramp	Overlap	29.7	D	31.9	D
Madison Street Off-ramp	Diverge	32.9	D	34.9	D
Between Madison Street Off-ramp and Madison Street On-ramp	Basic	26.0	C	27.8	D
Madison Street On-ramp	Merge	28.4	D	27.9	C
East of Madison Street On-ramp	Basic	32.2	D	33.6	D
Eastbound SR-91 Freeway Facility		*18.7*	*C*	*24.2*	*C*

Source: Caltrans 2021h
Note: pc = passenger cars, mi = mile, ln = lane

As shown in Table 2.2.8-14, the eastbound freeway segments and ramps in the study area are forecast to operate at LOS D or better in horizon year 2047 under Build Alternative 7 (Locally Preferred Alternative).

Table 2.2.8-15 summarizes the horizon year 2047 westbound SR-91 freeway facility LOS in the study area under Build Alternative 7 (Locally Preferred Alternative).

Table 2.2.8-15. Horizon Year 2047 Westbound SR-91 Freeway LOS – Build Alternative 7 (Locally Preferred Alternative)

Westbound Freeway Segment	Facility Type	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
East of Madison Street Off-Ramp	Basic	37.5	E	37.7	E
Madison Street Off-ramp	Diverge	35.4	E	34.9	D
Between Madison Street Off-ramp and Madison Street On-ramp	Basic	28.2	D	30.4	D
Madison Street On-ramp	Merge	21.9	C	23.1	C
Between Madison Street On-ramp and Adams Street Off-ramp	Basic	22.1	C	22.7	C
Adams Street Off-ramp	Diverge	22.1	C	22.7	C
Between Adams Street Off-ramp and Adams Street On-ramp	Basic	24.2	C	28.4	C
Adams Street On-ramp	Merge	19.9	C	24.2	C
Between Adams Street On-ramp and Van Buren Boulevard Off-ramp	Basic	19.8	C	23.7	C
Between Van Buren Boulevard Off-ramp and Van Buren Boulevard On- ramp	Basic	23.5	C	27.6	D
Van Buren Boulevard On-ramp	Merge	33.7	D	33.6	D
West of Van Buren Boulevard On-ramp	Basic	33.8	D	36.3	E
Westbound SR-91 Freeway Facility		*19.4*	*C*	*21.5*	*C*

Source: Caltrans 2021h
Note: pc = passenger cars, mi = mile, ln = lane

As shown in Table 2.2.8-15, while several westbound freeway segments are forecast to operate at LOS D or better, the following segments and ramps are forecast to operate at LOS E or F in the horizon year 2047 under Build Alternative 7 (Locally Preferred Alternative):

- East of Madison Street Off-Ramp (AM and PM peak hour)
- Madison Street Off-ramp (AM peak hour)
- West of Van Buren Boulevard On-ramp (PM peak hour)

Intersection Operations Analysis

Table 2.2.8-16 presents the horizon year 2047 peak hour LOS results at the study intersections under the No-Build Alternative.

Table 2.2.8-16. Horizon Year 2047 Intersection Peak Hour LOS – No-Build Alternative

Intersection		Traffic Control	AM Peak Hour		PM Peak Hour	
			Delay (s)	LOS	Delay (s)	LOS
1	Van Buren Boulevard/SR-91 WB Ramps	Signalized	67.8	E	93.0	F
2	SR-91 EB Ramps/Indiana Avenue	Signalized	29.3	C	45.0	D
3	Van Buren Boulevard/Indiana Avenue	Signalized	70.6	E	77.3	E
4	Adams Street/Magnolia Avenue	Signalized	129.0	F	138.3	F
5	Adams Street/Briarwood Drive	Signalized	104.9	F	103.4	F

Intersection		Traffic Control	AM Peak Hour		PM Peak Hour	
			Delay (s)	LOS	Delay (s)	LOS
6	Adams Street/Diana Avenue	Stop-control	46.6	E	35.1	E
7	Adams Street/SR-91 WB Ramps	Signalized	49.7	D	15.0	B
8	Adams Street/SR-91 EB Ramps	Signalized	59.0	E	53.0	D
9	Adams Street/Indiana Avenue	Signalized	67.9	E	91.8	F
10	Adams Street/Auto Center Drive	Stop-control	136.9	F	34.5	D
11	Adams Street/Lincoln Drive	Signalized	59.7	E	53.6	D
12	Jefferson Street/Indiana Avenue	Signalized	35.9	D	41.2	D
13	Madison Street/SR-91 WB Ramps	Signalized	62.1	E	78.1	E
14	Madison Street/SR-91 EB Ramps	Signalized	48.4	D	53.4	D
15	Madison Street/Indiana Avenue	Signalized	53.7	D	53.7	D

Source: Caltrans 2021h
Notes: s = seconds; EB = eastbound; WB = westbound

As shown in Table 2.2.8-16, while several study intersections are forecast to operate at LOS D or better, the following intersections are forecast to operate at LOS E or F in the horizon year 2047 under the No-Build Alternative:

- Van Buren Boulevard /SR-91 Westbound Ramps (AM and PM peak hour)
- Van Buren Boulevard/Indiana Avenue (AM and PM peak hour)
- Adams Street/Magnolia Avenue (AM and PM peak hour)
- Adams Street/Briarwood Drive (AM and PM peak hour)
- Adams Street/Diana Avenue (stop-controlled, AM and PM peak hour)
- Adams Street/SR-91 Eastbound Ramps (AM peak hour)
- Adams Street/Indiana Avenue (AM and PM peak hour)
- Adams Street/Auto Center Drive (stop-controlled, AM peak hour)
- Adams Street/Lincoln Drive (AM peak hour)
- Madison Street/SR-91 Westbound Ramps (AM and PM peak hour)

Table 2.2.8-17 presents the horizon year 2047 peak hour LOS results at the study intersections for Build Alternative 7 (Locally Preferred Alternative).

Table 2.2.8-17. Horizon Year 2047 Intersection Peak Hour LOS – Build Alternative 7 (Locally Preferred Alternative)

Intersection		Traffic Control	AM Peak Hour		PM Peak Hour	
			Delay (s)	LOS	Delay (s)	LOS
1	Van Buren Boulevard/SR-91 WB Ramps	Signalized	68.2	E	122.1	F
2	SR-91 EB Ramps/Indiana Avenue	Signalized	28.0	C	41.1	D
3	Van Buren Boulevard/Indiana Avenue	Signalized	71.0	E	74.4	E
4	Adams Street/Magnolia Avenue	Signalized	148.8	F	65.7	E
5	Adams Street/Briarwood Drive	Signalized	18.7	B	26.1	C

Intersection		Traffic Control	AM Peak Hour		PM Peak Hour	
			Delay (s)	LOS	Delay (s)	LOS
6	Adams Street/Diana Avenue	Stop-control	Removed under Build Alternative 7			
7	Adams Street/SR-91 WB Ramps	Signalized	43.3	D	29.0	C
8	Adams Street/SR-91 EB Ramps	Signalized	15.9	B	17.8	B
9	Adams Street/Indiana Avenue	Signalized	40.7	D	44.9	D
10	Adams Street/Auto Center Drive	Stop-control	30.2	D	12.9	B
11	Adams Street/Lincoln Drive	Signalized	52.4	D	53.1	D
12	Jefferson Street/Indiana Avenue	Signalized	34.3	C	33.4	C
13	Madison Street/SR-91 WB Ramps	Signalized	60.0	E	78.4	E
14	Madison Street/SR-91 EB Ramps	Signalized	48.3	D	53.6	D
15	Madison Street/Indiana Avenue	Signalized	61.3	E	77.8	E

Source: Caltrans 2021h
Notes: s = seconds; EB = eastbound; WB = westbound

As shown in Table 2.2.8-17, both the Adams Street/SR-91 westbound ramps and SR-91 eastbound ramps/Indiana Avenue intersections are forecast to operate at LOS D or better during peak hour conditions under Build Alternative 7. In addition, the Adams Street/Indiana Avenue intersection is forecast to improve in delay/LOS as compared to the No-Build Alternative under Build Alternative 7.

*Pedestrian and Bicycle Fac*ilities

Under Build Alternative 7, the existing Adams Street bridge would be replaced. In the northbound and southbound directions, the structure would include a bike lane and a six-foot-wide sidewalk.

Design facilities for Build Alternative 7 (Locally Preferred Alternative) would be fully accessible in accordance with Caltrans' Design Information Bulletin 82-05 "Pedestrian Accessibility Guidelines for Highway Projects." They would also be consistent with all applicable ADA-compatible crossing requirements. No long-term impacts on pedestrian and bicycle facilities are anticipated.

Senate Bill 743 / Induced Demand Analysis

Under Build Alternative 7, the existing Adams Street bridge would be replaced. In the northbound and southbound directions, the structure would include a bike lane and a six-foot-wide sidewalk. Per the Caltrans *Traffic Analysis under CEQA* and the Caltrans *Traffic Analysis Framework* guidance documents, induced travel must be accounted for in any project that adds capacity to the transportation system. Per the guidance outlined in the *Traffic Analysis under CEQA*, projects that would likely lead to a measurable and substantial increase in vehicle travel include:

Addition of through lanes on existing or new highways, including general purpose lanes, [high occupancy vehicle] HOV lanes, peak period lanes, auxiliary lanes, or lanes through grade-separated interchanges, and other projects adding capacity to the State Highway System.

The SR-91/Adams Street Interchange Project does not include any of the above-referenced elements. There are no new freeway lanes of any type being proposed as part of the project.

The *Traffic Analysis under CEQA* goes on to list specific project types that would not be likely to lead to a measurable increase in vehicle travel. The following excerpted project type from the *Traffic Analysis under CEQA*, which is applicable to the project, is not likely to lead to a

measurable and substantial increase in vehicle travel and therefore would be screened from needing to complete a vehicle miles traveled (VMT) induced travel assessment:

- Installation, removal, or reconfiguration of traffic lanes that are not for through traffic, such as left, right, and U-turn pockets, two-way left turn lanes, or emergency breakdown lanes that are not utilized as through lanes.

Build Alternative 7 includes the addition of left- and right-turn lanes, which are not utilized as through lanes. These turn lanes will be added at the ramp terminal intersections and the Adams Street/Indiana Avenue intersection. There are no additional through lanes proposed on the SR-91 freeway or any local streets as part of the proposed project.

- Timing of signals to optimize vehicle, bicycle, or pedestrian flow.

Build Alternative 7 includes the addition of signal interconnect between the ramp intersection(s) and the Adams Street/Indiana Street intersection, to facilitate vehicle, bicycle, and pedestrian movements through closely spaced intersections.

- Addition of new or enhanced bike or pedestrian facilities on existing streets/highways or within existing public rights-of-way.

Build Alternative 7 includes the addition of Class II bike lanes on both Adams Street and Indiana Avenue, within the project limits. Additionally, all sidewalks will be reconstructed and upgraded to meet current ADA standards with the project.

The SR-91/Adams Street Interchange Project:

- Does not fall into any of the categories of projects that may create measurable increases in VMT, and

- Falls into three categories of projects considered not likely to lead to measurable increases in VMT.

Based on the above assessments, the project would not likely lead to a measurable and substantial increase in VMT and is considered to be screened out from further analysis.

2.2.8.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Measure **TRAF-1**, which requires development of a TMP, would be implemented to minimize traffic circulation impacts and to provide alternative routes during construction.

TRAF-1 Implement Traffic Management Plan. A traffic staging plan, as part of the traffic management plan (TMP), will be implemented during project construction. The TMP will be prepared to minimize direct and cumulative construction impacts on the community. On completion, the final TMP will be available to the public and obtained by request from Caltrans. The TMP must be submitted with the construction plan to the police and fire departments of affected cities prior to commencement of construction activities. The TMP will include, but not be limited to, the following features:

- Public Information: Provide updates to affected residents, businesses, the general public, schools, and public transportation agencies through brochures and mailers, community meetings, websites, radio and newspaper advertisements, and social media.

- Motorist Information: Provide information using changeable message signs and ground-mounted signs.

- Incident Management: Implement a Construction Zone Enhanced Enforcement Program, freeway service patrol, and California Highway Patrol traffic handling.
- Traffic Management During Construction: Provide a traffic lane closure chart, detour route, pedestrian routes, residential and commercial access routes, and temporary traffic signals during construction.
- Parking Management during Construction: The City will coordinate with local businesses, as needed, to secure additional parking areas during the construction period.

2.2.9 Visual/Aesthetics

2.2.9.1 REGULATORY SETTING

The National Environmental Policy Act (NEPA) of 1969, as amended, establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and *aesthetically* (emphasis added) and culturally pleasing surroundings (42 United States Code [USC] 4331[b][2]). To further emphasize this point, the Federal Highway Administration (FHWA), in its implementation of NEPA (23 USC 109[h]), directs that final decisions on projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

The California Environmental Quality Act (CEQA) establishes that it is the policy of the state to take all action necessary to provide the people of the state "with…enjoyment of *aesthetic*, natural, scenic and historic environmental qualities" (CA Public Resources Code [PRC] Section 21001[b]).

California Streets and Highways Code Section 92.3 directs Caltrans to use drought resistant landscaping and recycled water when feasible and incorporate native wildflowers and native and climate-appropriate vegetation into the planting design when appropriate.

2.2.9.2 AFFECTED ENVIRONMENT

Information in this section is based on the Visual Impact Assessment prepared for the proposed project (Caltrans 2022X).

The proposed project is located on SR-91 between Van Buren Blvd. and Madison St. in the city of Riverside in Riverside County, in the Inland Empire of southern California. The landscape is characterized by built-out urban development with no natural areas in the vicinity of the project. The land use within the project corridor is primarily a mix of commercial, institutional, light industrial and single family residential.

There are no State-designated scenic highways in the city of Riverside. SR-91 is designated as an Eligible State Scenic Highway — Not Officially Designated. In addition, there are no City-designated scenic routes in the vicinity of, or adjacent, to the project site.

2.2.9.3 ENVIRONMENTAL CONSEQUENCES

No-Build Alternative

The no-build alternative would result in the existing conditions remaining for the foreseeable future. As a result, this interchange would not be consistent with the other sections of the

corridor that have been improved with new features that are consistent with the Corridor Master Plan.

Build Alternative 7 (Locally Preferred Alternative)

Temporary Impacts

The build alternative would result in temporary visual impacts during construction from the presence of construction equipment, fencing, materials, and workers during demolition and construction associated with the project. The car dealerships on the south side of the project area will bear the greatest visual impact. Caltrans' Highway Design Manual design standards would be implemented to minimize temporary visual impacts during construction.

Some nighttime construction is anticipated and some temporary lighting may be used to replace or supplement permanent light fixtures in the area. However, Section 7-1.04 of Caltrans Standard Specifications requires temporary illumination be installed in a manner that the illumination and the illumination equipment do no interfere with public safety (Caltrans 2016). The City and Caltrans would ensure that no lighting is aimed towards homes or businesses or aimed in a manner that would affect roadway users travelling at night. Impacts related to light and glare during construction would be temporary and minimized by these standard measures.

Permanent Impacts

Build Alternative 7 would widen the ramps at the interchange and add hook ramps southeast of the interchange. This option would eliminate existing landscape at the interchange and also remove landscaping at the location of the new hook ramps. The installation of as much plant material as possible would help to mitigate the impact of the changes. There would be a significant amount of new concrete structures, mainly visible to roadway users. Structural aesthetics, including decorative formwork for cast-in-place concrete, and decorative railings and fences, would help to offset these impacts.

Resource Change

Resource Change refers to changes to visual resources as measured by changes in visual character and visual quality, and would be low due to the factors noted above.

The visual character of the proposed project would be compatible with the existing visual character of the corridor. The proposed improvements would be consistent with existing improvements in the corridor. Much of the corridor has been reconstructed since the adoption of the Corridor Master Plan and these existing improvements would provide a basis for the design of this project. The intent of this project is to construct improvements that would seamlessly integrate with the existing features in the corridor.

The visual quality of the existing corridor would be somewhat altered by the proposed project, but the new improvements would not result in a change that would alter the visual quality of the corridor in a significant way. There would be less area for landscape improvements than currently exists, but the amount of landscaping in the project would be consistent with other areas of the corridor that have been previously renovated. Therefore, the project would only slightly modify the visual quality of the interchange.

Viewer Response

Neighbors (people with views *to* the road) and *highway users* (people with views *from* the road) would be affected by the proposed project. Highway users would see less landscaped areas and more paved areas and retaining walls, but these changes would not be excessive, and the final result would be consistent with other sections of the corridor. The proposed landscape and

aesthetic treatments would improve the visual character when compared to the existing conditions (e.g., no existing structure aesthetics and an aging set of landscape features). The highway user response to the changes would be low. In regard to neighbors, surrounding land uses are located at higher elevations because the SR-91 corridor is depressed. Sound walls and vegetated slopes line the freeway. These features would reduce the impacts on neighbors. The adjacent single-family homes located north-east of the project are screened by an existing soundwall and thus the project would have no visual impact on those neighbors. California Baptist University campus is located northwest of the project area. There is a large parking structure and maintenance facilities along the university frontage. Several car dealerships are located on the south side of the project area. Due to the temporary use of these facilities and the low sensitivity of the viewers located there, the visual impact of the project would be low. Otherwise, the visual impact on these neighbors will be low. It is anticipated that the average response of all viewer groups would be low.

Light and Glare

Although the project would involve roadway improvements, it would not introduce a new source of light or glare that would adversely affect daytime or nighttime views in the area. Therefore, there would be no impact related to light and glare.

Under Alternative 7, visual impacts of the project would be minimized by structural aesthetics that would be part of the new bridge and its abutments. Under mitigation measure **VIS-2,** retaining walls adjacent to the new and reconfigured ramps would also offer opportunities for aesthetic enhancements. Under mitigation measure **VIS-1**, new landscaping and inert materials would also offset impacts. Both landscape and aesthetic improvements would be constructed in accordance with the provisions of the Corridor Master Plan thus strengthening the continuity of experience for highway users.

2.2.9.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The following avoidance and/or minimization measures have been identified to lessen visual impacts caused by the project. These measures would be designed and implemented with the concurrence of the District Landscape Architect.

VIS-1 Installation of Plant Material. Installation of new plant material to replace existing plant material that will be removed as part of the project. The irrigated landscape areas will be carefully integrated into the project site to maximize visibility from the travel way and from the surrounding area. The location of the plant material will take into consideration sight lines to commercial signage on the south side of the project.

VIS-2 Aesthetic Features. Incorporation of structural aesthetic features that are consistent with other sections of the roadway within the city. SR-91 is a Classified Landscaped Freeway (CLF) from PM 12.4 to PM 21.7. This includes the Adams Street Interchange, and CLF guidelines will be followed to maintain and preserve CLF status. Aesthetic features will include decorative formwork for cast-in-place concrete and decorative railings and fences. Retaining walls adjacent to the new and reconfigured ramps will also offer opportunities for aesthetic enhancements.

2.2.10 Cultural Resources

2.2.10.1 REGULATORY SETTING

The term “cultural resources,” as used in this document, refers to the “built environment” (e.g., structures, bridges, railroads, water conveyance systems, etc.), places of traditional or cultural

importance, and archaeological sites (both prehistoric and historic), regardless of significance. Under federal and state laws, cultural resources that meet certain criteria of significance are referred to by various terms including "historic properties," "historic sites," "historical resources," and "tribal cultural resources." Laws and regulations dealing with cultural resources include:

The National Historic Preservation Act (NHPA) of 1966, as amended, sets forth national policy and procedures for historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for listing in the National Register of Historic Places (NRHP). Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and to allow the Advisory Council on Historic Preservation (ACHP) the opportunity to comment on those undertakings, following regulations issued by the ACHP (36 Code of Federal Regulations [CFR] 800). On January 1, 2014, the First Amended Section 106 Programmatic Agreement (PA) among the Federal Highway Administration (FHWA), the ACHP, the California State Historic Preservation Officer (SHPO), and the Department went into effect for Department projects, both state and local, with FHWA involvement. The PA implements the ACHP's regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to the Department. The FHWA's responsibilities under the PA have been assigned to the Department as part of the Surface Transportation Project Delivery Program (23 United States Code [USC] 327).

The California Environmental Quality Act (CEQA) requires the consideration of cultural resources that are historical resources and tribal cultural resources, as well as "unique" archaeological resources. California Public Resources Code (PRC) Section 5024.1 established the California Register of Historical Resources (CRHR) and outlined the necessary criteria for a cultural resource to be considered eligible for listing in the CRHR and, therefore, a historical resource. Historical resources are defined in PRC Section 5020.1(j). In 2014, Assembly Bill 52 (AB 52) added the term "tribal cultural resources" to CEQA, and AB 52 is commonly referenced instead of CEQA when discussing the process to identify tribal cultural resources (as well as identifying measures to avoid, preserve, or mitigate effects on them). Defined in PRC Section 21074(a), a tribal cultural resource is a CRHR or local register eligible site, feature, place, cultural landscape, or object which has a cultural value to a California Native American Tribe. Tribal cultural resources must also meet the definition of a historical resource. Unique archaeological resources are referenced in PRC Section 21083.2.

PRC Section 5024 requires state agencies to identify and protect state-owned historical resources that meet the NRHP listing criteria. It further requires the Department to inventory state-owned structures in its rights-of-way. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the State Historic Preservation Officer (SHPO) before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the NRHP or are registered or eligible for registration as California Historical Landmarks. Procedures for compliance with PRC Section 5024 are outlined in a Memorandum of Understanding (MOU)[1] between the Department and SHPO, effective January 1, 2015. For most Federal-aid projects on the State Highway System, compliance with the Section 106 PA will satisfy the requirements of PRC Section 5024.

2.2.10.2 AFFECTED ENVIRONMENT

Information for this section comes from the approved Historic Property Survey Report (HPSR) (Caltrans 2021c), Archaeological Survey Report (Caltrans 2021e), and Historic Resources Evaluation Report (Caltrans 2021d) completed for this project. Identification efforts used

[1] The MOU is located on the SER at https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/5024mou-15-a11y.pdf

information from Eastern Information Center (EIC) records, the NRHP, and documents and inventories from the California Office of Historic Preservation, including California Historical Landmarks, California Points of Historical Interest, and the California Inventory of Historic Resources. In addition, the Native American Heritage Commission (NAHC) and local Native American groups and individuals were consulted, and an archaeological survey of the project Area of Potential Effects (APE) was conducted.

Native American Consultation

The NAHC was contacted on June 18, 2020, requesting a Sacred Lands File Search and a Native American contact list for Tribes and interested individuals with cultural ties to the project area. The NAHC responded on June 19, 2020, stating that a search of the sacred lands records files revealed no Sacred Lands or traditional cultural properties in proximity to the APE. The NAHC also provided a list of Native American contacts who might have knowledge of cultural resources in the project area.

Based on this NAHC list and input from District 8's District Native American Coordinator, Section 106 outreach letters and maps of the project APE were sent to five identified Native American groups on November 12, 2020. These letters included a description of the project area and a map indicating the project location. Groups that had not responded were then contacted by phone on December 24, 2020, and a follow up email was sent the same day.

Section 4.1.2, *Native American Consultation,* of Chapter 4, *Comments and Coordination,* of this IS/EA includes a summary of the consultation efforts conducted with Native American groups in accordance with Section 106 of the NHPA, California Public Resources Code 21080.3.1, and Chapter 532 States of 2014 (AB 52). A complete record of Native American consultation is included in Attachment E of the HPSR.

Consultation with Local Historical Societies, Historic Preservation Groups, Potentially Interested Local Government Agencies, and Other Potentially Interested Parties

Outreach letters were sent to 15 local historical societies, historic preservation groups, local government agencies, and other potentially interested parties on July 21, 2020. The letters included description of the project area and maps of the project APE. Letter recipients who did not initially respond subsequently received follow up emails and phone calls on July 30, August 7, August 8, and September 2, 2020. See Attachment F of the HPSR for a Built Environment Interested Parties contact log and example letter. Section 4.1.3, *Local Historical Societies, Historic Preservation Groups, Potentially Interested Local Government Agencies, and Other Potentially Interested Parties,* of this IS/EA includes a summary of the consultation efforts conducted with these organizations, local agencies, and other parties.

Area of Potential Effects

In accordance with Section 106 PA Stipulation VIII.A, the APE for the project was established in consultation with Mary Smith, Architectural Historian, and Michael Makary, Project Manager, on October 19, 2021.

To account for potential physical effects of this undertaking, the APE includes the existing below-grade SR-91 right-of-way running east–west; proposed new right-of-way; TCEs, including staging areas; and selected parcel buffers to account for potential visual, auditory, and atmospheric effects.

The horizontal APE includes the project footprint and a parcel buffer in specific locations. It includes the area of direct impact (ADI) to account for potential physical changes to buildings,

structures, objects, archaeological artifacts, and other subsurface cultural materials. Where permanent or temporary impacts are contained within the right-of-way, no parcel buffers are included in the APE. Where permanent or temporary impacts occur beyond the right-of-way, the entire adjacent parcel is included in the APE.

The vertical APE totals 235 feet and extends below- and aboveground. The vertical APE extends approximately 175 feet *below ground* at SR-91's centerline, the location of the proposed bridge replacement. This accounts for pile driving needed for the construction of the proposed bridge. Beyond the location of the proposed bridge replacement, the maximum ground disturbance would be 10 feet within the ADI. There would be no ground disturbance beyond the ADI. The vertical APE extends 60 feet *above ground* at SR-91's centerline to account for bridge demolition and construction. This aboveground height accounts for the installation of traffic signals atop of the proposed bridge.

The APE extends southeast along Adams Street to just north of an at-grade Burlington Northern & Santa Fe (BNSF, formerly Atchison, Topeka & Santa Fe/California Central) Railway crossing. The APE does not include the railroad crossing because the proposed project does not have the potential to affect it. This location is within a TCE and the crossing is approximately 875 feet from the ADI. Per *Standard Environmental Reference Volume 2*, Chapter 6, Section 6.8.5.6 (July 15, 2020), "physical proximity does not necessarily indicate a potential for effect." No construction is proposed at this location, and it is only included in the TCE to account for the possible setting of temporary signage; there is, therefore, no potential for effect in this regard.

The APE maps can be found in Attachment A of the HPSR prepared for this project.

Records Search

Rachel Droessler, professionally qualified archaeologist – Prehistoric and Historic, (Principal Investigator, Caltrans Professionally Qualified Staff [PQS] equivalent) requested a records search from the EIC on May 27, 2020. The EIC responded with the results on October 7, 2020. The EIC records search identified 431 resources within 0.5 mile of the APE, as detailed in the ASR (see Attachment D of the HPSR). Four of the 431 resources are present within the APE, as described below. These include the subterranean Riverside Upper Canal and Riverside Lower Canal, both covered and beneath the TCE on Adams Street; an early twentieth-century house demolished since its recordation; and a mid-century shopping center, also demolished since its recordation.

No archaeological resources have been previously identified within the ADI. However, the previously recorded Riverside Upper Canal (P-33-004495/CA-RIV-004495) and the Riverside Lower Canal (P-33-004791/CA-RIV-004791) are both located below-grade under an area of TCE where the project proposes no subsurface activity. The Riverside Lower Canal is located 450 feet north of the ADI, and the Riverside Upper Canal is located 125 feet south of the ADI. The TCE above the Riverside Upper Canal and the Riverside Lower Canal would be used to manage traffic during the construction phase only. The activities proposed for the TCEs at this location would be minor, including road striping to redirect traffic from one side of the street to the other during construction and siting of directional and warning signage. These activities, therefore, have no potential to affect the canals.

The *City of Riverside Historic Resources Database* identified two City of Riverside Structures of Merit within 0.5 mile of the APE (City of Riverside 2021), Sinclair House (3691 Adam Street) and Peterson House (3641 Adams Street).,Both are early twentieth-century houses. The *City of Riverside Modernism Context Statement* and the *City of Riverside Citywide Modernism Intensive Survey* identified one building within 0.5 mile of the APE as eligible for CRHR listing

(City of Riverside 2009:72, 2013:25, 86). Described below, the Helgeson Buick Showroom (8001 Auto Center Drive) is a mid-century dealership showroom.

Field Survey, Methods, and Results

An archaeological field survey of the APE of the proposed project was performed by qualified archaeologists on October 25, 2020 and consisted of both an intensive pedestrian survey and a reconnaissance survey, depending on the setting.

The majority of the project area is paved for roads and structures; however, all unpaved surfaces were visually inspected. No archaeological resources were identified as a result of this study. Undergrounded culverts and new concrete drainage channels were observed outside of the APE that were related to P-33-004495/CA-RIV-4495/Riverside Upper Canal and P-33-004791/CA-RIV-4791/Riverside Lower Canal. All components of these two resources are outside of both the vertical and horizontal APE.

Architectural field surveys of all properties with buildings or structures within the APE of the proposed project were performed by qualified architectural historians in May, June, and July 2022. Eight built environment resources were identified within the APE as a result of the records search, research, and architectural survey. Table 2.2.10-1 summarizes the build environment resources identified within the APE.

Table 2.2.10-1. Built Environment Resources Identified within APE

Resource	Search	APE/ADI	Eligibility
Sinclair House	City of Riverside, Historic Resources Database	Within APE, outside of ADI	Not eligible for NRHP or CRHR; locally designated by City of Riverside
Peterson House	City of Riverside, Historic Resources Database	Within APE, outside of ADI	Not eligible for NRHP or CRHR; locally designated by City of Riverside
Helgeson Buick Showroom	City of Riverside Modernism	Within APE, outside of ADI	Eligible for NRHP and CRHR at local level of significance
Rose Garden Village	California Baptist University (CBU) Cultural Resources Survey	Within APE, outside of ADI	Eligible for NRHP and CRHR at local level of significance
Royal Rose Apartments	CBU Cultural Resources Survey	Within APE, outside of ADI	Not eligible for NRHP or CRHR; previously determined eligible for local designation by City of Riverside
Big Ben Clock Tower	CBU Cultural Resources Survey	Within APE, outside of ADI	Not eligible for NRHP or CRHR; previously determined eligible for local designation by City of Riverside
Church of Christ	CBU Cultural Resources Survey	Within APE, outside of ADI	Not eligible for NRHP or CRHR
Riverside Auto Center	CBU Cultural Resources Survey	Within APE, outside of ADI	Not eligible for NRHP or CRHR

Caltrans has determined that two of the built environment resources identified in the APE are not eligible for listing in the NRHP or the CRHR: the Church of Christ at 3601 Adams Street, and the Riverside Auto Center on Auto Drive between Adams and Jefferson Streets.

Caltrans has determined that two built environment resources in the APE are eligible for the NRHP. These two resources qualify as historic properties under Section 106 of the NHPA and as historical resources under CEQA:

- **Rose Garden Village** (Map Reference #3). Located at 3668 Adams Street, Rose Garden Village is eligible for the NRHP under Criterion A for its importance as one of the first low-income retirement communities in the United States constructed under Section 231 of the United States Federal Housing Administration. Its period of significance is 1961, the year of its completion. Contributing elements include domestically scaled single-story buildings sited around small landscaped courtyards to support independent living; associated community buildings, including a chapel and a common dining/recreational facility to support the social needs of seniors; a park-like setting with lawns, planting beds, and rose gardens to provide a garden apartment experience. Rose Garden Village is significant at the state level. The historic property boundary is the parcel.
- **Helgeson Buick Showroom** (Map Reference #8). Located at 8001 Auto Center Drive, Helgeson Buick Showroom is eligible for the NRHP under Criterion C for its International Style and Mid-Century Modern architecture. It has a period of significance of 1966, the year it was completed, and is significant at the local level. Contributing elements include boxy massing, asymmetrical, but balanced, composition, glass curtain walls supported by steel posts, a flat roof with deeply overhanging eaves, and light-colored, stack-bond Roman brick and stack-bond concrete block materials that contrast sharply against the glass and steel. Additionally, its attached but open canopies visually link to Mies van der Rohe's International Style designs and support the Mid-Century Modern emphasis on open outdoor spaces as part of a building's usable space. Likewise, architect William "Bill" Ficker sited the building to maximize passersby views of the showroom and its automobiles on display. The historic property boundary is the footprint of the building.

Two built environment resources were determined ineligible for the NRHP and CRHR but qualify as historical resources under CEQA by virtue of previously being recognized as eligible for local designation as Structures of Merit in a CEQA context with the City of Riverside acting as lead agency:

- **Royal Rose Apartments** (Map Reference #1). Located at 3720 Adams Street, Royal Rose Apartments consists of three multi-story apartment buildings constructed in 1979 on a landscaped site north of Rose Garden Village. Built in the Neo-Tudor style, the complex served as a senior housing facility. It is now a student dormitory. A Cultural Resources Survey prepared in the context of CEQA compliance for the *California Baptist University Specific Plan*, with the City of Riverside as lead agency, identified Royal Rose Apartments as one of three University buildings located in the APE that appear eligible for the NRHP and CRHR and for City of Riverside landmark status. As a certified local government, the City of Riverside treats all locally eligible properties as CEQA historical resources. For this reason, and because the subject property retains good integrity, Royal Rose Apartments has pre-existing status as a historical resource for CEQA, pursuant to Section 1506.5(a)(2).
- **Big Ben Clock Tower** (Map Reference #2). Constructed in 1982 at 3720 Adams Street, Big Ben Clock Tower is a scaled replica of London's Big Ben Tower sited in the courtyard of the Royal Rose Apartment complex. A Cultural Resources Survey prepared in the context of CEQA compliance for the *California Baptist University Specific Plan*, with the City of Riverside as lead agency, identified Big Ben Clock Tower as one of three University buildings located in the APE that appears eligible for the NRHP and CRHR and for City of Riverside landmark status. As a certified local government, the City of Riverside treats all

locally eligible properties as CEQA historical resources. For this reason, and because the subject property retains good integrity, Big Ben Clock Tower has pre-existing status as a historical resource for CEQA, pursuant to Section 1506.5(a)(2).

Two built environment resources were determined ineligible for the NRHP and CRHR but qualify as historical resources under CEQA as a result of the City of Riverside determining them eligible for local designation as Structures of Merit:

- **Sinclair House** (Map Reference #4). Located at 3691 Adams Street and constructed in 1905, the Sinclair House is a modest and intact two-and-one-half-story Free Classic Queen Anne-style residence. It is associated with the early twentieth-century development of Riverside, poultry ranching, and agriculture. The City of Riverside identified the house as a locally eligible Structure of Merit in 1992. As a certified local government, the City of Riverside treats all locally eligible properties as CEQA historical resources. For this reason, and because the subject property retains good integrity, the Sinclair House has pre-existing status as a historical resource for CEQA, pursuant to Section 1506.5(a)(2).
- **Peterson House** (Map Reference #5). Built in 1927, the Peterson House is a one-story, single-family residence in the French Norman Revival style located at 3641 Adams Street. It is associated with the early twentieth-century development of Riverside. The City of Riverside identified the house as a locally eligible Structure of Merit in 2000. As a certified local government, the City of Riverside treats all locally eligible properties as CEQA historical resources. For this reason, and because the subject property retains good integrity, the Peterson House has pre-existing status as a historical resource for CEQA, pursuant to Section 1506.5(a)(2).

On December 15, 2021, Caltrans consulted with SHPO and submitted the HPSR package for the proposed project to SHPO for review. SHPO did not comment on the HPSR package. In accordance with Stipulation VIII.C.6(a) of the Caltrans Section 106 PA, on February 16, 2022, after 60 days had passed since Caltrans submitted the HPSR package to SHPO, Caltrans notified SHPO that it intended to proceed to the next step prescribed by the Section 106 PA based on its determinations of NRHP eligibility.

2.2.10.3 ENVIRONMENTAL CONSEQUENCES

No-Build Alternative

Under the No-Build Alternative, no modifications to existing structures or the land would occur; therefore, no effects on historical or archaeological cultural resources would result from project construction or operation.

Build Alternative 7 (Locally Preferred Alternative)

Temporary Impacts

There would be no physical effects on Rose Garden Village (Map Reference # 3) because its buildings are located approximately 625 feet away from the nearest portions of the APE in which permanent impacts would occur, at the intersection of Adams Street and Briarwood Drive. The property is, however, adjacent to a TCE with no construction footprint or other anticipated disturbance on it. The TCE is entirely within the Adams Street right-of-way, where activities could include posting of temporary construction signs, striping, material storage, equipment staging, and increased vehicle traffic due to construction. Any visual, auditory, or atmospheric effects on the adjacent historic property would be temporary and, therefore, minor.

No physical effects on Helgeson Buick Showroom (Map Reference # 8) would occur because the building is located approximately 250 feet from the nearest portions of the APE in which permanent impacts would occur at the corner of Detroit Drive and Auto Row, where proposed work consists of sidewalk improvements. Helgeson Buick Showroom is only within the APE as part of a larger, substantially scaled property (Riverside Auto Center, Map Reference #7), evaluated and found not NRHP/CRHR-eligible as part of the present analysis. Visual effects from the sidewalk improvements would be negligible, and any auditory or atmospheric effects on the historic property would be temporary and, therefore, minor.

The proposed project would have no physical effects on the Royal Rose Apartments (Map Reference # 1), the Big Ben Clock Tower (Map Reference # 2), the Sinclair House (Map Reference #4), or the Peterson House (Map Reference #5). The property containing the Royal Rose Apartments and the Big Ben Clock Tower is located approximately 750 feet north-northwest from the intersection of Adams Street and Briarwood Drive, which is the nearest portion of the APE in which permanent impacts would occur. The Sinclair House and Peterson House are respectively located approximately 800 and 475 feet north-northwest of the intersection, the nearest portion of the APE from those two properties in which permanent impacts would occur. All three properties containing those four historical resources are adjacent to the Adams Street TCE, which does not include any construction footprint or other anticipated areas of disturbance. Activities in the Adams Street TCE could include posting of temporary construction signs, striping, material storage, equipment staging, and increased vehicle traffic due to construction. Any visual, auditory, and atmospheric effects on the three properties containing these four historical resources would be temporary and, therefore, minor.

Permanent Impacts

No permanent impacts on architectural resources are anticipated as a result of Build Alternative 7. Therefore, this project is not subject to the provisions of Section 4(f) of the Department of Transportation Act of 1966.

Ground disturbances from previous development, especially construction of SR-91, Adams Street, and business/residential structures throughout the APE, have likely affected any potential for buried intact cultural resources in the APE. Human activities such as grading, excavation, subgrade compaction, and vehicular activity have further degraded and disturbed the soil in the area. The APE has been subjected to repeated grading and earth moving related to construction of SR-91, businesses, CBU, and residential structures. Subsurface grading activities for the proposed project have low potential to encounter previously unidentified potentially significant archaeological resources within APE. However, there is always the possibility that buried cultural deposits could be preserved in the APE beneath the limits of previous disturbance. If cultural resources are discovered during construction, implementation of measure **CR-1** will be implemented. It is Caltrans' policy to avoid cultural resources whenever possible. Further investigations could be needed if unanticipated cultural sites are encountered that cannot be avoided by the project. If cultural materials are discovered during construction, it is Caltrans' policy that work stop in that area until a qualified archaeologist can assess the nature and significance of the find. An additional survey will be required if the project changes to include areas that were not previously surveyed.

In addition, implementation of measure **CR-2** would minimize impacts if human remains are discovered.

2.2.10.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Measures **CR-1** and **CR-2,** which are standard measures for all Caltrans projects, are included to ensure that potential effects on cultural resources and human remains, should they be discovered during construction, would be avoided.

CR-1 If cultural resources are discovered during construction, all work within 60 feet of the discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

CR-2 If human remains are discovered, State Health and Safety Code Section 7050.5 states that ALL work stop within 60 feet of the discovery and the county coroner contacted. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission (NAHC) who will then notify the Most Likely Descendant (MLD). At this time, the person who discovered the remains will contact the District 8 Native American Coordinator Gary Jones at (909) 261-8157 and District Environmental Branch Chief Ashley Bowman at (909) 472-7730 so that they would potentially work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

2.3 Physical Environment

2.3.1 Hydrology and Floodplain

2.3.1.1 REGULATORY SETTING

Executive Order (EO) 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. The Federal Highway Administration (FHWA) requirements for compliance are outlined in 23 Code of Federal Regulations (CFR) 650 Subpart A.

To comply, the following must be analyzed:

- The practicability of alternatives to any longitudinal encroachments.
- Risks of the action.
- Impacts on natural and beneficial floodplain values.
- Support of incompatible floodplain development.
- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values affected by the project.

The base floodplain is defined as “the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year.” An encroachment is defined as “an action within the limits of the base floodplain.”

2.3.1.2 AFFECTED ENVIRONMENT

Hydrology

The project is located within the Middle Santa Ana River (MSAR) watershed and the Hole Lake Subwatershed in the Santa Ana River Hydrologic Unit (HU) and the Middle Santa Ana River Hydrologic Area (HAS 801.26). It has a Hydrologic Unit Code (HUC) 180702030803. The watershed area is approximately 44,218 acres, and average annual rainfall is 9.72 inches. The project is located in the City of Riverside MS4 area. The project area ranges from 800 to 860 feet above mean sea level (amsl) and gently slopes to the northwest.

Floodplains

The project area is not within a Federal Emergency Management Agency–designated 1 percent-annual-chance (i.e., 100-year) floodplain. As identified on Federal Emergency Management Agency Flood Insurance Rate Map 06065C0720G, dated August 28, 2008, for Riverside County, California, and incorporated areas, the project study area north of the SR-91/Adams Street interchange is in the unshaded Zone X, which is defined as an area that is outside the 0.2 percent-annual-chance floodplain (i.e., 500-year floodplain). The project study area south of the SR-91/Adams Street interchange is in the shaded Zone X, an area with a moderate flood hazard from the principal source of flooding in the area, and within the limits of the 0.2 percent-annual-chance floodplain (i.e., 500-year floodplain).

2.3.1.3 ENVIRONMENTAL CONSEQUENCES

No-Build Alternative

Under the No-Build Alternative, no modifications to existing structures or the land would occur; therefore, no effects on hydrology or floodplains would result from project construction or operation.

Build Alternative 7 (Locally Preferred Alternative)

Hydrology

The additional pavement widening associated with the project will result in a slightly higher volume of runoff due to an increased runoff coefficient in those areas. The build alternative is not anticipated to discharge to unlined channels and increase sediment loading. The build alternative is not anticipated to have impacts on hydraulic conditions within the project area.

Floodplains

The project is not located within a 100-year base floodplain.

2.3.1.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Implementation of standard Caltrans procedures and Caltrans Standard Specifications measures would reduce temporary and permanent impacts of the build alternative resulting in no impacts on hydrology and floodplains. No additional avoidance, minimization, and/or mitigation measures are proposed.

2.3.2 Water Quality and Storm Water Runoff

2.3.2.1 REGULATORY SETTING

Federal Requirements

Clean Water Act

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (U.S.) from any point source[2] unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act (CWA). Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. The following are important CWA sections:

- Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the U.S. to obtain certification from the state that the discharge will comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).

[2] A point source is any discrete conveyance such as a pipe or a man-made ditch.

- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Boards (RWQCBs) administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and municipal separate storm sewer systems (MS4s).
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the U.S. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

The goal of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of the USACE's Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. Environmental Protection Agency's (U.S. EPA) Section 404 (b)(1) Guidelines (40 Code of Federal Regulations [CFR] Part 230), and whether the permit approval is in the public interest. The Section 404(b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S. and not have any other significant adverse environmental consequences. According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent[3] standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the U.S. In addition, every permit from the USACE, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4. A discussion of the LEDPA determination, if any, for the document is included in the Wetlands and Other Waters section.

State Requirements

Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the CWA and regulates discharges to waters of the state. Waters of the state include more than just waters of the U.S., like groundwater and surface waters not considered waters of the U.S. Additionally, it prohibits discharges of "waste" as defined, and this definition is broader than the CWA definition of

[3] The U.S. EPA defines "effluent" as "wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall."

"pollutant." Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

The State Water Resources Control Board (SWRCB) and RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA and regulating discharges to ensure compliance with the water quality standards. Details about water quality standards in a project area are included in the applicable RWQCB Basin Plan. In California, RWQCBs designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect those uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on that use. In addition, the SWRCB identifies waters failing to meet standards for specific pollutants. These waters are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for 1 or more constituents and the standards cannot be met through point source or non-point source controls (NPDES permits or WDRs), the CWA requires the establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

State Water Resources Control Board and Regional Water Quality Control Boards

The SWRCB administers water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWQCBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

National Pollutant Discharge Elimination System Program

Municipal Separate Storm Sewer Systems

Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of storm water discharges, including Municipal Separate Storm Sewer Systems (MS4s). An MS4 is defined as "any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that is designed or used for collecting or conveying storm water." The SWRCB has identified the Department as an owner/operator of an MS4 under federal regulations. The Department's MS4 permit covers all Department rights-of-way, properties, facilities, and activities in the state. The SWRCB or the RWQCB issues NPDES permits for five years, and permit requirements remain active until a new permit has been adopted.

The Department's MS4 permit, Order No. 2012-0011-DWQ (adopted on September 19, 2012 and effective on July 1, 2013), as amended by Order No. 2014-0006-EXEC (effective January 17, 2014), Order No. 2014-0077-DWQ (effective May 20, 2014) and Order No. 2015-0036-EXEC (conformed and effective April 7, 2015) has three basic requirements:

1. The Department must comply with the requirements of the Construction General Permit (see below);
2. The Department must implement a year-round program in all parts of the State to effectively control storm water and non-storm water discharges; and
3. The Department storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices (BMPs), to the maximum extent practicable, and other measures as the SWRCB determines to be necessary to meet the water quality standards.

To comply with the permit, the Department developed the Statewide Storm Water Management Plan (SWMP) to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities within the Department for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices the Department uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs. The proposed project will be programmed to follow the guidelines and procedures outlined in the latest SWMP to address storm water runoff.

Construction General Permit

Construction General Permit, Order No. 2009-0009-DWQ (adopted on September 2, 2009 and effective on July 1, 2010), as amended by Order No. 2010-0014-DWQ (effective February 14, 2011) and Order No. 2012-0006-DWQ (effective on July 17, 2012). The permit regulates storm water discharges from construction sites that result in a Disturbed Soil Area (DSA) of 1 acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least 1 acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than 1 acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop Storm Water Pollution Prevention Plans (SWPPPs); to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters. Requirements apply according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring, and before construction and after construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective SWPPP. In accordance with the Department's SWMP and Standard Specifications, a Water Pollution Control Program (WPCP) is necessary for projects with DSA less than one acre.

Section 401 Permitting

Under Section 401 of the CWA, any project requiring a federal license or permit that may result in a discharge to a water of the U.S. must obtain a 401 Certification, which certifies that the project will be in compliance with state water quality standards. The most common federal permits triggering 401 Certification are CWA Section 404 permits issued by the USACE. The 401 permit certifications are obtained from the appropriate RWQCB, dependent on the project location, and are required before the USACE issues a 404 permit.

In some cases, the RWQCB may have specific concerns with discharges associated with a project. As a result, the RWQCB may issue a set of requirements known as WDRs under the State Water Code (Porter-Cologne Act) that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. WDRs can be issued to address both permanent and temporary discharges of a project.

2.3.2.2 AFFECTED ENVIRONMENT

The primary sources used in the preparation of this section are the *Scoping Questionnaire for Water Quality Issues* (Caltrans 2021f) and the *Short Form – Stormwater Data Report* (Caltrans 2016) prepared for this project.

The project is in the Santa Ana River Hydrologic Unit (HU), the Middle Santa Ana River Hydrologic Area, and the Arlington Hydrologic Sub-Area (HSA) 801.26. The receiving water body for the proposed project is the Santa Ana River, Reach 3.

According to the Basin Plan (Santa Ana Regional Water Quality Control Board 2019), the Santa Ana River, Reach 3, has one bacteria TMDL adopted for bacteria. As indicated in the Basin Plan, existing beneficial uses of the Santa Ana River, Reach 3, include warm freshwater habitat (WARM); contact water recreation (REC-1); non-contact water recreation (REC-2); groundwater recharge (GWR); agricultural supply (AGR); wildlife habitat (WILD), rare, threatened, or endangered species (RARE); and spawning, reproduction, and development (SPWN). In addition, the Santa Ana River, Reach 3, is excepted from domestic and municipal drinking supply (MUN).

The existing drainage system within the project limits is composed of cross culverts, storm drains along roads, a pump station, a concrete ditch, and roadside asphalt concrete gutters. Drainage generally slopes from the southeast to the northwest, generally toward the Santa Ana River and Hole Lake, which are approximately 3 miles north and northwest of the site, respectively.

The area is primarily level. Table 2.3.2-1 shows the soil types within the project site.

Table 2.3.2-1. Soil Classification

Soil Name	Hydrologic Soil Group	Percent of Area
Arlington fine sandy load, 2 to 8 percent slopes	C	0.2%
Arlington fine sandy loam, deep, 0 to 2 percent slopes	B	1.0%
Arlington fine sandy loam, deep, 2 to 8 percent slopes	B	43.2%
Arlington loam, deep, 0 to 5 percent slopes	B	10.5%
Buren fine sandy loam, 2 to 8 percent slopes, eroded	C	2.4%
Hanford coarse sandy loam, 0 to 2 percent slopes	A	26.1%
Hanford coarse sandy loam, 2 to 8 percent slopes	A	11.2%
Hanford fine sandy loam, 0 to 2 percent slopes	A	5.6%

Source: City of Riverside 2020b

According to Table 4-1 of the Caltrans District 8 Work Plan, there are no District 8 drinking water reservoirs or recharge facilities in the project vicinity. The project is not in the high-risk areas for domestic water supply.

2.3.2.3 ENVIRONMENTAL CONSEQUENCES

No-Build Alternative

The No-Build Alternative would not increase impervious area or change land uses in the project area. Therefore, drainages and surface runoff would remain consistent with current conditions, and roadway runoff in this area would remain unchanged from existing conditions. This alternative would not result in an increase in long-term pollutant loading. However, the No-Build

Alternative does not preclude the construction of other future improvements or general maintenance to improve the operation of the facility or incorporate drainage enhancements.

Build Alternative 7 (Locally Preferred Alternative)

Temporary Impacts

Short-term or temporary impacts on water quality, such as erosion, could occur during construction activities, including grading, land disturbances, and equipment use. However, temporary impacts would be minimized with implementation of construction BMPs to minimize construction runoff and protect water quality.

Permanent Impacts

The project would be constructed to minimize erosion by disturbing slopes only when necessary, minimizing cut-and-fill areas to reduce slope lengths, and providing concentrated flow conveyance systems, consisting of storm drains, ditches, and gutters. Cut-and-fill areas would be reduced as much as possible. The project area features engineered slopes with abundant landscaping; therefore, erosion potential is low. Culverts would be designed with as minimal a slope as required for self-cleaning velocity. Table 2.3.2-2 identifies the drainage-related improvements that are planned as part of the build alternative.

Table 2.3.2-2. Drainage Improvements

Existing Location			
Roadway / Highway Alignment	**Side**	**Station**	**Proposed Improvement**
Adams Street On-Ramp	Westbound	132+43	Extend 18-inch culvert and remove and replace inlet
Adams Street On-Ramp	Westbound	132+22	Remove and replace inlet with new culvert
Adams Street On-Ramp	Westbound	134+51	Extend 18-inch culvert and remove and replace inlet
Adams Street On-Ramp	Westbound	137+20	Remove and replace inlet with new culvert
Adams Street On-Ramp	Westbound	137+43	Remove and replace inlet with new culvert
Adams Street On-Ramp	Westbound	137+50	Extend 18-inch culvert and remove and replace inlet
Adams Street On-Ramp	Westbound	137+70	Remove and replace inlet with new culvert
SR-91	Westbound	141+11	Extend 18inch culvert and remove and replace inlet
SR-91	Westbound	142+78	Extend 18-inch culvert and remove and replace inlet

Existing Location			
Roadway / Highway Alignment	**Side**	**Station**	**Proposed Improvement**
SR-91	Westbound	146+00	Extend 18-inch culvert and remove and replace inlet
Adams Street Off-ramp	Westbound	149+95	Extend 18-inch culvert and remove and replace inlet
Adams Street Off-ramp	Westbound	150+10	Remove and replace inlet with new culvert
SR-91	Westbound	155+75	Modify inlet/headwall
SR-91	Eastbound	135+50	Remove and replace grated line drain
SR-91	Eastbound	136+22	Extend 18-inch culvert and remove and replace inlet
SR-91	Eastbound	141+05	Remove and replace inlet with new culvert
SR-91	Eastbound	141+30	Remove and replace inlet with new culvert
SR-91	Eastbound	142+80	Extend 18-inch culvert and remove and replace inlet
SR-91	Eastbound	146+02	Extend 18-inch culvert and remove and replace inlet
SR-91	Eastbound	148+70	Remove and replace inlet with new culvert
SR-91	Eastbound	148+90	Remove and replace inlet with new culvert
SR-91	Eastbound	149+18	Extend 18-inch culvert and remove and replace inlet
SR-91	Eastbound	149+37	Remove and replace inlet with new culvert
SR-91	Eastbound	149+78	Remove and replace inlet with new culvert
SR-91	Eastbound	155+72	Modify culvert outfall
Adams Street	Northbound	32+45	Modify culvert outfall

Source: Caltrans 2023c

The principle activities that would affect existing drainage facilities are roadway widening and reconfiguration of the on-/off-ramps. Culverts in serviceable condition would be extended to address the proposed widening and maintain existing drainage patterns. Undersized culverts would be replaced with larger sizes. Additional inlets and new longitudinal systems could be designed to meet the current drainage design requirements and capture the increased runoff due to the added impervious area. The drainage design for the project within the Caltrans right-of-way would comply with Chapter 800 of Caltrans' *Highway Design Manual*, seventh edition.

The project would also include drainage inlet stenciling for all inlet locations because the project is within designated MS4 areas that are under Caltrans and City of Riverside jurisdiction. The stenciling detail would be according to Caltrans standards, as shown in the standard plans. Because the project also includes work within Riverside County, the design discharge would also conform to County of Riverside Flood Control and Water Conservation District requirements and the hydrology manual, if applicable.

Disturbed slopes would be constructed to minimize erosion only when necessary (i.e., by minimizing cut-and-fill areas to reduce slope lengths). Existing vegetation would be preserved as much as possible. Slopes steeper than 4:1 would require a permanent erosion control plan and a Design Standard Design Document that has been approved by the District Landscape Architect. All disturbed areas would incorporate permanent erosion controls. Concentrated flow conveyance systems, such as ditches, berms, dikes, swales, oversize drains, flared end sections, and outlet protection/velocity dissipation devices, would be considered to minimize soil erosion. The project would comply with Caltrans and City of Riverside MS4 permits.

Groundwater is not anticipated to be affected by the proposed project because groundwater in the vicinity is interpreted to be at a depth of approximately 80 feet below the ground surface or deeper. Maximum estimated excavation depth of the project is 10 feet.

The total new impervious area for Build Alternative 7 is 2.60 acres. Although this would result in a slightly higher volume of runoff, the impact is not anticipated to be substantial because the project site is in an urban area with predominantly paved surfaces. Concentrated flow conveyance systems, such as ditches, berms, dikes, swales, oversize drains, flared end sections, and outlet protection/velocity dissipation devices, would be considered to minimize soil erosion. Design of these facilities would take place during the Plans, Specifications, and Estimates phase of the project.

The proposed project is not expected to cause or contribute to a violation of water quality objectives. The RWQCB has not indicated to Caltrans that its discharges in the receiving water body are causing or contributing to an exceedance of an applicable water quality standard. The project would comply with Caltrans and City of Riverside MS4 permits and implement BMPs as required.

2.3.2.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The following measures will be implemented to minimize potential water quality impacts associated with construction and operation of the project:

WQ-1 The project is required to conform to the requirements of the Caltrans Statewide National Pollutant Discharge Elimination System Stormwater Permit, Order No. 2022-0033-DWQ, NPDES No. CAS000003, and any subsequent permit in effect at the time of construction. In addition, the project is required to comply with the requirements of NPDES Construction Stormwater General Permit, Order No. 2022-0057-DWQ, NPES No. CAS000002, as well as implementation of the BMPs specified in Department's Stormwater Management Plan.

WQ-2 The contractor will be required to develop a SWPPP, as required by the NPDES Construction Stormwater General Permit, to manage stormwater during construction activities. The SWPPP shall contain BMPs that have demonstrated effectiveness at reducing stormwater pollution and runoff. The SWPPP shall address all construction-related activities, equipment, and materials that have the potential to affect water quality. All construction site best management practice would follow the latest edition of the Stormwater Quality Handbooks, Construction Site BMPs Manual to control and minimize the impacts of construction-related pollutants. The SWPPP shall include BMPs to control pollutants, sediment from erosion,

stormwater runoff, and other construction-related impacts. In addition, the SWPPP shall include implementation of specific stormwater effluent monitoring requirements based on the project's risk level to ensure that the implemented BMPs are effective in preventing the exceedance of any water quality standards.

WQ-3 For work conducted outside the State right of way, the project shall implement the requirements pursuant to the RWQCB Santa Ana Region's Municipal Separate Storm Sewer System (MS4) permit. The Riverside County MS4 Permit, Order No. R8-2010-0033, NPDES Permit No. CAS618033 is currently in effect. However, the Santa Ana RWQCB is developing a draft Regional MS4 Permit to replace the Riverside County permit.

2.3.3 Geology/Soils/Seismicity/Topography

2.3.3.1 Regulatory Setting

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects "outstanding examples of major geological features." Topographic and geologic features are also protected under the California Environmental Quality Act (CEQA).

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. Structures are designed using the Department's Seismic Design Criteria (SDC). The SDC provides the minimum seismic requirements for highway bridges designed in California. A bridge's category and classification will determine its seismic performance level and which methods are used for estimating the seismic demands and structural capabilities. For more information, please see the Department's Division of Engineering Services, Office of Earthquake Engineering, Seismic Design Criteria.

2.3.3.2 Affected Environment

The primary source used in the preparation of this section is the Preliminary Geotechnical Report (PGR) (Earth Mechanics, Inc. 2020).

Topography and Soil Conditions

A soil series is a group of soils with similar profiles. Three soil series occur in the project vicinity: Arlington, Buren, and Hanford (U.S. Department of Agriculture 2020) (Table 2.3.3-1). Soils in the biological study area (BSA) are all generally sandy and have high drainage capacity.

Table 2.3.3-1. Soil Series Occurring within the BSA

Soil Series
Arlington fine sandy loam, deep, 0 to 2 percent slopes; Arlington fine sandy loam, deep, 2 to 8 percent slopes; Arlington loam, deep, 0 to 5 percent slopes
Buren fine sandy loam, 2 to 8 percent slopes, eroded
Hanford coarse sandy loam, 0 to 2 percent slopes; Hanford coarse sandy loam, 2 to 8 percent slopes; Hanford fine sandy loam, 0 to 2 percent slopes

In addition, according to the City of Riverside General Plan Public Safety Element, the project is not in an area with soils with high shrink-swell potential (City of Riverside 2018).

Geologic Hazards

Landslides

There are predictable relationships between local geology and landslides. Seismically induced landslides and rockfall would be expected throughout Riverside County during a major earthquake. The factors that contribute to the susceptibility of slopes to landslides are the slope's height and steepness. The project area features engineered slopes with abundant landscaping; therefore, erosion potential is low.

Seismicity and Fault Rupture

The project area is in a seismically active region of southern California. According to the City of Riverside General Plan Public Safety Element, there are no faults within the city of Riverside; however, there are major regional faults with potential to affect the city of Riverside. The closest regional fault zones are the Elsinore Fault 13 miles to the southwest and the San Jacinto Fault 7 miles to the northeast (City of Riverside 2018).

Liquefaction

Liquefaction is the loss of soil strength or stiffness due to a buildup of pore-water pressure during ground shaking. Liquefaction is associated primarily with loose (low-density) to medium dense, saturated, fine- to medium-grained cohesion-less soils, where the groundwater level is shallow (typically within 50 feet below ground surface), and sustained ground shaking is anticipated. Effects of liquefaction can include sand boils, excessive displacements, bearing capacity failures, and lateral spreading. According to the City of Riverside General Plan Public Safety Element, the proposed project is primarily in an area that has a designation of "Low" liquefaction susceptibility. There are some areas south of Indiana Avenue that are designated as having "moderate" liquefaction susceptibility (City of Riverside 2018).

Seiches and Tsunamis

Seiches are large waves generated in enclosed bodies of water in response to ground shaking. Tsunamis are waves generated in large bodies of water by fault displacement or major ground movement. According to the City of Riverside General Plan Public Safety Element, the city of Riverside lies downstream of several dams, and certain areas near dams are at risk in the event of dam failure. The project area is in the dam inundation areas of the Prenda and Woodcrest dams (City of Riverside 2018). A review of the California Geological Society Tsunami Inundation Map did not include Riverside County or the proposed project area in a tsunami inundation area.

2.3.3.3 ENVIRONMENTAL CONSEQUENCES

No-Build Alternative

Hazards associated with seismic activity would still exist under the No-Build Alternative. The No-Build Alternative would not result in any impacts on geology, soils, seismicity, or topography, as no construction would occur in the project area.

Build Alternative 7 (Locally Preferred Alternative)

Temporary

During construction of the build alternative, excavated soil would be exposed, increasing the potential for soil erosion. In addition, during a storm event, unprotected soils, including slopes, would be subject to erosion. Construction activities could temporarily disturb soil both within the

project right-of-way, primarily in work areas and areas with heavy equipment, and outside the project footprint.

Temporary effects due to soil erosion are discussed in Section 2.3.2, *Water Quality and Storm Water Runoff*. Erosion would be addressed through implementation of standardized measures as part of the project (refer to Section 1.4.1). These include erosion control BMPs that would be part of the SWPPP. With implementation of these standardized measures, no short-term direct or indirect adverse impacts related to soil compaction or erosion would occur during construction of the build alternative.

Permanent

The proposed build alternative is not anticipated to adversely affect geologic or topographic conditions or be affected by fault rupture within the project limits. The primary geologic and geotechnical constraint associated with the design and construction of the build alternative is seismic shaking.

Landslides and Rockfalls

Project construction would require constructing retaining walls with concrete barriers, cutting the rock slopes, and placing fill slopes. Slopes steeper than 4:1 would require a permanent erosion control plan and a Design Standard Design Document that has been approved by the District Landscape Architect. With the implementation of standard design measures incorporated into the proposed project, no direct or indirect, adverse, long-term impacts from landslides or rockfalls would occur as a result of the build alternative.

Seismic Shaking

As discussed prior, the proposed project is in the seismically active southern California region. Design and construction of the proposed project following Caltrans' current highway and structure seismic design standards would minimize potential impacts. With implementation of these standard measures, no direct or indirect, adverse, long-term impacts on seismic shaking would occur as a result of the build alternative.

Liquefaction

As discussed previously, the project limits are not in an area with high susceptibility to liquefaction. The project would follow Caltrans' latest design requirements to minimize any potential effects related to liquefaction and seismically induced settlement. With implementation of these standard measures, no direct or indirect, adverse, long-term impacts would occur as a result of Build Alternative 7.

2.3.3.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

With adherence to Caltrans' standard design and construction practices, which are required on all State Highway System projects, impacts related to geology, soils, seismicity, and topography would be avoided or minimized. No additional measures are required.

2.3.4 Paleontology

2.3.4.1 REGULATORY SETTING

Paleontology is a natural science focused on the study of ancient animal and plant life as it is preserved in the geologic record as fossils. A number of federal statutes specifically address

paleontological resources, their treatment, and funding for mitigation as a part of federally authorized projects.

23 United States Code (USC.) 1.9(a) requires that the use of Federal-aid funds must be in conformity with all federal and state laws.

23 United States Code (USC) 305 authorizes the appropriation and use of federal highway funds for paleontological salvage as necessary by the highway department of any state, in compliance with 16 USC 431–433 above and state law.

Under California law, paleontological resources are protected by the California Environmental Quality Act (CEQA).

2.3.4.2 AFFECTED ENVIRONMENT

Information for this section comes from the approved combined *Paleontological Identification Report / Paleontological Evaluation Report* prepared for this project (Caltrans 2020c).

Paleontological searches of records maintained by the Natural History Museum of Los Angeles County (LACM) and the Western Science Center (WSC) were obtained on July 24, 2020, and July 16, 2020, respectively. Records indicated that no vertebrate fossil localities are recorded from within the project area (McLeod 2020; Radford 2020). However, there are several localities recorded from within the vicinity from sediments similar to those mapped within the project area (McLeod 2020; Radford 2020).

Geologic mapping by Dibblee and Minch (2004) indicates that the entire project area is underlain by Pleistocene-age older alluvial fan deposits (Qoa), which have a high potential for yielding significant paleontological resources; artificial fill, which has no such potential, was observed during the field survey. Also mapped within the project vicinity, within the half-mile buffer, are Holocene-age young alluvium (Qa) and Holocene-age young gravel and sand (Qg), which have low sensitivity for paleontological resources (Dibblee and Minch 2004). However, these additional mapped geologic units are not anticipated to be encountered during project excavations based on their location and stratigraphic relationship with the Pleistocene-age older alluvial fan deposits (Qoa) mapped at the surface. The distribution of the geologic units within the project vicinity, as mapped by Dibblee and Minch (2004), is shown on Figure 2.3.4-1.

A field survey was conducted on July 23, 2020, in order to determine the paleontological potential of the geologic deposits underlying the study area. The entire survey area is heavily disturbed, and no native sediments were observed. No paleontological resources were observed during the field survey, nor were any sediments conducive to fossilization.

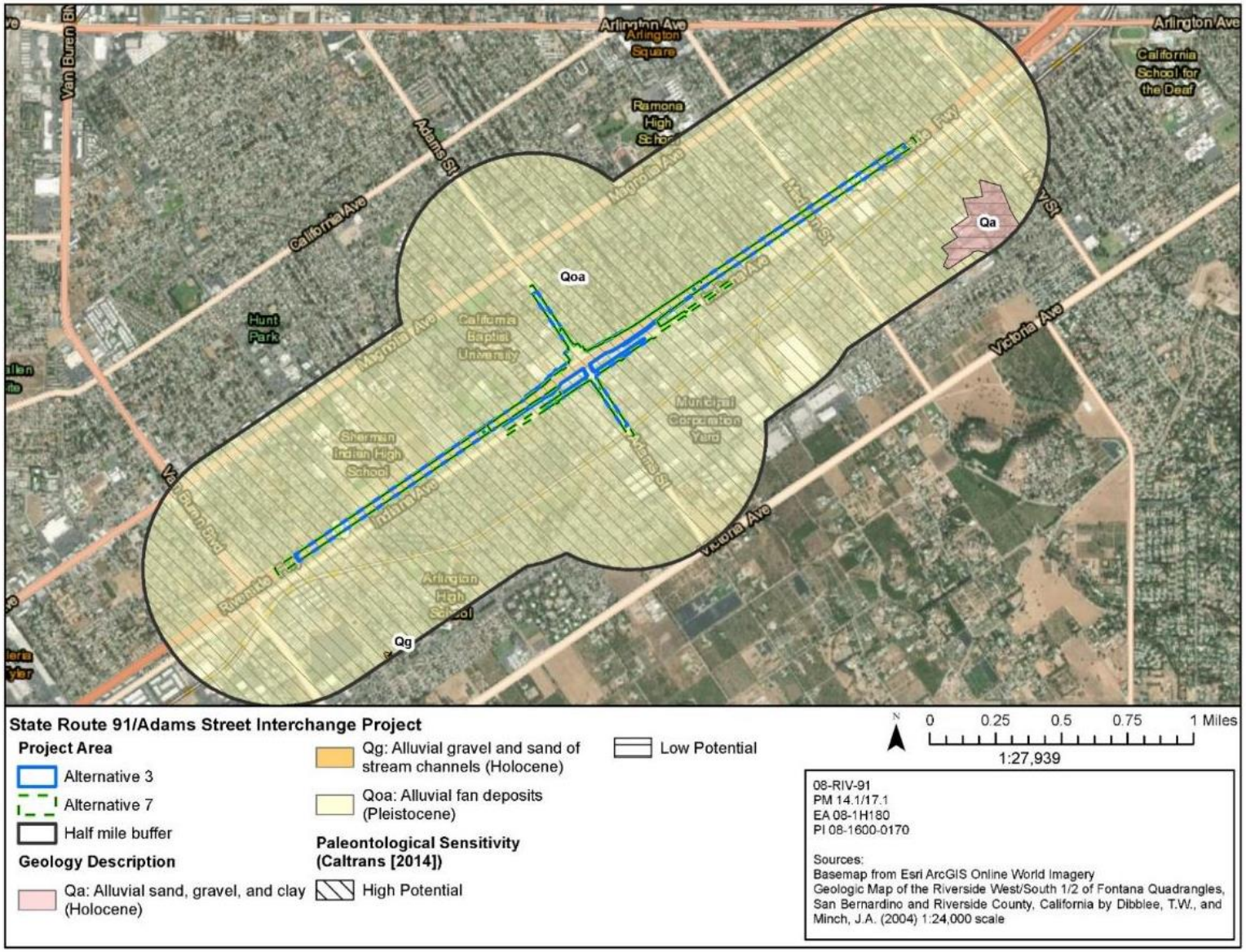


Figure 2.3.4-1. Project Geology Map

2.3.4.3 ENVIRONMENTAL CONSEQUENCES

No-Build Alternative

Under the No-Build Alternative, no modifications to existing structures or the land would occur; therefore, no effects on paleontological resources would result from project construction or operation.

Build Alternative 7 (Locally Preferred Alternative)

Temporary Impacts

No temporary impacts on paleontological resources are anticipated.

Permanent Impacts

Surface grading or shallow excavations entirely within previously disturbed sediments or artificial fill in the project area are unlikely to uncover significant fossil vertebrate remains because any discovered fossils would lack context. However, these deposits could shallowly overlie older *in situ* sedimentary deposits. Excavations within the project area that impact Pleistocene-age older alluvial fan deposits (Qoa) could result in an adverse direct impact on scientifically important paleontological resources. With implementation of measure **PAL-1**, a Paleontological Mitigation Plan (PMP) will be prepared that will detail procedures for monitoring, fossil recovery, and notification procedures in the event of a fossil discovery.

2.3.4.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The following measure will be implemented to mitigate impacts related to paleontological resources:

PAL-1: Prior to construction, a Paleontological Mitigation Plan (PMP) should be prepared. It should provide detailed recommended monitoring locations; a description of a worker training program; detailed procedures for monitoring, fossil recovery, laboratory analysis, and museum curation; and notification procedures in the event of a fossil discovery by a paleontological monitor or other project personnel. A curation agreement with Western Science Center (WSC) or another accredited repository should also be obtained. Construction excavations that disturb Pleistocene-age older alluvial fan deposits (Qoa) (high sensitivity) should be monitored by a professional paleontologist in order to reduce potential adverse impacts on scientifically important paleontological resources to a less-than-significant level. Because the results of the field survey could not be used to determine the depth at which sensitive Pleistocene-age sediments occur within the project alignment, ground-disturbing activities should be spot checked when excavations are expected to exceed the depth of artificial fill and encounter native in situ sediments. If it is determined that only artificial fill or previously disturbed sediments (low sensitivity) are impacted, the monitoring program should be reduced or suspended. Any subsurface bones or potential fossils that are unearthed during construction should be evaluated by a professional paleontologist as described in the PMP.

2.3.5 Hazardous Waste/Materials

2.3.5.1 REGULATORY SETTING

Hazardous materials, including hazardous substances and wastes, are regulated by many state and federal laws. Statutes govern the generation, treatment, storage and disposal of hazardous

materials, substances, and waste, and the investigation and mitigation of waste releases, air and water quality, human health and land use.

The primary federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, and the Resource Conservation and Recovery Act (RCRA) of 1976. The purpose of CERCLA, often referred to as "Superfund," is to identify and clean up abandoned contaminated sites so that public health and welfare are not compromised. The RCRA provides for "cradle to grave" regulation of hazardous waste generated by operating entities. Other federal laws include:

- Community Environmental Response Facilitation Act (CERFA) of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

In addition to the acts listed above, Executive Order (EO) 12088, *Federal Compliance with Pollution Control Standards*, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

California regulates hazardous materials, waste, and substances under the authority of the CA Health and Safety Code and is also authorized by the federal government to implement RCRA in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires cleanup of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and clean up contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

Worker and public health and safety are key issues when addressing hazardous materials that may affect human health and the environment. Proper management and disposal of hazardous material is vital if it is found, disturbed, or generated during project construction.

2.3.5.2 AFFECTED ENVIRONMENT

Environmental Records Review and Windshield Survey

The primary source used in the preparation of this section is the Initial Site Assessment (ISA) (Caltrans 2021e), and the ISA Update (Caltrans 2023d).

An Environmental Data Resources, Inc. (EDR) report was obtained for the ISA to identify facilities listed by regulatory agencies as potentially having environmental concerns. Furthermore, an updated EDR report was obtained in 2023 for the ISA Update to document the current regulatory site conditions. The search was limited to a one-mile radius of the project area (i.e., ASTM standard) to assess whether activities within or near the project would have the

potential to create environmental concerns in the study area. The online GeoTracker database maintained by the SWRCB and the online ENVIROSTOR database maintained by the California Department of Toxic Substances Control (DTSC) were also reviewed to supplement the information provided in the EDR Report. In addition, the current and past uses of the properties within the study area were determined from a review of reasonably ascertainable historical resources, including historical aerial photographs and topographical maps, and review of available public documents. A full list of parcels reviewed in the study area are shown in Tables 4-1 and Table 4-2 of the ISA. Parcels that warrant additional assessment are discussed in Section 2.3.5.3 below.

Aerially deposited lead (ADL) is a regional condition common along roadways constructed prior to 1996 that resulted from the combustion of leaded gasoline. SR-91 was constructed during the 1950s and 1960s. As such, ADL is a Recognized Environmental Condition linked to the proposed project.

According to the Riverside County Office of the Assessor, several of the parcels within the study area were developed prior to 1980 and therefore have the potential to contain asbestos-containing materials (ACM) and lead-based paint (LBP). The Adams Street bridge also has the potential to contain ACM and LBP. According to the previous ISA (BCI 2008), asbestos-containing pipe is located under the sidewalks along Richards Boulevard where it passes under the elevated freeway. These short lengths of pipe are perpendicular to the sidewalk length. The pipes are used to convey water from a sub-drain system under the immediately adjacent concrete-covered abutment slopes under the sidewalk where they discharge to the street. There are several pipes on each side of the street.

Thermoplastic paint and yellow-painted traffic stripes/pavement markings contain lead chromate, which may produce toxic fumes when heated. Yellow thermoplastic paint is assumed to have been used for marking within the project area.

A windshield survey of the project area was conducted on June 6, 2020, via public rights-of-way. Online mapping tools and historic aerial photographs were used to supplement the windshield survey. Observations included a small building at the Shell station on Adams Street that was identified as a hazardous storage area and several underground storage vaults.

2.3.5.3 ENVIRONMENTAL CONSEQUENCES

No-Build Alternative

Under the No-Build Alternative, no improvements would be implemented and no effects involving hazardous materials from the project would occur.

Build Alternative 7 (Locally Preferred Alternative)

Temporary Impacts

Construction for the build alternative would involve the routine handling of hazardous materials such as fuels, solvents, paints, and oils. There is the potential for spills or inadvertent release of hazardous materials that could result in impacts on workers, the general public, and the environment. The handling of hazardous materials would be in compliance with applicable regulations, such as the RCRA, and Occupational Safety and Health Act (see Section 2.3.5.1, *Regulatory Setting*). Compliance with the aforementioned regulations, in combination with construction BMPs developed as part of a site-specific SWPPP, would ensure that all hazardous materials would be handled properly. Furthermore, hazardous materials that are

handled during construction are materials typically used in construction projects and do not include acutely hazardous materials.

Build Alternative 7 would require temporary, partial, or full right-of-way acquisition on 53 parcels. Of the parcels identified in environmental databases obtained for the ISA, 10 parcels identified for full acquisition are recommended for further evaluation, as summarized in Table 2.3.5-1 and shown on Figure 2.3.5-1. The ISA Update prepared for the project did not identify additional listed facilities, on-or off-site, likely to have created an unidentified recognized environmental concern within the project area and the results and conclusions of the ISA remain valid. With implementation of measure **HAZ-1**, a follow-up site investigation and Phase 2 environmental site assessment of areas identified in Table 2.3.5-1 and Figure 2.3.5-1 will be performed prior to construction.

As noted above, ADL from the historical use of leaded gasoline exists along roadways throughout California. Construction of the project could result in the excavation and disturbance of soils contaminated with ADL. If encountered, soil with elevated concentrations of lead as a result of ADL on the State Highway System right-of-way within the project limits would be managed under the July 1, 2016, ADL Agreement between Caltrans and the California Department of Toxic Substances Control. This ADL Agreement allows such soils to be safely reused within the project limits as long as all requirements of the ADL Agreement are met. Soil sampling is recommended at various depths if soil disturbance is proposed with analysis for total and soluble lead in accordance with the ADL Agreement. With implementation of measure **HAZ-2**, soil sampling and analysis for ADL will be conducted by the City of Riverside during the Plans, Specifications, and Estimates (PS&E) phase.

Demolition or modification of structures containing ACMs of LBPs during construction could expose construction workers and the public to hazardous materials. Measure **HAZ-3** requires samples of any suspected ACMs be collected for laboratory analysis prior to disturbance and LBP surveys on bridges or other painted structures that could be disturbed or demolished as part of the planned work. If ACM or LBP is identified, abatement would be conducted in accordance with regulatory requirements. This measure minimizes potential impacts related to ACMs and LBPs.

Table 2.3.5-1 Recognized Environmental Conditions for Build Alternative 7 (Locally Preferred Alternative)

I.D.	APN	Address	Impact	Risk Category	EDR Listing	Recognized Environmental Condition
1	231-080-009	3502 Adams St	Full	High	RCRA-SQG LUST UST CERS HAZ WASTE SWEEPS UST HIST UST CERS TANKS CA FID UST CHMIRS RCRA NonGen/NLR FINDS	Potential; additional assessment recommended. This address was identified as Adams Shell. According to historic records, this site was listed as an orange grower from 1936–1977 and a gas station from 1977–present. Records indicate that four 10,000-gallon USTs were installed in 1982. The cleanup status of the LUST case is reported as "Completed - Case Closed" as of May 27, 2007. Based on the time elapsed since the reported release and complete cleanup, this incident is not expected to have created an environmental concern. However,

I.D.	APN	Address	Impact	Risk Category	EDR Listing	Recognized Environmental Condition
					ECHO HAZNET CERS EDR HIST AUTO RGA LUST	recent inspections conducted by the RCFD and RDEH have resulted in issuance of NOVs for the property. Therefore, further evaluation of this property is warranted prior to acquisition.
2	231-133-031	3501 Adams St	Full	Low	HAZNET	Potential; additional assessment recommended. Historically residential property redeveloped into a two-story commercial building housing personal services such as taxes and insurance brokers. Pre-1980 construction (1978) poses potential for ACM in the structure.
3	231-154-007	8089 Indiana Ave	Full	Low	--	Potential; additional assessment recommended. This address was identified as a Subaru Service Department. Based on the lack of listing in databases indicating a release or violations, this property is not expected to have created an environmental concern to the ISA study area. However, based on the type of business (auto service), there is potential for soil contamination to exist, which could be encountered during construction and/or excavation activities. Therefore, further evaluation of this property is warranted prior to acquisition.
4	231-154-004	8099 Indiana Ave	Full	Low	--	Potential; additional assessment recommended. This address was identified as Black Label Autos. Based on the lack of listing in other databases indicating a release, this listing is not expected to have created an environmental concern. However, a rollup bay potentially used for auto service and maintenance was observed during the site reconnaissance. These activities, if present, pose a potential for soil contamination to exist, which could be encountered during construction and/or excavation activities. In addition, pre-1980 construction (1978) poses potential for ACM in the structure. Therefore, further evaluation is warranted prior to the full acquisition of this parcel.
5	231-143-016	8133 Indiana Ave	Full	Low	--	Potential; additional assessment recommended. This address is currently vacant and was

I.D.	APN	Address	Impact	Risk Category	EDR Listing	Recognized Environmental Condition
						identified as the former Top Car auto dealership. Based on the lack of listing in databases indicating a release, this listing is not expected to have created an environmental concern. However, based on the type of business, there is potential for soil contamination to exist, which could be encountered during construction and/or excavation activities, warranting further evaluation prior to the full acquisition of this parcel.
6	231-143-017	8155 Indiana Ave	Full	Low	--	Potential; additional assessment recommended. This address is identified as Enterprise Auto Rentals. Based on the lack of listing in databases indicating a release, this listing is not expected to have created an environmental concern. However, based on the type of business, there is potential for soil contamination to exist, which could be encountered during construction and/or excavation activities, warranting further evaluation prior to the full acquisition of this parcel.
7	231-134-019	8237 Indiana Ave	Full	Low	--	Potential; additional assessment recommended. Review of available records does not indicate potential environmental concern. Property is currently a paved parking lot with a vacant building (formerly Alsbou Motors). Based on the lack of listing in databases indicating a release, this listing is not expected to have created an environmental concern. According to city directory listings, this site has been used for auto sales. There was no maintenance or service area visible during the site reconnaissance from the right-of-way; however, a rollup door is visible in Google Earth imagery, indicating the potential for automotive maintenance activities. Therefore, additional evaluation is warranted prior to acquisition.
8	231-134-009	8267 Indiana Ave 8291 Indiana Ave	Full	High	HIST UST FINDS HAZNET	Potential; additional assessment recommended. The property is currently a paved parking lot. Based on historic records, the site previously operated as a

I.D.	APN	Address	Impact	Risk Category	EDR Listing	Recognized Environmental Condition
						Texaco gas station from 1966–1981 and used auto sales from 1986–2001. RWQCB records indicate the Texaco had five 4,000-gallon USTs at the site installed in 1961. Based on the lack of listing in databases indicating a release, this listing is not expected to have created an environmental concern. However, based on the type of business, there is potential for soil contamination to exist, which could be encountered during construction and/or excavation activities, warranting further evaluation prior to the full acquisition of this parcel.
9	231-080-014	8315 Indiana Ave	Full	High	SWEEPS UST HIST UST CA FID UST FINDS HAZNET EDR HIST AUTO	Potential; additional assessment recommended. The property is currently a paved parking lot associated with Drive Time Used Cars. Based on historic records, the site previously operated as a Chevron gas station from 1966–1999. RWQCB records indicate the facility installed three product tanks (3,000, 5,000, and 6,000 gallons) in 1962 as well as a 550-gallon tank for waste. In 1968, a 10,000-gallon product tank was installed. Based on the lack of listing in databases indicating a release, this listing is not expected to have created an environmental concern. However, based on the type of business, there is potential for soil contamination to exist, which could be encountered during construction and/or excavation activities, warranting further evaluation prior to the full acquisition of this parcel.
10	231-080-004	8341 Indiana Ave 8391 Indiana Ave	Full	High	RCRA NonGen/NLR FINDS ECHO HAZNET EDR HIST AUTO	Potential; additional assessment recommended. The property is currently occupied by Drive Time Used Cars. The site reconnaissance identified potential maintenance bays. Historic city directory listings indicate the property operated as a gasoline service station from 1975–1982. Based on the lack of listing in databases indicating a release, this listing is not expected to have created an environmental concern. However, based on the type of business,

I.D.	APN	Address	Impact	Risk Category	EDR Listing	Recognized Environmental Condition
						there is potential for soil contamination to exist, which could be encountered during construction and/or excavation activities, warranting further evaluation prior to the full acquisition of this parcel.

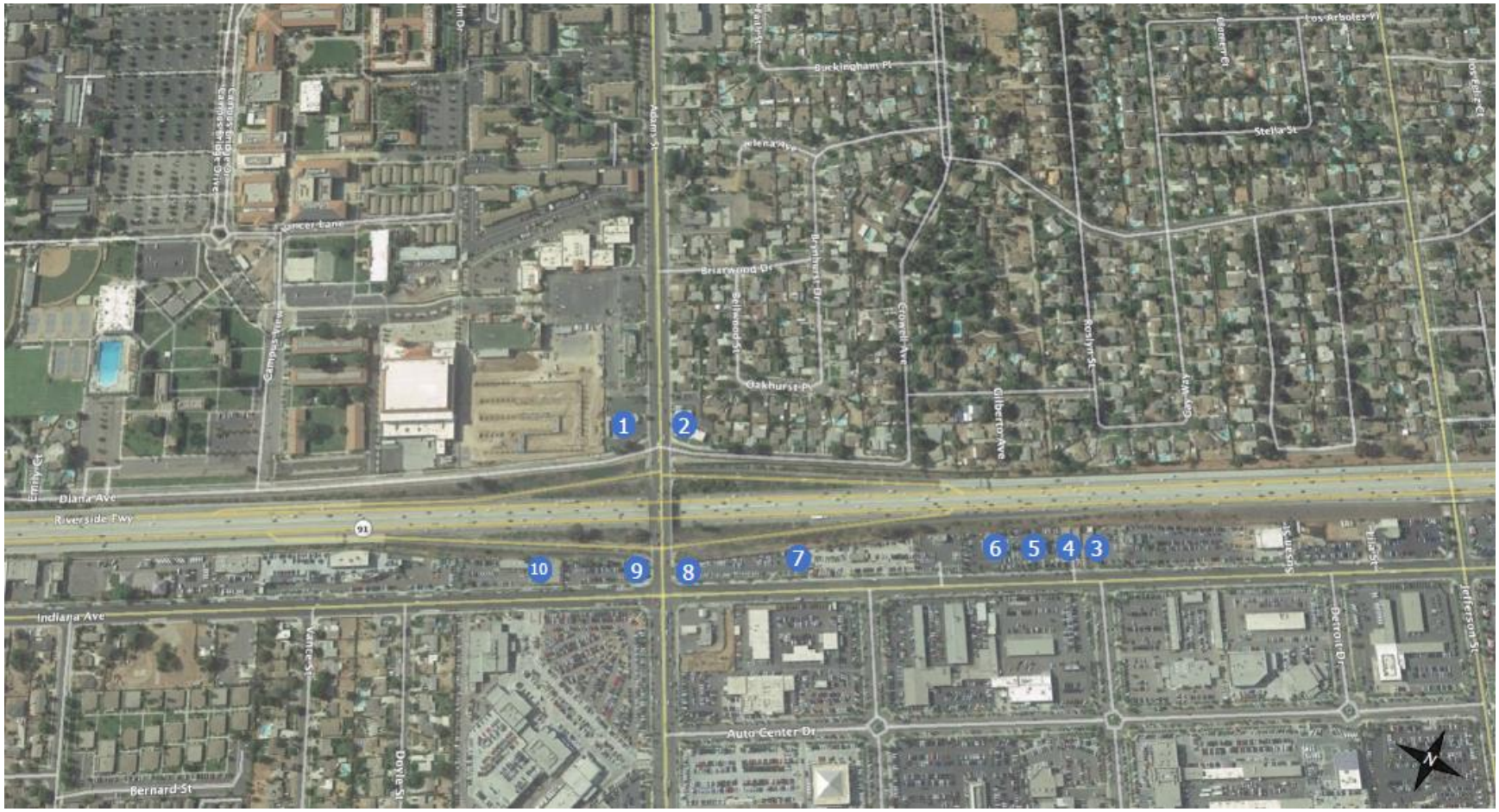


Figure 2.3.5-1. Build Alternative 7 (Locally Preferred Alternative) Recognized Environmental Condition Locations

Permanent Impacts

Following construction of the proposed project, operations are not expected to result in the creation of any new health hazards or expose people to potential new health hazards. As such, the proposed project would not result in permanent impacts associated with hazardous waste.

2.3.5.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The project includes appropriate measures to avoid or minimize effects related to hazardous wastes, as discussed in Section 1.4.1, if any are found. In addition, the avoidance and minimization measures below would ensure that potential construction-related impacts would be avoided:

HAZ-1 A follow-up site investigation and Phase 2 environmental site assessment of Recognized Environmental Conditions (RECs) identified in Table 2.3.5-1 and Figure 2.3.5-1 will be performed prior to construction.

HAZ-2 The City of Riverside will conduct soil sampling and analysis for ADL during the PS&E phase. If soil is determined to contain lead concentrations exceeding the regulated threshold level, it will be managed during construction in accordance with the criteria in the Soil Management for Aerially Deposited Lead-Soils Agreement (California Environmental Protection Agency, Department of Toxic Substances Control, Docket No. ESPO-SMA 15/ 16-001, June 29, 2016) [ADL Agreement]).

HAZ-3 The City of Riverside will conduct LBP and ACM surveys during the PS&E phase for all bridge structures that will be disturbed in the proposed project. Due to the possible presence of elevated levels of lead concentrations within the yellow thermoplastic and yellow-painted traffic stripes along the existing highway, the Contractor will be required during construction to properly manage removed stripe and pavement markings as hazardous waste, in accordance with Section 14-11.12 of Caltrans' Standard Specifications. If asbestos minerals are identified in the materials sampled during surveys and should the materials be disturbed during demolition, renovation, and/or construction, any generated ACM wastes will be disposed as hazardous asbestos waste; and an ACM abatement is required by a licensed ACM abatement contractor prior to renovation, refurbishing, or demolition activities.

2.3.6 Air Quality

2.3.6.1 REGULATORY SETTING

The Federal Clean Air Act (FCAA), as amended, is the primary federal law that governs air quality while the California Clean Air Act (CCAA) is its companion state law. These laws, and related regulations by the United States Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (ARB), set standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and state ambient air quality standards have been established for six criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM)—which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM_{10}) and particles of 2.5 micrometers and smaller ($PM_{2.5}$), Lead (Pb), and sulfur dioxide (SO_2). In addition, state standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H_2S), and vinyl chloride. The NAAQS and state standards are set at levels that protect public health with a margin of safety, and are subject to periodic review and revision. Both state and federal regulatory schemes also cover

toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition.

Federal air quality standards and regulations provide the basic scheme for project-level air quality analysis under the National Environmental Policy Act (NEPA). In addition to this environmental analysis, a parallel "Conformity" requirement under the FCAA also applies.

Conformity

The conformity requirement is based on FCAA Section 176(c), which prohibits the U.S. Department of Transportation (USDOT) and other federal agencies from funding, authorizing, or approving plans, programs, or projects that do not conform to State Implementation Plan (SIP) for attaining the NAAQS. "Transportation Conformity" applies to highway and transit projects and takes place on two levels: the regional (or planning and programming) level and the project level. The proposed project must conform at both levels to be approved.

Conformity requirements apply only in nonattainment and "maintenance" (former nonattainment) areas for the NAAQS, and only for the specific NAAQS that are or were violated. U.S. EPA regulations at 40 Code of Federal Regulations (CFR) 93 govern the conformity process. Conformity requirements do not apply in unclassifiable/attainment areas for NAAQS and do not apply at all for state standards regardless of the status of the area.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the NAAQS for carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), and in some areas (although not in California), sulfur dioxide (SO_2). California has nonattainment or maintenance areas for all of these transportation-related "criteria pollutants" except SO_2, and also has a nonattainment area for lead (Pb); however, lead is not currently required by the FCAA to be covered in transportation conformity analysis. Regional conformity is based on emission analysis of Regional Transportation Plans (RTPs) and Federal Transportation Improvement Programs (FTIPs) that include all transportation projects planned for a region over a period of at least 20 years (for the RTP) and 4 years (for the FTIP). RTP and FTIP conformity uses travel demand and emission models to determine whether or not the implementation of those projects would conform to emission budgets or other tests at various analysis years showing that requirements of the FCAA and the SIP are met. If the conformity analysis is successful, the Metropolitan Planning Organization (MPO), Federal Highway Administration (FHWA), and Federal Transit Administration (FTA) make the determinations that the RTP and FTIP are in conformity with the SIP for achieving the goals of the FCAA. Otherwise, the projects in the RTP and/or FTIP must be modified until conformity is attained. If the design concept and scope and the "open-to-traffic" schedule of a proposed transportation project are the same as described in the RTP and FTIP, then the proposed project meets regional conformity requirements for purposes of project-level analysis.

Project-level conformity is achieved by demonstrating that the project comes from a conforming RTP and TIP; the project has a design concept and scope[4] that has not changed significantly from those in the RTP and TIP; project analyses have used the latest planning assumptions and EPA-approved emissions models; and in PM areas, the project complies with any control measures in the SIP. Furthermore, additional analyses (known as hot-spot analyses) may be required for projects located in CO and PM nonattainment or maintenance areas to examine localized air quality impacts.

[4] "Design concept" means the type of facility that is proposed, such as a freeway or arterial highway. "Design scope" refers to those aspects of the project that would clearly affect capacity and thus any regional emissions analysis, such as the number of lanes and the length of the project.

2.3.6.2 AFFECTED ENVIRONMENT

The primary source used in the preparation of this section is the Air Quality Report (AQR) (Caltrans 2022).

The project site is in southwestern Riverside County, on the southeastern portion of the South Coast Air Basin (SCAB or Basin). Air quality regulation in the SCAB is administered by the South Coast Air Quality Management District (SCAQMD), a regional agency created for the Basin. Table 2.3.6-1provides the status of U.S. EPA-approved SIPs relevant to the project vicinity.

Table 2.3.6-1. Status of State Implementation Plan Relevant to Project Area

Name/Description	Status
2020 South Coast PM2.5 SIP Revision	Adopted December 4, 2020
2019 South Coast 8-Hour Ozone SIP Update	Approved November 2019
2018 South Coast SIP Revisions and Updates	Approved December 2018
2016 Ozone and PM2.5 Plan for the South Coast Air Basin and Coachella Valley	Approved March 2017
2010 South Coast Air Basin PM10 Redesignation Request, Maintenance Plan, and Conformity Budgets	Approved February 2010

Source: Air Quality Report. 2022

Climate and Meteorological Conditions

The SCAB is a coastal plain with connecting broad valleys and low hills. The Pacific Ocean forms the southwestern boundary, and high mountains surround the rest of the SCAB. The region lies in the semi-permanent high-pressure zone of the eastern Pacific. The resulting climate is mild and tempered by cool ocean breezes. This climatological pattern is rarely interrupted. However, periods of extremely hot weather, winter storms, and Santa Ana wind conditions do occur.

The annual average temperature varies little throughout the Basin, ranging from the low to middle 60s (measured in degrees Fahrenheit [°F]). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological station closest to the site monitoring temperature is the Temecula Valley site (SCAQMD 2018).

Attainment Status

Existing air quality conditions in the project area can be characterized in terms of the ambient air quality standards that the State of California and the federal government have established for several different pollutants. For some pollutants, separate standards have been set for different measurement periods. Most standards have been set to protect public health. For some pollutants, standards have been based on other values (such as protection of crops, protection of materials, or avoidance of nuisance conditions). Table 2.3.6-2 shows the state and federal standards and the attainment status of the project region of the SCAB.

Table 2.3.6-2. State and Federal Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State[9] Standard	Federal[9] Standard	Principal Health and Atmospheric Effects	Typical Sources	Attainment Status
Ozone (O_3)[2]	1 hour 8 hours	0.09 ppm 0.070 ppm	--[4] 0.070 ppm (4th highest in 3 years)	High concentrations irritate lungs. Long-term exposure could cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants. Biogenic volatile organic compounds (VOCs) could also contribute.	Low-altitude ozone is almost entirely formed from reactive organic gases (ROG)/VOC and nitrogen oxides (NO_X) in the presence of sunlight and heat. Common precursor emitters include motor vehicles and other internal combustion engines, solvent evaporation, boilers, furnaces, and industrial processes.	Federal: Extreme Nonattainment (8-hour) State: Nonattainment (1-hour and 8-hour)
Carbon Monoxide (CO)	1 hour 8 hours 8 hours (Lake Tahoe)	20 ppm 9.0 ppm[1] 6 ppm	35 ppm 9 ppm --	CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone. Colorless, odorless.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.	Federal: Attainment/ Maintenance State: Attainment
Respirable Particulate Matter (PM_{10})[2]	24 hours Annual	50 µg/m^3 20 µg/m^3	150 µg/m^3 --[2] (expected number of days above standard < or equal to 1)	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many toxic and other aerosol and solid compounds are part of PM_{10}.	Dust- and fume-producing industrial and agricultural operations; combustion smoke and vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources.	Federal: Attainment/ Maintenance State: Nonattainment
Fine Particulate Matter ($PM_{2.5}$)[2]	24 hours Annual 24 hours (conformity process[5]) Secondary Standard (annual; also for conformity process[5])	-- 12 µg/m^3 -- --	35 µg/m^3 12.0 µg/m^3 65 µg/m^3 15 µg/m^3 (98th percentile over 3 years)	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter —a toxic air contaminant—is in the $PM_{2.5}$ size range. Many toxic and other aerosol and solid compounds are part of $PM_{2.5}$.	Combustion, including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical and photochemical reactions involving other pollutants, including NO_X, sulfur oxides (SO_X), ammonia, and ROG.	Federal: Nonattainment State: Nonattainment

Pollutant	Averaging Time	State[9] Standard	Federal[9] Standard	Principal Health and Atmospheric Effects	Typical Sources	Attainment Status
Nitrogen Dioxide (NO_2)	1 hour Annual	0.18 ppm 0.030 ppm	0.100 ppm[6] (98th percentile over 3 years) 0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain and nitrate contamination of storm water. Part of the "NO_X" group of ozone precursors.	Motor vehicles and other mobile or portable engines, especially diesel; refineries; industrial operations.	Federal: Attainment/ Maintenance State: Attainment
Sulfur Dioxide (SO_2)	1 hour 3 hours 24 hours Annual	0.25 ppm -- 0.04 ppm --	0.075 ppm[7] (99th percentile over 3 years) 0.5 ppm[9] 0.14 ppm 0.030 ppm (for certain areas)	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel not used.	Federal: Attainment/ Unclassified State: Attainment/ Unclassified
Lead (Pb)[3]	Monthly Calendar Quarter Rolling 3-month average	1.5 µg/m^3 -- --	-- 1.5 µg/m^3 (for certain areas) 0.15 µg/m^3 [11]	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also a toxic air contaminant and water pollutant.	Lead-based industrial processes like battery production and smelters. Lead paint, leaded gasoline. ADL from older gasoline use could exist in soils along major roads.	Federal: Unclassified/ Attainment State: Attainment
Sulfate	24 hours	25 µg/m^3	--	Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.	Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.	State Only: Attainment/ Unclassified
Hydrogen Sulfide (H_2S)	1 hour	0.03 ppm	--	Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death. Headache, nausea. Strong odor.	Industrial processes such as refineries and oil fields, asphalt plants, livestock operations, sewage treatment plants, and mines. Some natural sources like volcanic areas and hot springs.	State Only: Attainment/ Unclassified
Visibility Reducing Particles (VRP)	8 hours	Visibility of 10 miles or more (Tahoe: 30 miles) at relative humidity	--	Reduces visibility. Produces haze. NOTE: not directly related to the Regional Haze program under the FCAA which is oriented primarily toward visibility issues in National Parks and other "Class I" areas.	See particulate matter above. Would potentially be related more to aerosols than to solid particles.	State Only: Attainment/ Unclassified

Pollutant	Averaging Time	State[9] Standard	Federal[9] Standard	Principal Health and Atmospheric Effects	Typical Sources	Attainment Status
		less than 70%		However, some issues and measurement methods are similar.		
Vinyl Chloride[3]	24 hours	0.01 ppm	--	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes	State Only: Attainment/ Unclassified

Notes: Based on the ARB Air Quality Standards chart (ARB 2016).

[1] State standards are "not to exceed" or "not to be equaled or exceeded" unless stated otherwise.

[2] Federal standards are "not to exceed more than once a year" or as described above.

[3] ppm = parts per million

[4] Prior to June 2005, the 1-hour ozone NAAQS was 0.12 ppm. Emission budgets for 1-hour ozone are still be in use in some areas where 8-hour ozone emission budgets have not been developed, such as the San Francisco Bay Area.

[5] Annual PM_{10} NAAQS revoked October 2006; was 50 µg/m^3. 24-hour $PM_{2.5}$ NAAQS tightened October 2006; was 65 µg/m^3. Annual $PM_{2.5}$ NAAQS tightened from 15 µg/m^3 to 12 µg/m^3 December 2012 and secondary annual standard set at 15 µg/m^3.

[6] µg/m^3 = micrograms per cubic meter.

[7] The 65 µg/m^3 $PM_{2.5}$ (24-hr) NAAQS was not revoked when the 35 µg/m^3 NAAQS was promulgated in 2006. The 15 µg/m^3 annual $PM_{2.5}$ standard was not revoked when the 12 µg/m^3 standard was promulgated in 2012. The 0.08 ppm 1997 ozone standard is revoked FOR CONFORMITY PURPOSES ONLY when area designations for the 2008 0.75 ppm standard become effective for conformity use (July 20, 2013). Conformity requirements apply for all NAAQS, including revoked NAAQS, until emission budgets for newer NAAQS are found adequate, SIP amendments for the newer NAAQS are approved with a emission budget, U.S. EPA specifically revokes conformity requirements for an older standard, or the area becomes attainment/unclassified. SIP-approved emission budgets remain in force indefinitely unless explicitly replaced or eliminated by a subsequent approved SIP amendment. During the "Interim" period prior to availability of emission budgets, conformity tests may include some combination of build vs. no-build, build vs. baseline, or compliance with prior emission budgets for the same pollutant.

[8] Final 1-hour NO_2 NAAQS published in the *Federal Register* on February 9, 2010, effective March 9, 2010. Initial area designation for California (2012) was attainment/unclassifiable throughout. Project-level hot-spot analysis requirements do not currently exist. Near-road monitoring starting in 2013 may cause redesignation to nonattainment in some areas after 2016.

[9] U.S. EPA finalized a 1-hour SO_2 standard of 75 ppb (parts per billion [thousand million]) in June 2010. Nonattainment areas have not yet been designated as of September 2012.

[10] Secondary standard, set to protect public welfare rather than health. Conformity and environmental analysis address both primary and secondary NAAQS.

[11] ARB has identified vinyl chloride and the particulate matter fraction of diesel exhaust as toxic air contaminants. Diesel exhaust particulate matter is part of PM_{10} and, in larger proportion, $PM_{2.5}$. Both ARB and U.S. EPA have identified lead and various organic compounds that are precursors to ozone and $PM_{2.5}$ as toxic air contaminants. There are no exposure criteria for adverse health effect due to toxic air contaminants, and control requirements may apply at ambient concentrations below any criteria levels specified above for these pollutants or the general categories of pollutants to which they belong.

[12] Lead NAAQS are not considered in Transportation Conformity analysis.

The project site is in the eastern portion of the SCAB. The monitoring station closest to the project site is the Riverside-Rubidoux Station, located approximately 5.1 miles northeast of the project at the Eddie D. Smith Senior Center (5888 Mission Boulevard, Riverside, CA 92509. As shown in Table 2.3.6-3, during the 2018-2020 monitoring period, exceedances were recorded at the monitoring stations for the state 1-hour O_3 standard, state and federal 8-hour O_3 standards, state and federal $PM_{2.5}$ standards, and the state PM_{10} standard.

Figure 2.3.6-1 shows the location of this monitoring stations relative to the project location.

If a pollutant concentration is lower than the state or federal standard, the area is classified as being in attainment for that pollutant. If a pollutant violates the standard, the area is considered a nonattainment area. If data are insufficient to determine whether a pollutant is violating the standard, the area is designated as unclassified. The U.S. EPA has classified the SCAB as attainment/maintenance for CO, PM_{10}, and NO_2, and nonattainment for O_3 and $PM_{2.5}$.

Table 2.3.6-3. Ambient Air Quality Monitoring Data Measured at the Riverside-Rubidoux Station

Pollutant Standards	2018	2019	2020
1-Hour Ozone			
Maximum 1-hour concentration (ppm)	0.123	0.123	0.143
Number of days standard exceeded[1]			
State (> 0.09 ppm)	22	24	46
8-Hour Ozone			
Maximum 8-hour concentration (ppm)	0.101	0.096	0.115
Number of days standard exceeded[1]			
Federal 8-hour (> 0.070 ppm)	57	63	86
State 8-hour (> 0.070 ppm)	53	59	82
Particulate Matter (PM_{10})[4]			
National[2] maximum 24-hour concentration ($\mu g/m^3$)	86.5	132.5	142.1
State[3] maximum 24-hour concentration ($\mu g/m^3$)	126.0	182.4	137.7
National annual average concentration ($\mu g/m^3$)	35.4	35.4	49.2
State annual average concentration ($\mu g/m^3$)[e]	43.9	40.9	--
Number of days standard exceeded[1]			
NAAQS 24-hour (> 150 $\mu g/m^3$)[6]	0	0	0
CAAQS 24-hour (> 50 $\mu g/m^3$)[6]	127	110	115
Particulate Matter ($PM_{2.5}$)			
National[2] maximum 24-hour concentration ($\mu g/m^3$)	66.3	55.7	59.9
State[3] maximum 24-hour concentration ($\mu g/m^3$)	68.3	57.6	61.9
National annual designation value ($\mu g/m^3$)	12.5	12.1	12.4
National annual average concentration ($\mu g/m^3$)	12.5	11.3	13.3
State annual designation value ($\mu g/m^3$)	15	15	14
State annual average concentration ($\mu g/m^3$)[5]	12.6	11.2	14.1
Number of days standard exceeded[1]			
NAAQS 24-hour (> 35 $\mu g/m^3$)	3	5	12

Source: ARB 2022

Notes:

$\mu g/m^3$ = micrograms per cubic meter; CAAQS = California Ambient Air Quality Standards; NAAQS = National Ambient Air Quality Standards; ppm = parts per million; – = insufficient data available to determine the value.

1 An exceedance is not necessarily a violation.

2 National statistics are based on standard conditions data. In addition, national statistics are based on samplers using federal reference or equivalent methods.

3 State statistics are based on local conditions data, except in the South Coast Air Basin, for which statistics are based on standard conditions data. In addition, state statistics are based on California-approved samplers.

4 Measurements usually are collected every 6 days.

6 State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

6 Mathematical estimate of how many days concentrations would have been measured as higher than the level of the standard had each day been monitored.

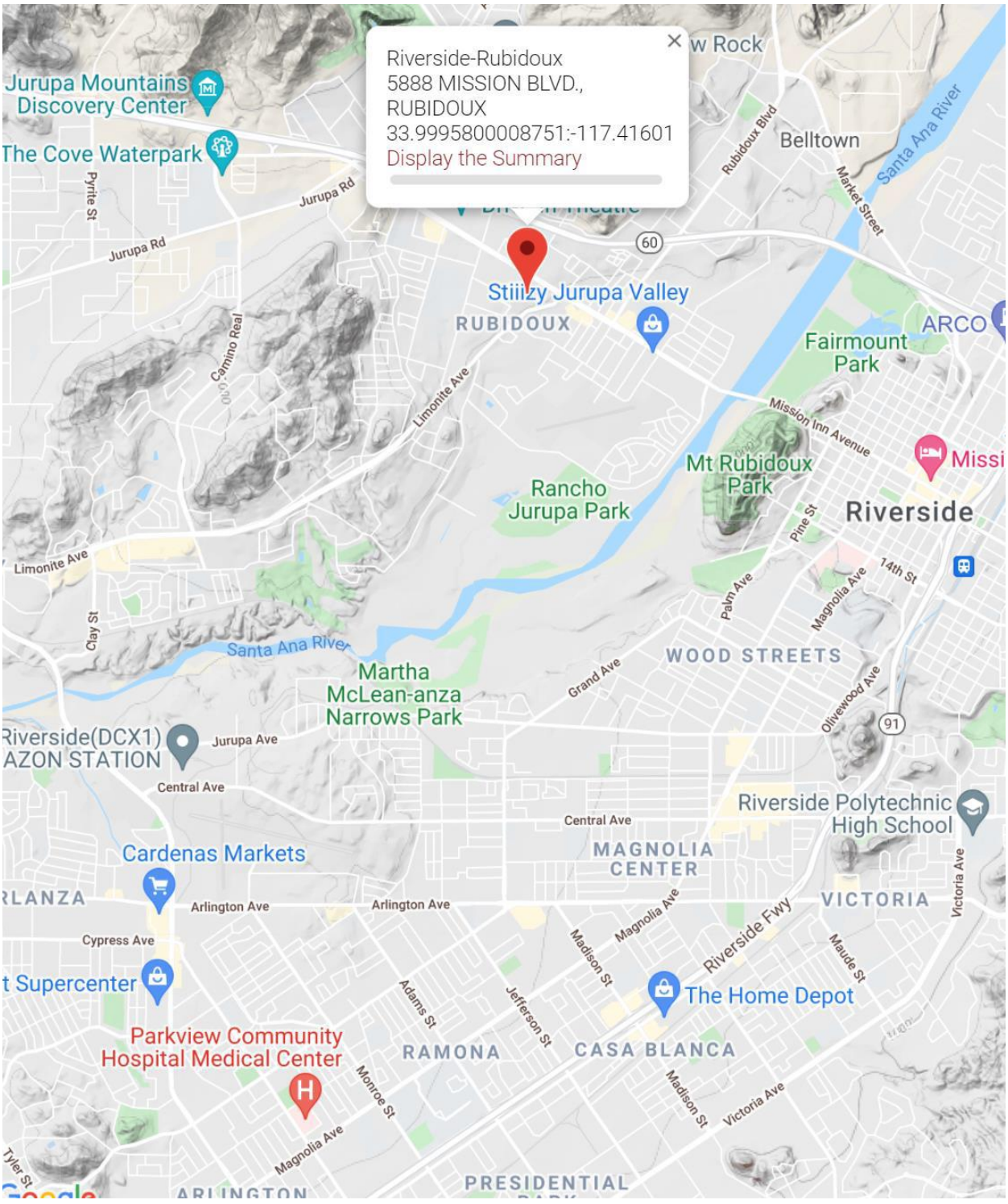


Figure 2.3.6-1. Air Resources Board Monitoring Station Location

2.3.6.3 ENVIRONMENTAL CONSEQUENCES

No-Build Alternative

Under the No-Build Alternative, there would be no changes to the project area. No air quality impacts would occur.

Build Alternative 7 (Locally Preferred Alternative)

Short-term Effect (Construction Emissions)

Construction Equipment, Traffic Congestion, and Fugitive Dust

During construction, short-term air quality degradation could occur due to the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other construction-related activities. Emissions from construction equipment also are expected and would include CO, nitrogen oxides (NO_X), volatile organic compounds (VOCs), directly emitted particulate matter (PM_{10} and $PM_{2.5}$), and toxic air contaminants such as diesel exhaust particulate matter. Ozone is a regional pollutant that is derived from NO_X and VOCs in the presence of sunlight and heat.

Site preparation and roadway construction typically involves clearing, grading, improving existing roadways, and paving roadway surfaces. Construction-related effects on air quality from most highway projects would be greatest during the site preparation phase because most engine emissions are associated with the excavation, handling, and transport of soils to and from the site. These activities could temporarily generate enough PM_{10}, $PM_{2.5}$, and small amounts of CO, SO_2, NO_X, and VOCs to be of concern. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site could deposit mud on local streets, which could be an added source of airborne dust after it dries. PM_{10} emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of equipment operating. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

Construction emissions were estimated for the proposed project using the latest Road Construction Emission Model (version 9.0) from the Sacramento Metropolitan Air Quality Management District (http://www.airquality.org/businesses/ceqa-land-use-planning/ceqa-guidance-tools). Although the model was developed for Sacramento conditions, with respect to fleet emission factors, silt loading, and other model assumptions, it is considered adequate for estimating road construction emissions by SCAQMD in its CEQA guidance and is used for that purpose in this analysis.

Construction emissions were estimated for Build Alternative 7 using the project construction scheduling information provided by the project designer and the model default equipment inventories. Under Build Alternative 7, construction activities (e.g., mobilization, auxiliary lane and outside shoulder additions, ramp reconfiguration, demobilization, and final striping) are anticipated to commence in 2026 and be completed by 2028. Construction is planned to last approximately 24 months. Construction-related emissions for Build Alternative 7 are presented in Table 2.3.6-4.

Table 2.3.6-4. Construction Emissions Estimates

	VOC (lbs/day)	CO (lbs/day)	NOX (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)
Grubbing/ Land Clearing	1.52	15.88	13.89	10.60	2.61
Grading/ Excavation	6.81	62.01	66.44	12.72	4.47
Drainage/ Utilities/ Sub-Grade	4.81	44.37	49.17	11.93	3.76
Paving	< 1	13.96	13.13	< 1	< 1
Maximum Daily	6.81	62.01	66.44	12.72	4.47

Source: SMAQMD, 2018.

The emissions presented are based on the best information available from the time when the calculations were performed. The emissions represent the peak daily construction emissions that would be generated during implementation of Build Alternative 7.

Implementation of the measures listed below, some of which may also be required for other purposes, such as stormwater pollution control, would reduce air quality impacts resulting from construction activities. Although these measures are anticipated to reduce construction-related emissions, the reductions cannot be quantified at this time.

- The construction contractor must comply with Caltrans Standard Specification Section 14-9 (2019).
    - Section 14-9-02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.
- Water or a dust palliative will be applied to the site and equipment as often as necessary to control fugitive dust emissions.
- Soil binder will be spread on any unpaved roads used for construction purposes and on all project construction parking areas.
- Trucks will be washed as they leave the right-of-way as necessary to control fugitive dust emissions.
- Construction equipment and vehicles will be properly tuned and maintained. All construction equipment will use low-sulfur fuel, as required by California Code of Regulations Title 17, Section 93114.
- A dust control plan will be developed, documenting sprinkling, temporary paving, speed limits, and timely revegetation of disturbed slopes as needed to minimize construction impacts on existing communities.
- Equipment and materials storage sites will be located as far away from residential and park uses as practicable. Construction areas will be kept clean and orderly.
- Environmentally sensitive areas will be established near sensitive air receptors. Within these areas, construction activities involving extended idling by diesel equipment or vehicles will be prohibited to the extent feasible.
- Trackout reduction measures, such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic, will be used.

- All transported loads of soil and wet material will be covered before transport or adequate freeboard (i.e., space from the top of the material to the top of the truck) will be provided to minimize emissions of dust during transportation.
- Dust and mud deposited on paved public roads due to construction activity and traffic will be promptly and regularly removed to reduce particulate matter emissions.
- To the extent feasible, construction traffic will be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.
- Mulch will be installed or vegetation planted as soon as practical after grading to reduce windblown particulate matter in the area.

Valley Fever

Valley Fever is not an air pollutant but is a disease caused by inhaling *Coccidioides immitis* (*C. immitis*) spores. The spores are found in certain types of soils and become airborne when the soil is disturbed. Riverside County authorities reported 137 cases in 2018, which is an incidence rate of 5.6 per 100,000 (California Department of Public Health 2019)

The presence of *C. immitis* in Riverside County does not guarantee that construction activities would result in an increased incidence of Valley Fever. Propagation of *C. immitis* is dependent on climatic conditions, with the potential for growth and surface exposure highest following early seasonal rains and long dry spells. Although *C. immitis* spores can be released when areas are disturbed by earthmoving activities, receptors must be exposed to and must inhale the spores to have an increased risk of contracting Valley Fever. Moreover, exposure to *C. immitis* does not guarantee that an individual will become ill-approximately 60 percent of people exposed to the fungal spores are asymptomatic and show no signs of an infection (U.S. Geological Survey 2000).

Although several factors influence receptor exposure and development of Valley Fever, earthmoving activities during construction could release *C. immitis* spores if filaments are present and other soil chemistry and climatic conditions are conducive to spore development. Receptors within several miles of the construction area, particularly adjacent residential receptors, may be exposed to an increased risk from inhaling *C. immitis* spores and subsequently developing Valley Fever. Dust control measures are the primary defense against infection (U.S. Geological Survey 2000). Implementation of a fugitive dust control plan, as a minimization measure, would limit dust, and routine watering would reduce the risks associated with contracting Valley Fever.

Asbestos and Lead

No geologic features that are normally associated with naturally occurring asbestos (i.e., serpentine rock or ultramafic rock near fault zones) are present in or near the project area (U.S. Geological Survey and California Geological Survey 2011). Therefore, the impact from naturally occurring asbestos during project construction would be minimal to none. However, structures, including buildings and bridges, may contain asbestos containing materials (ACMs). The use of asbestos, which was found in many building materials prior to 1978, may have continued until the early 1980s. ACMs are found in fireproofing, acoustic ceiling material, transite pipe, roofing materials, thermal insulation, support piers, expansion joint material in bridges, asphalt, concrete, and other building materials. It is of primary concern when it is friable (i.e., easily crumbled). During demolition, if not properly identified and mitigated, asbestos fibers could become airborne.

ACM sampling and analysis shall be conducted prior to any ground-disturbing activity and prior to completion of the Plans, Specifications, and Estimate phase. An ACM survey shall be conducted in conformance with the U.S. EPA National Emission Standard for Hazardous Air Pollutants, 40 CFR Part 61; SCAQMD Rule 1403; and Caltrans Standard Special Provisions, Section 14 11.16, Asbestos Containing Construction Materials in Bridges.

Lead is normally not an air quality issue for transportation projects, unless the project involves disturbing soil with high levels of aerially deposited lead or painting or modifying structures with lead-based coatings. At the time of preparation of this report, testing for aerially deposited lead had not been conducted. It is not known whether lead-based paint was used in the striping on the existing bridge. If lead is encountered, any disturbance of lead-based paint must meet U.S. EPA and air district rules, pursuant to Caltrans Standard Specification Section 14-9.02. There are no industrial lead sources in the immediate vicinity of the project.

Construction Conformity

Construction activities will not last for more than 5 years at one general location, so construction-related emissions do not need to be included in regional and project-level conformity analysis (40 CFR 93.123(c)(5)).

Permanent Operational Impacts

Operational emissions take into account long-term changes in emissions due to the project (excluding the construction phase). The operational emissions analysis compares forecast emissions under Existing (2020) conditions, and the No-Build Alternative and Build Alternative 7 in 2047.

For roadway improvement projects, regional emissions are a function of regional VMT and travel speeds. As such, the operational emissions analysis takes into account long-term changes in VMT and travel speeds expected to occur under Build Alternative 7 (Locally Preferred Alternative) when compared to the No-Build Alternative (excluding the construction phase).

The operational emissions analysis compares forecasted emissions for existing/baseline, No-Build, and Build Alternative 7 (Locally Preferred Alternative) using the VMT estimates discussed above. The regional VMT data for the existing, No-Build, and Build Alternative 7, along with the CT-EMFAC2017 emission rates, were used to calculate the CO, NO_X, PM_{10}, $PM_{2.5}$, and ROG emissions for the Existing and 2047 conditions. The results of the modeling are summarized in Table 2.3.6-5.

Table 2.3.6-5. Operational Criteria Pollutant Emissions (pounds per day)

	$PM_{2.5}$	**PM_{10}**	**NO_X**	**CO**	**ROG**
Existing Conditions	102.9	525.3	487.7	1,185.8	89.2
2047 Conditions					
No-Build Alternative	111.0	596.8	193.7	637.3	40.7
Increase from Existing	*8.1*	*71.4*	*-294.0*	*-548.6*	*-48.6*
Build Alternative 7 (Locally Preferred Alternative)	110.8	595.7	188.6	632.2	40.0
Increase from Existing	*7.9*	*70.4*	*-299.1*	*-553.7*	*-49.2*
Increase from No-Build	*-0.2*	*-1.1*	*-5.1*	*-5.1*	*-0.7*

Source: Air Quality Report (July 2022)
Notes: Modeled using CT-EMFAC2017. Emissions of SO_X would be negligible based on the use of ultra-low sulfur diesel and gasoline.
CO = carbon monoxide; NO_X = nitrogen oxide; $PM_{2.5}$ = fine particulate matter; PM_{10} = suspended particulate matter; ROG=reactive organic gases.

Table 2.3.6-5 summarizes modeled emissions by scenario and compares emissions under Build Alternative 7 with emissions under the No-Build Alternative and Existing conditions. The differences in emissions between the No-Build and Build conditions in 2047 represent emissions generated directly from implementing Build Alternative 7. Vehicular emission rates are anticipated to lessen in future years because of continuing improvements in engine technology and the retirement of older, higher-emitting vehicles. The emissions analysis presented in Table 2.3.6-5 indicate that the 2047 Build Alternative would increase $PM_{2.5}$ and PM_{10} emissions and would decrease ROG, NO_x and CO emissions compared with Existing (2020) conditions. These results are due to factors both internal and external to the project. The increase in particulate matter is partly due to background growth in VMT from 2020 to 2047 because particulate matter fugitive dust emissions are a function of VMT. Although particulate matter exhaust emission factors decrease over time, fugitive dust particulate matter emission factors remain constant. Consequently, total particulate matter emissions increase over time as a function of increases in VMT. This is reflected in the emissions analysis as under the 2047 No-Build conditions, the $PM_{2.5}$ and PM_{10} emissions would also increase when compared with Existing (2020) conditions The decreases in other pollutants are due to expected improvements in vehicle engine technology, fuel efficiency, and turnover in older, more heavily polluting vehicles, which reduces exhaust emissions.

CO Analysis

The California Project-Level Carbon Monoxide Protocol (CO Protocol) was used to analyze CO impacts for the SR-91/Adams Street Interchange Project. The hot-spot analysis covered the most congested intersections affected by the project in 2027 and 2047.

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

PM Analysis

A conformity hot-spot analysis for PM was prepared according to the procedures and methods provided in the latest version of Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas released by U.S. EPA in October 2021 (Quantitative Guidance). The project was submitted to the SCAG Transportation Conformity Working Group (TCWG) for consideration at its meeting on January 25, 2022. At that meeting, members of the TCWG confirmed that the project is not a project of air quality concern (POAQC). Therefore, the proposed SR-91/Adams Street Interchange Project meets the CAA requirements and 40 CFR 93.116 without any explicit hot-spot analysis and would not create a new, or worsen an existing, $PM_{2.5}$ and PM_{10} violation.

Regional Conformity

The proposed project is listed in Amendment #3 to the 2020–2045 RTP, which was adopted by the SCAG Regional Council on October 6, 2022; FHWA and FTA made a regional conformity determination finding on December 16, 2022. The project is also included in SCAG's financially constrained 2023 FTIP, adopted by SCAG on October 6, 2022 and approved by FHWA and FTA on December 16, 2022. The design concept and scope of the proposed project is consistent with the project description in the 2020–2045 RTP/SCS, 2023 FTIP, and the open-to-traffic assumptions of the most recent SCAG regional emissions analysis.

Mobile-Source Air Toxics

According to FHWA's October 2016 Updated Interim Guidance on mobile-source air toxics (MSAT), FHWA has identified three levels of analysis:

1. No analysis for exempt projects or projects with no potential for meaningful MSAT effects.
2. Qualitative analysis for projects with low potential MSAT effects.
3. Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.

Projects with no air quality impacts generally include those that (a) qualify for a categorical exclusion under 23 CFR 771.117, (b) qualify as exempt under the federal CAA conformity rule at 40 CFR 93.126, and (c) are not exempt but have no meaningful impacts on traffic volumes or vehicle mix.

Projects with low potential for MSAT effects are those that improve highway, transit, or freight operations or movements without adding substantial new capacity or creating a facility that is likely to increase emissions substantially.

Projects with high potential for MSAT effects include the following:

- Projects that create or significantly alter a major intermodal freight facility with the potential to concentrate high levels of DPM at a single location
- Projects that add significant capacity to urban highways, such as interstates, urban arterials, or urban collector-distributor routes, where AADT is projected to be in the range of 140,000 to 150,000, or greater, by the design year
- Projects proposed to be located in proximity to populated areas or, in rural regions, in proximity to concentrations of vulnerable populations (e.g., in schools, nursing homes, hospitals)

With respect to the proposed project, the projected maximum AADT volumes at the opening year 2027 and design year 2047 would have to be above the 140,000 to 150,000 AADT criterion established by FHWA for proposed projects to have higher potential for MSAT effects. However, the purpose of this project is to improve traffic circulation and provide an acceptable LOS in the SR-91/Adams Street interchange project vicinity (especially along local surface streets near the interchange). The proposed project would not result in substantial changes in traffic volumes or the vehicle mix that would cause a meaningful increase in regional MSAT emissions compared with those of the No-Build Alternative in 2047.

The latest federally approved version of CT-EMFAC, CT-EMFAC2017, released in January 2019 and based on EMFAC and factors provided by ARB and U.S. EPA, was used to estimate emissions of MSATs, including benzene, 1,3-butadiene, formaldehyde, acrolein, naphthalene, DPM, and polycyclic organic matter. The determination of VMT traffic data used for the emissions estimates is based on the length of the analyzed mainline segments of SR-91 and Adams Street and vehicle activity data. MSAT emissions were estimated for Existing (2020) and No-Build and Build Alternative conditions in 2047. The modeling results for the Existing (2020), and No-Build and Build Alternatives in 2047 are displayed in Table 2.3.6-6. Emissions were estimated for all MSATs using CT-EMFAC, based on EMFAC and speciation factors provided by ARB and U.S. EPA.

Table 2.3.6-6. Summary of Comparative MSAT Emissions Analysis (pounds per day)

Analysis Scenario	1,3-butadiene	Acetaldehyde	Acrolein	Benzene	Diesel Particulate Matter	Ethylbenzene	Formaldehyde	Naphthalene	Polycyclic Organic Matter
Existing (2020)	0.3	1.2	0.1	1.8	7.0	1.2	2.8	0.1	0.1
2047									
No-Build Alternative	0.1	0.3	0.0	0.7	1.8	0.6	0.7	0.1	0.0
Build Alternative 7 (Locally Preferred Alternative)	0.1	0.3	0.0	0.7	1.8	0.6	0.7	0.1	0.0
2047 Net Emissions vs. Existing									
No-Build Alternative	-0.2	-0.9	0.0	-1.0	-5.3	-0.6	-2.1	-0.1	-0.1
Build Alternative 7 (Locally Preferred Alternative)	-0.2	-0.9	0.0	-1.1	-5.2	-0.6	-2.1	-0.1	-0.1
2047 Net Emissions vs. No-Build Alternative									
Build Alternative 7 (Locally Preferred Alternative)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Source: Air Quality Report (July 2022)

Notes: Emissions modeled using CT-EMFAC20217.

As shown in Table 2.3.6-6, MSAT emissions for Build Alternative 7 and No-Build Alternative in 2047 would be less than emissions under Existing (2020) conditions due to improvements in engine emissions technologies, as well as the retirement of older vehicles. In addition, there would be no increase in MSAT emissions under Build Alternative 7 relative to the No-Build Alternative in 2047. This is because the proposed project is intended to improve traffic flow along the freeway, improve circulation on local streets surrounding the SR-91/Adams Street interchange, and accommodate for future traffic growth, allowing the segment to operate closer to the theoretical capacity; it is not anticipated that it would induce travel or increase travel volumes. As such, the project would not increase capacity or VMT on the analyzed mainline segments. On a regional basis, U.S. EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region wide MSAT levels to be significantly lower than today.

2.3.6.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

AQ-1 During clearing, grading, earthmoving, or excavation operations, fugitive dust emissions will be controlled by regular watering or other dust preventive measures using the following procedures, as specified in SCAQMD Rule 403. All material excavated or graded will be sufficiently watered to prevent excessive amounts of dust. Watering will occur at least twice daily with complete coverage, preferably in the late morning and after work is done for the day. All material transported on site or off site will be either sufficiently watered or securely covered to prevent excessive amounts of dust. The areas disturbed by clearing, grading, earthmoving, or excavation operations will be minimized so as to prevent excessive amounts of dust. These control techniques will be indicated in project specifications. Visible dust beyond the property line emanating from the project will be prevented to the maximum extent feasible.

AQ-2 Project grading plans will show the duration of construction. Ozone precursor emissions from construction equipment vehicles will be controlled by maintaining equipment engines in good condition and in proper tune per manufacturers' specifications.

AQ-3 All trucks that are to haul excavated or graded material on site will comply with State Vehicle Code Section 23114, with special attention to Sections 23114(b)(F), (e)(2), and (e)(4), as amended, regarding the prevention of such material spilling onto public streets and roads.

AQ-4 The contractor will adhere to Caltrans Standard Specifications for Construction (Section 14-9.02).

2.3.6.5 CLIMATE CHANGE

Neither the United States Environmental Protection Agency (U.S. EPA) nor the Federal Highway Administration (FHWA) has issued explicit guidance or methods to conduct project-level greenhouse gas analysis. FHWA emphasizes concepts of resilience and sustainability in highway planning, project development, design, operations, and maintenance. Because there have been requirements set forth in California legislation and executive orders on climate change, the issue is addressed in the California Environmental Quality Act (CEQA) chapter of this document. The CEQA analysis may be used to inform the National Environmental Policy Act (NEPA) determination for the project.

2.3.7 Noise

2.3.7.1 REGULATORY SETTING

The National Environmental Policy Act (NEPA) of 1969 and the California Environmental Quality Act (CEQA) provide the broad basis for analyzing and abating highway traffic noise effects. The intent of these laws is to promote the general welfare and to foster a healthy environment. The requirements for noise analysis and consideration of noise abatement and/or mitigation, however, differ between NEPA and CEQA.

2.3.7.2 CALIFORNIA ENVIRONMENTAL QUALITY ACT

CEQA requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless those measures are not feasible. The rest of this section will focus on the NEPA/Title 23 Part 772 of the Code of Federal Regulations (23 CFR 772) noise analysis; please see Chapter 3, *CEQA Evaluation,* of this document for further information on noise analysis under CEQA.

2.3.7.3 NATIONAL ENVIRONMENTAL POLICY ACT AND 23 CFR 772

For highway transportation projects with Federal Highway Administration (FHWA) involvement (and the Department, as assigned), the Federal-Aid Highway Act of 1970 and its implementing regulations (23 CFR 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations include noise abatement criteria (NAC) that are used to determine when a noise impact would occur. The NAC differ depending on the type of land use under analysis. For example, the NAC for residences (67 dBA) is lower than the NAC for commercial areas (72 dBA). The following table lists the noise abatement criteria for use in the NEPA/23 CFR 772 analysis.

Table 2.3.7-1. Noise Abatement Criteria

Activity Category	NAC, Hourly A-Weighted Noise Level, Leq(h)	Description of activity category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B[1]	67 (Exterior)	Residential.
C[1]	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A–D or F.
F	No NAC—reporting only	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities,

Activity Category	NAC, Hourly A-Weighted Noise Level, Leq(h)	Description of activity category
		shipyards, utilities (water resources, water treatment, electrical, etc.), and warehousing.
G	No NAC—reporting only	Undeveloped lands that are not permitted.

[1] Includes undeveloped lands permitted for this activity category.

Figure 2.3.7-1 lists the noise levels of common activities to enable readers to compare the actual and predicted highway noise levels discussed in this section with common activities.

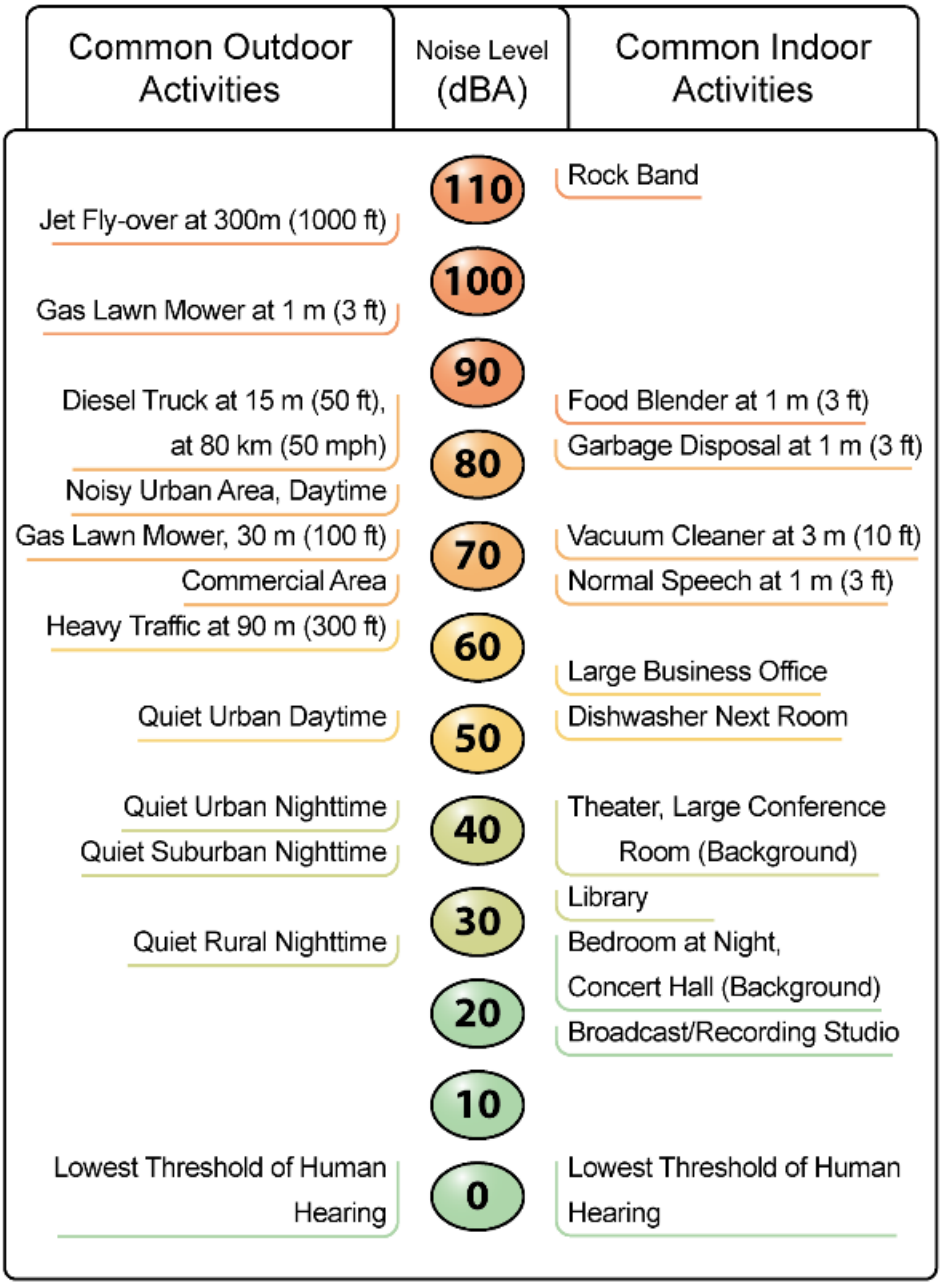


Figure 2.3.7-1. Noise Levels of Common Activities

According to the Department's *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, April 2020*, a noise impact occurs when the predicted future noise level with the project substantially exceeds the existing noise level (defined as a 12 dBA or more) or when the future noise level with the project approaches or exceeds the NAC. A noise level is considered to approach the NAC if it is within 1 dBA of the NAC.

If it is determined that the project will have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into the project plans and specifications. This document discusses noise abatement measures that would likely be incorporated in the project.

The Department's *Traffic Noise Analysis Protocol* sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. Noise abatement must be predicted to reduce noise by at least 5 dB at an impacted receptor to be considered feasible from an acoustical perspective. It must also be possible to design and construct the noise abatement measure for it to be considered feasible. Factors that affect the design and constructability of noise abatement include, but are not limited to, safety, barrier height, topography, drainage, access requirements for driveways, presence of local cross streets, underground utilities, other noise sources in the area, and maintenance of the abatement measure. The overall reasonableness of noise abatement is determined by the following three factors: 1) the noise reduction design goal of 7 dB at one or more impacted receptors; 2) the cost of noise abatement; and 3) the viewpoints of benefited receptors (including property owners and residents of the benefited receptors).

2.3.7.4 AFFECTED ENVIRONMENT

This section is based on the NSR (Caltrans 2023e) and the Noise Abatement Decision Report (NADR) (Caltrans 2023f) prepared for the project. The NSR and NADR followed the Caltrans Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Project (Protocol) (California Department of Transportation 2011).

A field investigation was conducted to identify the land uses that could be subject to traffic and construction noise impacts from the proposed project. Land uses in the project area were categorized by land use type and the extent of frequent human use. As indicated in the Protocol, the focus was on outdoor locations with frequent human use that would benefit from a lowered noise level, although all land uses were considered. The project area is completely built out with no planned or programmed projects anticipated. The land uses in the project area consist primarily of a mix of commercial uses, residences with backyards, and outdoor seating areas.

Land uses in the project area have been divided into four separate noise study areas (NSA) for the analysis. Each of the analysis areas are described in detail below.

Noise Study Area 1: This area is located on the south side of SR-91 between Monroe Street and Adams Street. Land uses in the area are primarily residential (Activity Category B). Other land uses include commercial uses (Activity Category F). The land uses are generally located above the elevation of SR-91, with varying topography providing shielding between freeway traffic and the land uses.

Noise Study Area 2: This area is located on the north side of SR-91 between Monroe Street and Adams Street. Land uses in this area are primarily residential (Activity Category B). Other land uses include commercial uses (Activity Category F) and school recreational spaces (Activity Category C). The land uses are generally above the elevation of SR-91, with varying

topography and 11.3-foot-tall sound barriers providing shielding between the SR-91 traffic and nearby receivers.

Noise Study Area 3: This area is located on the south side of SR-91 between Adams Street and Jefferson Street. The land uses in this area are primarily commercial (Activity Category E). Land uses in this area are above, at, or below the elevation of SR-91 to account for the under- and over-passes at Monroe Street and Jefferson Street.

Noise Study Area 4: This area is located on the north side of SR-91 between Adams Street and Jefferson Street. The land uses in this area are primarily residential (Activity Category B). The land uses are below the elevation of SR-91 with sound barriers ranging in height from 9.3 to 13.3 feet tall located between SR-91.

2.3.7.5 ENVIRONMENTAL CONSEQUENCES

Based on the Caltrans Protocol and guidance from 23 CFR 772, projects are categorized as Type I, II, or III projects. FHWA defines Type I projects as a proposed federal or federal-aid highway project involving construction of a highway at a new location or physical alteration of an existing highway that significantly changes the horizontal or vertical alignment of the highway. Type I projects also involve any of the following:

- The addition of a through-traffic lane. This includes the addition of a through-traffic lane that functions as an HOV lane, high-occupancy toll (HOT) lane, bus lane, or truck climbing lane.
- The addition of an auxiliary lane, except when the auxiliary lane is a turn lane.
- The addition or relocation of interchange lanes or ramps added at a quadrant to complete an existing partial interchange.
- The restriping of pavement for the purpose of adding a through traffic lane or an auxiliary lane; and
- The addition of a new weigh station, rest stop, ride-share lot, or toll plaza or substantial alteration to such.

The project is considered a Type I project as it would result in the physical alteration of an existing highway that changes the horizontal and vertical alignment of SR-91.

Noise Measurement Sites

Short- and long-term noise measurements were taken throughout the project area (refer to Figure 2.3.7-2, Alternative 7 Noise Measurement Locations). The short-term measurement locations were selected to represent the various land uses within the project area, and the long-term measurement location was selected to capture the diurnal traffic noise-level patterns in the project area.

Short-term noise measurements were taken at 14 sites at or near outdoor areas of frequent human use (refer to Table 2.3.7-2). At each location, two measurements of at least 10 minutes in duration were obtained using precision-grade Larson Davis (Model LxT and Model 831 SLM) sound level meter (SLM) instruments. A noise analyst monitored the sound level instruments at all times. The Leq values collected during each measurement period were automatically recorded by digitally integrating with the SLM instruments and subsequently logged manually on field data sheets for each measurement location. Dominant noise sources and other relevant measurement notes were also logged manually into the field data sheets. The temperature, wind speed, and humidity were also recorded manually during the short-term monitoring sessions using a portable weather station. During the short-term measurements, wind speeds

typically ranged from 0 to 9 miles per hour and temperatures ranged from 52 to 76 degrees Fahrenheit with relative humidity around 12 to 38 percent. Video recordings of traffic on SR-91 were used to capture relevant data from each of the short-term measurement locations. Additional recordings were made for locations where traffic on the SR-91 on- and off-ramps at Adams Street, as well as other nearby roadways were observed to be a potential contributor to the overall traffic noise level. Traffic volumes from each measurement location were counted and classified using the video recordings. Vehicles were classified as automobiles, medium-duty trucks (two axles), heavy-duty trucks (three or more axles), buses, or motorcycles. Vehicle speeds on the SR-91 mainline were obtained using a radar gun, and vehicle speeds on local streets were assumed to be traveling at the posted speed limit.

Long-term monitoring, defined as measurements taken at 1-minute intervals for 24 hours, was conducted at one location (refer to Table 2.3.7-3). The purpose of the long-term monitoring was to identify diurnal traffic noise patterns throughout a typical day/night cycle.

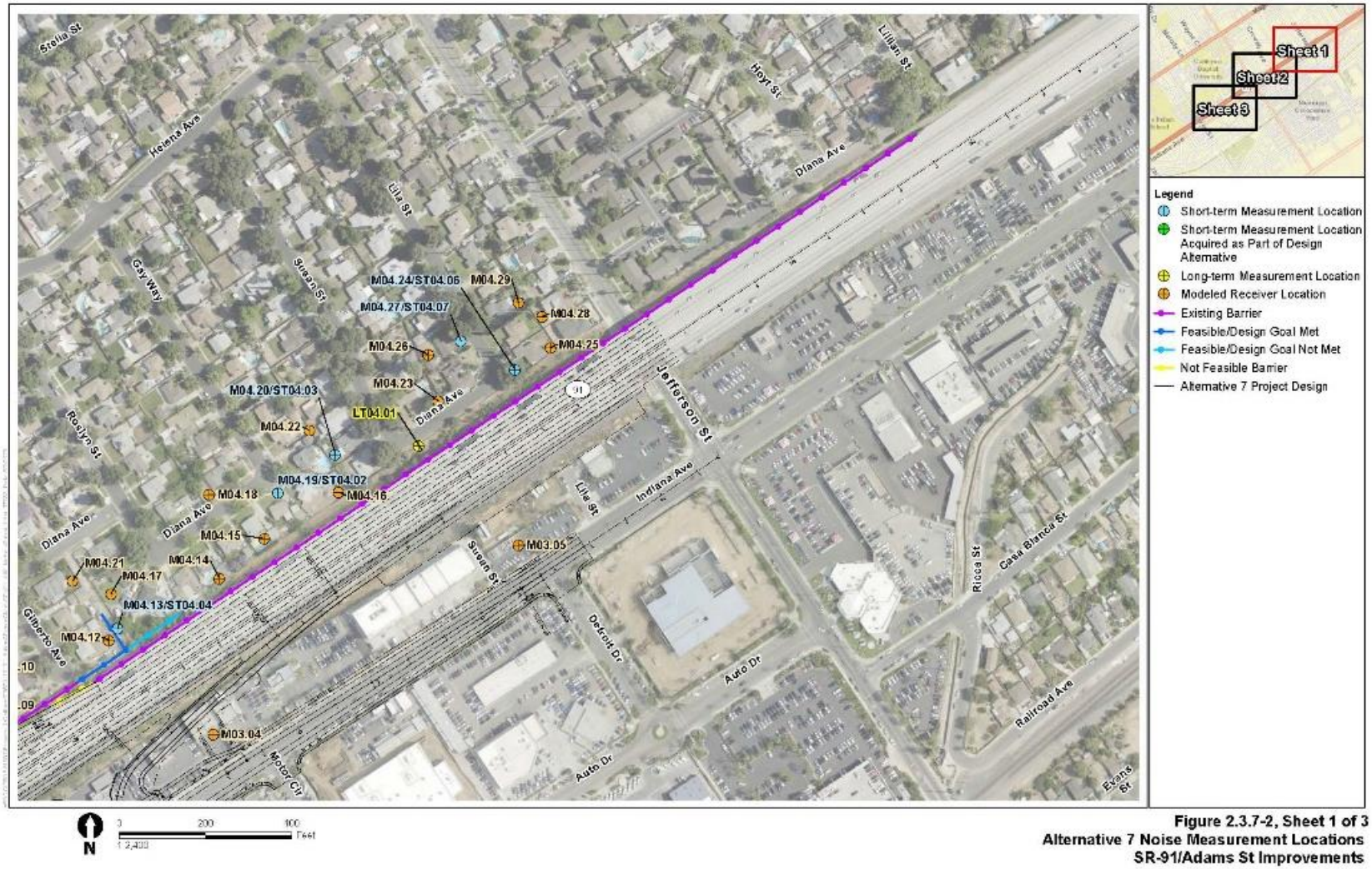


Figure 2.3.7-2, Sheet 1 of 3
Alternative 7 Noise Measurement Locations
SR-91/Adams St Improvements

Figure 2.3.7-2, Alternative 7 Noise Measurement Locations (Sheet 1)

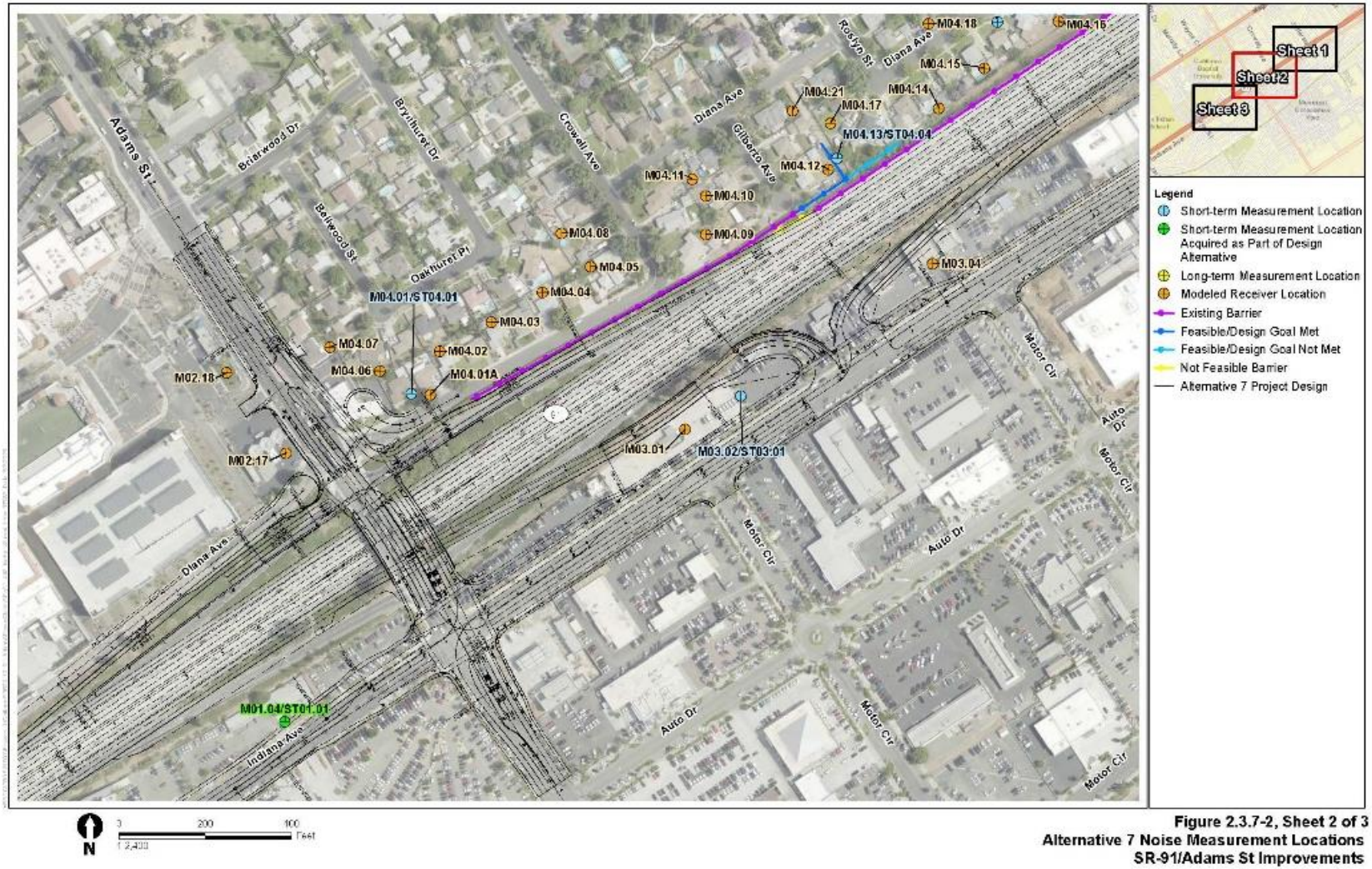


Figure 2.3.7-2, Sheet 2 of 3
Alternative 7 Noise Measurement Locations
SR-91/Adams St Improvements

Figure 2.3.7-2, Alternative 7 Noise Measurement Locations (Sheet 2)

Figure 2.3.7-2, Alternative 7 Noise Measurement Locations (Sheet 3)

Table 2.3.7-2. Summary of Short-Term Measurements

Site No.	Street Address, City	Noise Study Area	Land Use	SLM Location	Measurement Dates	Start Time	Measured L_{eq}, dBA
LT01.01	3379 Doyle Street, Riverside, CA 92504	01	Single-family residential	Backyard	February 24, 2022	12:03	51.9
						12:15	48.8
						12:27	50.9
ST01.01	8341 Indiana Avenue, Riverside, CA 92504	01	Commercial	Parking lot	February 8, 2022	9:04	64.4
						9:15	63.6
ST01.02	8620 Indiana Avenue, Riverside, CA 92504	01	Single-family residential	Backyard	February 24, 2022	11:49	56.1
						12:03	57.4
ST02.01	3471 Monroe Street, Riverside, CA 92504	02	Single-family residential	Backyard	February 24, 2022	10:26	62.5
						10:38	62.6
ST02.02	3483 Wilma Court, Riverside, CA 92504	02	Single-family residential	Backyard	February 24, 2022	10:26	58.6
						10:38	58.6
ST02.03	8432 Magnolia Avenue, Riverside, CA 92504	02	Recreational	Parking lot	February 3, 2022	8:51	62.2
						9:03	59.9
						9:16	58.7
ST02.04	8432 Magnolia Avenue, Riverside, CA 92504	02	Recreational	Outdoor seating area	February 8, 2022	11:51	59.9
						12:02	60.7
ST03.01	8177 Indiana Avenue, Riverside, CA 92504	03	Commercial	Parking lot	February 8, 2022	9:54	69.4
						10:06	69.8
ST04.01*	8277 Diana Avenue, Riverside, CA 92504	04	Single-family residential	Backyard	February 8, 2022	10:47	59.0
						10:58	59.4
ST04.02	8024 Diana Avenue, Riverside, CA 92504	04	Single-family residential	Backyard	February 3, 2022	11:23	58.2
						11:35	58.4
ST04.03	3474 Susan Street, Riverside, CA 92504	04	Single-family residential	Backyard	February 8, 2022	12:51	60.0
						1:03	59.9
ST04.04	8084 Diana Avenue, Riverside, CA 92504	04	Single-family residential	Backyard	February 8, 2022	9:54	65.6
						10:06	65.0
ST04.06*	3465 Lila Street, Riverside, CA 92504	04	Single-family residential	Front yard	February 24, 2022	9:27	65.5
						9:39	66.1
ST04.07*	3484 Lila Street, Riverside, CA 92504	04	Single-family residential	Front yard	February 24, 2022	9:27	61.9
						9:39	62.5

*. Measurement was conducted at a location that is not noise sensitive but is acoustically similar to the surrounding noise-sensitive receptors.

Table 2.3.7-3. Long-Term Noise Measurement Results

Site	Address	Meter Location	Date	Start Time	Duration (Hours)	Measured Worst-Hour Leq(h), dBA	Peak Hour Time
LT04.01	3464 Susan Street	Public right of way	02/25/2022	0:00	24	68.2	5:00

TNM 2.5 was used to compare measured traffic noise levels with modeled noise levels at field measurement locations. The table below compares the measured and modeled noise levels at each measurement location. ST01.02 and ST02.01 deviate more than 3.0 dB when comparing measured and modeled results. As such, a model validation constant (K-factor) was included for the measurement locations and any modeled locations that relied on the measurement for validation.

Table 2.3.7-4. Measured and Modeled Sound Levels

Site ID	Measured Sound Level (dBA)	Predicted Sound Level (dBA)	Predicted minus Measured (dB)	K-Factor Used	K-Factor Applied to Additional Modeled Receiver(s)
LT01.01	52.0	55.0	3.0	—	—
	49.0	55.0	6.0	—	—
	51.0	55.0	4.0	—	—
ST01.01	64.0	61.0	-3.0	—	—
	64.0	62.0	-2.0	—	—
ST01.02	56.0	61.0	5.0	—	—
	57.0	61.0	4.0	-4.0	M01.05, M01.06, M01.07, M01.08, M01.09
ST02.01	63.0	59.0	-4.0	4.0	M02.01 and M02.02
	63.0	59.0	-4.0	—	—
ST02.02	59.0	60.0	1.0	—	—
	59.0	60.0	1.0	—	—
	62.0	62.0	0.0	—	—
	60.0	62.0	2.0	—	—
ST02.03	59.0	62.0	3.0	—	—
	60.0	59.0	-1.0	—	—
	61.0	59.0	-2.0	—	—
ST02.04	69.0	71.0	2.0	—	—
	70.0	71.0	1.0	—	—
ST03.01	59.0	62.0	3.0	—	—
	59.0	62.0	3.0	—	—
ST04.01	58.0	59.0	1.0	—	—
	58.0	60.0	2.0	—	—
ST04.02	60.0	62.0	2.0	—	—
	60.0	61.0	1.0	—	—

Site ID	Measured Sound Level (dBA)	Predicted Sound Level (dBA)	Predicted minus Measured (dB)	K-Factor Used	K-Factor Applied to Additional Modeled Receiver(s)
ST04.03	66.0	64.0	-2.0	—	—
	65.0	64.0	-1.0	—	—
ST04.04	66.0	63.0	-3.0	—	—
	66.0	63.0	-3.0	—	—
ST04.06	62.0	61.0	-1.0	—	—
	63.0	61.0	-2.0	—	—
ST04.07	52.0	55.0	3.0	—	—
	49.0	55.0	6.0	—	—

Future traffic noise impacts from the proposed project were determined at areas of frequent human use within the SR-91/Adams Street interchange. Future worst-case traffic noise impacts at areas of frequent outdoor human use along the project corridor were modeled for the No Build Alternative and Build Alternative 7 to determine appropriate abatement measures. Predicted design-year traffic noise levels with the project are compared to existing conditions as well as design year No-Build and Build Alternative conditions. The comparison to existing conditions is included in the analysis to identify “substantial” noise impacts under 23 CFR 772. The comparison to the No-Build Alternative indicates the direct impact of noise resulting from the project. Table 2.3.7-5 summarizes the predicted future traffic noise levels for the existing and design-year No-Build as well as design-year build alternative conditions.

Table 2.3.7-5. Predicted Future Noise Levels

Receiver ID	Activity Category (NAC)	Existing Noise Level Leq(h), dBA	Design Year No-Build Leq(h), dBA	Design Year Build Alternative 7 Leq(h), dBA	Design Year No-Build Minus Existing Noise Level	Design Year Build Alternative 7 Minus Design Year No-Build Noise Level Leq(h), dBA	Design Year Build Alternative 7 Minus Existing Noise Level Leq(h), dBA	Impact Type
M01.01	--	65	65	66	0	1	1	None
M01.02	--	64	64	64	0	0	0	None
M01.03	--	60	60	61	0	1	1	None
M01.04	E(72)	64	64	--	0	--	--	None
M01.05	B(67)	51	52	53	1	1	2	None
M01.06	B(67)	58	58	58	0	0	0	None
M01.07	B(67)	56	56	56	0	0	0	None
M01.08	B(67)	56	56	56	0	0	0	None
M01.09	--	53	53	53	0	1	1	None
M01.10	B(67)	59	59	61	0	2	2	None
M01.11	B(67)	62	63	63	1	0	1	None
M01.12	B(67)	56	56	57	0	1	1	None
M01.13	B(67)	65	65	65	0	0	0	None
M01.14	B(67)	57	57	57	0	0	0	None
M01.15	B(67)	60	60	60	0	0	0	None
M01.16	B(67)	55	55	57	0	2	2	None
M02.01	B(67)	61	61	61	0	0	0	None
M02.02	B(67)	60	61	61	1	0	1	None
M02.03	B(67)	62	63	63	1	0	1	None
M02.04	B(67)	56	57	57	1	0	1	None
M02.05	B(67)	57	57	57	0	0	0	None
M02.06	B(67)	55	56	56	1	0	1	None
M02.07	B(67)	55	55	55	0	0	0	None
M02.08	B(67)	58	58	58	0	0	0	None

Receiver ID	Activity Category (NAC)	Existing Noise Level Leq(h), dBA	Design Year No-Build Leq(h), dBA	Design Year Build Alternative 7 Leq(h), dBA	Design Year No-Build Minus Existing Noise Level	Design Year Build Alternative 7 Minus Design Year No-Build Noise Level Leq(h), dBA	Design Year Build Alternative 7 Minus Existing Noise Level Leq(h), dBA	Impact Type
M02.09	B(67)	55	56	56	1	0	1	None
M02.10	B(67)	56	56	57	0	1	1	None
M02.11	B(67)	60	61	61	1	0	1	None
M02.12	C(67)	57	57	58	0	1	1	None
M02.13	C(67)	59	60	60	1	0	1	None
M02.14	C(67)	57	58	58	1	0	1	None
M02.15	C(67)	58	59	59	1	0	1	None
M02.16	B(67)	55	56	56	1	0	1	None
M02.17	F(-)	68	69	69	1	0	1	None
M02.18	F(-)	66	67	68	1	1	2	None
M03.01	F(-)	70	71	74	1	3	4	None
M03.02	F(-)	69	69	74	0	5	5	None
M03.03	F(-)	66	67	--	1	--	--	None
M03.04	F(-)	62	63	74	1	11	12	None
M03.05	F(-)	63	64	65	1	1	2	None
M04.01	B(67)	60	60	63	0	3	3	None
M04.01A	B(67)	62	63	65	1	2	3	None
M04.02	B(67)	54	54	55	0	1	1	None
M04.03	B(67)	53	53	54	0	1	1	None
M04.04	-	55	56	56	1	0	1	None
M04.05	B(67)	55	56	56	1	0	1	None
M04.06	B(67)	56	57	63	1	6	7	None
M04.07	B(67)	53	54	61	1	7	8	None
M04.08	B(67)	54	54	54	0	0	0	None
M04.09	B(67)	59	59	60	0	1	1	None
M04.10	B(67)	56	57	57	1	0	1	None

Receiver ID	Activity Category (NAC)	Existing Noise Level Leq(h), dBA	Design Year No-Build Leq(h), dBA	Design Year Build Alternative 7 Leq(h), dBA	Design Year No-Build Minus Existing Noise Level	Design Year Build Alternative 7 Minus Design Year No-Build Noise Level Leq(h), dBA	Design Year Build Alternative 7 Minus Existing Noise Level Leq(h), dBA	Impact Type
M04.11	B(67)	56	56	57	0	1	1	None
M04.12	B(67)	63	63	67	0	4	4	A/E
M04.13	B(67)	62	62	65	0	3	3	None
M04.14	B(67)	61	62	62	1	0	1	None
M04.15	B(67)	61	61	62	0	1	1	None
M04.16	B(67)	62	62	62	0	0	0	None
M04.17	B(67)	58	59	60	1	1	2	None
M04.18	B(67)	60	60	61	0	1	1	None
M04.19	B(67)	57	58	58	1	0	1	None
M04.20	B(67)	60	60	60	0	0	0	None
M04.21	B(67)	57	58	58	1	0	1	None
M04.22	B(67)	58	58	58	0	0	0	None
M04.23	B(67)	61	61	62	0	1	1	None
M04.24	--	61	61	62	0	1	1	None
M04.25	B(67)	61	62	63	1	1	2	None
M04.26	B(67)	59	59	59	0	0	0	None
M04.27	-	59	59	60	0	1	1	None
M04.28	B(67)	60	60	61	0	1	1	None
M04.29	B(67)	59	59	60	0	1	1	None

Source: Caltrans 2023X
Notes:
Leq(h), dBA = A-weighted, peak hour noise levels in decibels.
Impact Types: S= Substantial increase of 12 dBA or more; A/E= Approach or Exceed NAC.

No-Build Alternative

No construction or improvements would occur under the No-Build Alternative other than routine maintenance. As such, no long-term noise impacts are anticipated under this alternative.

Build Alternative 7 (Locally Preferred Alternative)

Each of the four NSAs in the project corridor are discussed below for Build Alternative 7. The analysis includes predicted future traffic noise levels at various receivers, as well as abatement measures.

South Side of SR-91 Between Monroe Street and Adams Street (Noise Study Area 1): The existing exterior traffic noise levels in NSA 1 range from 51 to 65 dBA for Receivers M01.01 through M01.16. The future predicted exterior traffic noise levels range from 53 to 66 dBA. No modeled receivers would approach or exceed the NAC for activity categories present in NSA 1. As such, no noise abatement is required.

North Side of SR-91 Between Monroe Street and Adams Street (Noise Study Area 2): Existing exterior traffic noise levels in NSA 2 range from 55 to 68 dBA for Receivers M02.01 to M02.18. The future predicted exterior traffic noise levels range from 55 to 69 dBA. No modeled receivers would approach or exceed the NAC for activity categories present in NSA2. As such, no noise abatement is required.

South Side of SR-91 Between Adams Street and Jefferson Street (Noise Study Area 3): The existing exterior traffic noise levels in NSA 3 range from 62 to 70 dBA for Receivers M03.01 to M03.05. The future predicted exterior traffic noise levels range from 65 to 74 dBA. No modeled receivers would approach or exceed the NAC for Activity Category F. As such, no noise abatement is required.

North Side of SR-91 Between Adams Street and Jefferson Street (Noise Study Area 4): The existing exterior traffic noise levels in NSA 4 range from 53 to 63 dBA for Receivers M04.01 to M04.29. The future predicted exterior traffic noise levels range from 54 to 67 dBA. One modeled receiver, M04.12, would approach or exceed the NAC for Activity Category B. As such, consideration of noise abatement is required.

For noise sensitive receptors where traffic noise levels would approach or exceed the NAC, noise abatement in the form of soundwalls were considered. For proposed noise abatement to be considered feasible, it must be designed to provide a minimum of 5 dBA of noise reduction at affected receptors. Furthermore, in addition to meeting the feasibility criteria, the proposed noise abatement should meet the design goal (I.e., 7 dBA insertion loss at a minimum of one benefitted receptor) and be reasonable from a cost perspective. The proposed noise abatement should also have the ability to break the line-of-sight of an 11.5-foot truck stack. A total of three soundwall configurations were analyzed to determine if feasible noise abatement could be provided to affected noise sensitive receptors as described below.

- **Soundwall S156 at the Edge of Shoulder**: This soundwall would start at Station 155+00 and extend approximately 107 feet west to an existing soundwall, where it would terminate at Station 156+07. This soundwall was analyzed at heights between 6 and 16 feet, with 2-foot increments. The proposed soundwall extension would not provide feasible traffic noise abatement at the one affected receiver and would not achieve the design goal of 7 dB insertion loss at any benefited receiver. As such, this soundwall was not considered as abatement for the project.

- **Soundwall S156 at the Right of Way:** This soundwall would extend from the existing soundwall located at the right of way at Station 155+73 and would terminate at Station 158+60. The total length of this proposed soundwall is approximately 290 feet. This soundwall was analyzed at heights from 6 to 16 feet with 2-foot increments. The proposed soundwall would not provide feasible traffic noise abatement at the one affected receiver and would not achieve the design goal of 7 dB insertion loss at any benefited receiver. As such, this soundwall was not considered as abatement for the project.
- **Soundwall S156 at the Right of Way and Private Property**: This soundwall would start at Station 155+73 along the right of way and extend to Station 157+09, where the soundwall would turn perpendicular along the property line for approximately 100 feet. This soundwall was analyzed at heights of 6 to 16 feet with 2-foot increments. This proposed soundwall was found to be feasible at the one affected receiver, and would achieve the design goal of 7dB insertion loss at that receiver. This soundwall was considered in the Noise Abatement Design Report (NADR) prepared for the project.

Table 2.3.7-6 summarizes the acoustical feasibility of the noise barriers, estimated cost of construction compared to the reasonable allowable cost for each noise barrier height, the number of benefitted receptors, and the barrier heights for which the line-of-sight criteria would be met.

Table 2.3.7-6. Summary of Barrier S-156

	6-foot high barrier	8-foot high barrier	10-foot high barrier	12-foot high barrier	14-foot high barrier	16-foot high barrier
Acoustically Feasible	No	No	Yes	Yes	Yes	Yes
Number of Benefited Receptors	--	--	1	1	1	1
Design Goal Achieved	No	No	No	No	Yes	Yes
Total Reasonable Allowance	$0	$0	$0	$0	$107,000	$107,000
Barrier Construction Cost	--	--	--	--	$241,816	$259,731
Barrier Reasonable?	--	--	--	--	No	No

The reasonableness of a noise barrier was determined by comparing the estimated construction cost of the noise barrier to the total reasonable allowance. The total reasonable allowance is based on the number of benefited receptors multiplied by the reasonable allowance per benefited receptor. If the estimated noise barrier construction cost exceeds the total reasonable allowance, then the noise barrier is determined to not be reasonable. As indicated in Table 2.3.7-6, Noise Barrier S-156 at the Right of Way and Private Property Line would provide benefit for one receptor and have a total reasonable allowance of $107,000 at barrier heights of 14 and 16 feet with a construction cost of $241,816 at 14 feet and $259,731 at 16 feet. As the construction cost would exceed the reasonable allowance for both barrier heights, Noise Barrier S-156 at the Right of Way and Private Property Line was found not to be reasonable from a cost perspective and would not be constructed.

Construction Impacts

No-Build Alternative

No construction would occur under the No-Build Alternative, as such, there would be no short-term noise impacts.

Build Alternative 7 (Locally Preferred Alternative)

During the construction phase of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Table 2.3.7-7 summarizes noise levels commonly produced by construction equipment on typical roadway construction projects. As indicated, equipment involved in construction is expected to generate noise levels ranging from 80 to 89 dBA at a distance of 50 feet. Noise produced by construction equipment would be reduced over distances at a rate of approximately 6 dB per doubling of distance.

Table 2.3.7-7. Typical Construction Equipment Noise Levels

Equipment	Maximum Noise Level (dBA at 50 feet)
Scrapers	89
Bulldozers	85
Heavy Trucks	88
Backhoe	80
Pneumatic Tools	85
Concrete Pump	82

Source: Federal Transit Administration 2006.

Construction noise varies depending on the construction process, type, and condition of equipment used, as well as layout of the construction site. Many of these factors are traditionally left to the Contractor's discretion, which makes it difficult to accurately estimate levels of construction noise. Construction noise estimates are approximate due to the lack of specific information available at the time of the assessment. Temporary construction noise impacts would occur at areas located immediately adjacent to the proposed project alignment.

Construction would be conducted in accordance with Section 14-8.02 "Noise Control" of Caltrans' 2018 Standard Specifications and Special Provisions (SSP). In addition, any local noise ordinances that are more restrictive than the requirements stated in SSP 14-8.02 would be followed during construction. SSP 14-8.02 would be edited specifically for this project during the PS&E phase.

Construction noise would be short-term, intermittent, and overshadowed by adjacent traffic noise. Furthermore, implementation of the measures listed below would further minimize the temporary noise impacts from the construction phase.

2.3.7.6 AVOIDANCE, MINIMIZATION, AND/OR ABATEMENT MEASURES

No abatement is recommended based on the results of the NADR. Implementation of the measures below would minimize temporary noise impacts during construction.

NOI-1 To minimize potential construction noise effects, the construction Contractor will adhere to best management practices (BMPs) to minimize construction noise levels, including the following:

- All equipment will have sound-control devices no less effective than those provided on the original equipment. Each internal combustion engine used for any purpose on the job or related to the job will be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine should be operated on the job site without an appropriate muffler.
- Construction methods or equipment that will provide the lowest level of noise impact should be used to the greatest possible extent (e.g., avoid impact pile driving near residences and consider alternative methods that are also suitable for the soil condition).
- Idling equipment will be turned off.
- Truck loading, unloading, and hauling operations will be restricted so that noise and vibration are kept to a minimum through residential neighborhoods to the greatest extent possible.
- Temporary noise barriers will be used and relocated as needed, to protect sensitive receivers against excessive noise from construction activities involving large equipment and by small items such as compressors, generators, pneumatic tools, and jackhammers. Noise barriers can be made of heavy plywood, moveable insulated sound blankets, or other best available control techniques.
- Newer equipment with improved noise muffling will be used, and all equipment items will have the manufacturer-recommended noise-abatement measures (e.g., mufflers, engine covers, and engine vibration isolators) intact and operational. Newer equipment will generally be quieter in operation than older equipment. All construction equipment will be inspected at periodic intervals to ensure proper maintenance and presence of noise-control devices (e.g., mufflers and shrouding).
- Construction activities will be minimized in residential areas during evening, nighttime, weekend, and holiday periods. Noise impacts are typically minimized when construction activities are performed during daytime hours; however, nighttime construction may be desirable (e.g., in commercial areas where businesses may be disrupted during the daytime hours) or necessary to avoid major traffic disruptions. Coordination with the City of Riverside will occur before construction can be performed in noise-sensitive areas.

NOI-2 It is possible that certain construction activities could cause intermittent localized concern from vibration. Processes such as earth moving with bulldozers, the use of vibratory compaction rollers, impact pile driving, demolitions, or pavement breaking may cause construction-related vibration impacts such as human annoyance or, in some cases, building damage. There are cases where it may be necessary to use this type of equipment in proximity to residential buildings. The following are some procedures that will be used to minimize the potential impacts from construction vibration:

- Restrict the hours of vibration-intensive equipment or activities such as vibratory rollers so that impacts on residents are minimized (e.g., weekdays during daytime hours only when as many residents are possible are away from home).
- For a building within 50 feet of a construction vibration source where damage to that structure due to vibration is possible, provide the owner with a preconstruction building inspection to document the preconstruction condition of that structure.
- Conduct vibration monitoring during vibration-intensive activities.

NOI-3 The project will comply with sound control provisions as included in Section 14-8.02 "Noise Control" of the Caltrans Standard Specifications and Special Provisions. The Contractor will not exceed 86 dBA at 50 feet from the project site from 9:00 p.m. to 6:00 a.m.

2.3.8 Energy

This section describes existing conditions and the applicable regulatory requirements related to energy and energy service systems as well as the proposed project's potential for energy impacts on people or the surrounding environment.

2.3.8.1 REGULATORY SETTING

The National Environmental Policy Act (NEPA) (42 United States Code [USC] Part 4332) requires the identification of all potentially significant impacts on the environment, including energy impacts.

The California Environmental Quality Act (CEQA) Guidelines section 15126.2(b) and Appendix F, Energy Conservation, require an analysis of a project's energy use to determine if the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary use of energy, or wasteful use of energy resources.

2.3.8.2 AFFECTED ENVIRONMENT

Unless otherwise noted, the information in this section is based on direct energy consumption from mobile sources associated with the construction of the proposed project and the Sacramento Metropolitan Air Quality Management District Road Construction Emission Model (version 9.0), which provides estimated carbon dioxide equivalent (CO_2e) emission for the construction period. Additional modeling information is contained in the June 2022 *Air Quality Study Report*. Construction period greenhouse gas emissions were converted to equivalent gallons of diesel fuel and million British thermal units (MMBTUs). Fuel consumption for mobile sources was estimated using the carbon dioxide (CO_2) emission outputs by converting CO_2e emissions estimated using the rate of CO_2 emissions per gallon of combusted diesel (10.21 kilograms/gallon) (EPA 2022). The estimated fuel consumption was converted to British Thermal Units (BTUs), assuming an energy intensity of 138,700 BTU per gallon of diesel (BTS 2021). The worst-case daily construction activities were modeled. The maximum daily energy consumptions are predicted values for the worst-case scenario and do not represent the daily energy consumption that would occur for every day of construction. Energy-related impacts resulting from the build alternative would be less than those identified below.

No quantification of operational energy requirements was undertaken because there would be only negligible differences between existing conditions and Build Alternative 7 with respect to energy consumption in the project area. This includes indirect energy use for maintenance and operation activities, which would result in long-term indirect energy consumption by equipment used to operate and maintain the roadway. The proposed project would accommodate existing traffic demand, but it would not create new demand, directly or indirectly. In addition, no land use changes, or parking additions would occur as a result of project implementation.

Energy consumed in the project vicinity at present includes residences, public and private facilities, and commercial/retail areas. The SR-91/Adams Street interchange is one of the busiest entrance/exit points in the city of Riverside. This interchange is the primary SR-91 access to California Baptist University on the north side of the freeway and several automobile dealerships south of the freeway along Indiana Avenue between Monroe Street and Jefferson Street.

2.3.8.3 ENVIRONMENTAL CONSEQUENCES

No-Build Alternative

The No-Build Alternative would maintain the current tight diamond interchange configuration at the SR-91/Adams Street interchange. Therefore, construction activities are not expected to take place and the interchange would remain in its present condition. This alternative would not address traffic congestion issues or accommodate future demand within the project limits. No impacts on energy resources would be expected.

Build Alternative 7 (Locally Preferred Alternative)

Under Build Alternative 7, energy would be required during the construction period for operation of construction equipment and construction worker vehicle trips (i.e., commuting or hauling). The proposed project would use a minimal amount of diesel and gasoline for construction vehicles and other energy-consuming equipment during demolition, grading, and construction. Construction-related energy effects would likely be greatest during the site preparation phase because of energy use associated with the excavation, handling, and transport of soils to and from the site. Natural gas is not anticipated to be required during construction of the proposed project. There are no unusual project characteristics that would necessitate the use of construction equipment, building materials, or methods that would be less energy efficient than at comparable construction sites in the region or state. It is noted that construction fuel use is temporary and would cease upon completion of construction activities.

The overall construction energy use for Build Alternative 7 is included below in Table 2.3.8.1.

Table 2.3.8.1. Project Energy Requirements during the Construction Period

Overall Construction Energy Use	Diesel Fuel Use (gallons)	MMBTU
Build Alternative 7 (Locally Preferred Alternative)	648,800	90,000

Source: SMAQMD Road Construction Emissions Model, Version 9.0.0 modeling and conversion calculations.
Notes: All figures have been rounded to the nearest 100.

Overall, California's diesel demand is projected to grow from 3.7 billion gallons in 2015 to 4.7 billion gallons in 2030 (California Energy Commission 2017). Although diesel fuel would be consumed by construction vehicles and equipment, the fuel consumption would be temporary in nature and represent only a negligible increase in regional demand, an insignificant amount relative to the 3.7 billion gallons consumed in 2015. Comparing the calculated diesel fuel demand for the build alternative to the statewide diesel demand of 3.7 billion gallons in 2015 yields the following: Build Alternative 7 would represent 0.0175 percent of the statewide diesel demand. The diesel demand was compared to the 2015 statewide diesel demand to produce more conservative (i.e., higher) percentages of statewide demand compared to the projected diesel demand of 4.7 billion gallons in 2030. Regardless, the diesel demand of the build alternative is insignificant compared to the statewide diesel demand. Given the extensive network of fueling stations throughout the project vicinity and the short-term (2-year) construction period, no new or expanded sources of energy or new infrastructure would be required to meet the energy demand associated with project construction.

Following the completion of construction activities, there would be negligible changes in energy consumption because the build alternative would not result in changes in land uses that would allow additional visitors to be accommodated. The proposed project would accommodate existing traffic demand, but it would not create new demand, directly or indirectly. Therefore, operational energy requirements were not quantified.

In addition, projects that make roadway improvements or that smooth existing traffic flow may result in reduced energy consumption. Build Alternative 7 would smooth existing traffic flow and may reduce energy consumption in the project area. This is because projects that improve traffic flow during peak travel demand periods or reduce stop-and-go conditions would improve vehicles' fuel economies and thus affect project energy consumption. The widened ramps would improve traffic flow by reducing delay and would not add any capacity.

The build alternative is also consistent with the goals of SCAG's 2020-2045 RTP/SCS (SCAG 2020). Three relevant goals of the RTP/SCS are: (1) improve mobility, accessibility, reliability, and travel safety for people and goods; (2) enhance the preservation, security, and resilience of the regional transportation system; and (3) increase person and goods movement and travel choices within the transportation system. The build alternative would improve traffic flow along SR-91, as well as circulation on local streets surrounding the SR-91/Adams Street interchange, both support the goals detailed in the RTP/SCS.

Energy-related impacts occurring as a result of project implementation would be less than significant under CEQA and not adverse under NEPA. The proposed project would not result in a wasteful, inefficient, or unnecessary consumption of energy.

2.3.8.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

With adherence to Caltrans' standard design and construction practices, which are required on all State Highway System projects, impacts related energy would be avoided or minimized. No additional measures are required.

2.4 Biological Environment

2.4.1 Wetlands and Other Waters

2.4.1.1 REGULATORY SETTING

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (CWA) (33 United States Code [USC] 1344), is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. The lateral limits of jurisdiction over non-tidal water bodies extend to the ordinary high-water mark (OHWM), in the absence of adjacent wetlands. When adjacent wetlands are present, CWA jurisdiction extends beyond the OHWM to the limits of the adjacent wetlands. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

Section 404 of the CWA establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers (USACE) with oversight by the U.S. Environmental Protection Agency (U.S. EPA).

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of USACE's Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404(b)(1) Guidelines (40 Code of Federal Regulations [CFR] 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a "least environmentally damaging practicable alternative" (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, EO 11990 states that a federal agency, such as FHWA and/or the Department, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: (1) that there is no practicable alternative to the construction and (2) the proposed project includes all practicable measures to minimize harm. A Wetlands Only Practicable Alternative Finding must be made.

At the state level, wetlands and waters are regulated primarily by the State Water Resources Control Board (SWRCB), the Regional Water Quality Control Boards (RWQCBs) and the California Department of Fish and Wildlife (CDFW). In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or the Tahoe Regional Planning Agency) may also be involved. Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFW before beginning construction. If CDFW determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFW jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFW.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA. In compliance with Section 401 of the CWA, the RWQCBs also issue water quality certifications for activities which may result in a discharge to waters of the U.S. This is most frequently required in tandem with a Section 404 permit request. Please see the Water Quality section for more details.

2.4.1.2 AFFECTED ENVIRONMENT

Information used in this section is based on the approved NESMI (Caltrans 2021g).

Aquatic resources within the BSA were investigated through desktop analysis and general field surveys; a formal Jurisdictional Delineation was not performed for the project. A wildlife agencies and Western Riverside Regional Conservation Authority (RCA) meeting was held on September 17, 2020. An open discussion was then held to discuss the concrete-lined channels within the BSA and whether or not a formal jurisdictional delineation was needed for the project given that the channels are human-made, concrete, and in highly developed areas. Based on this conversation, it was decided as a team that the concrete-lined channels within the project limits of disturbance are not jurisdictional under USACE (due to their ephemeral hydrological regime), and not jurisdictional to RWQCB (because there would not be any increased impact on receiving waters and the project would be neutral or beneficial to receiving waters) or CDFW (because the channels do not have functions and values for fish and wildlife resources) and that a formal jurisdictional delineation was not required in this case. It was also determined that the concrete-lined channels were most likely not WRC MSHCP–classified riparian/riverine resources but that a simple WRC MSHCP Consistency Analysis would be included in the NESMI report to assess potential project impacts on WRC MSHCP riparian/riverine resources.

Seven concrete-lined channels are present within the BSA (Figure 2.4.1-1). Six of the concrete-lined channels are unnamed stormflow conveyance channels; the other, more prominent feature is the Riverside Canal.

Within the BSA, the Riverside Canal is a concrete-lined flood control feature that conveys flows northeast to southwest through the northeast portion of the BSA. The canal is culverted under SR-91 but has daylighted areas both north and south of SR-91. A total of 1,086 linear feet of the Riverside Canal is daylighted within the BSA. The canal has a trapezoidal shape, with an approximate invert width of 6 feet; the approximate width at the top of the channel is 12 feet. The canal is unvegetated within the BSA. No portion of the Riverside Canal occurs within the project impact area.

The remaining concrete-lined channels (ditches) in the area are small flood control conveyance features that were constructed adjacent to SR-91 either during or since construction of the current highway in 1957.

The channels are trapezoidal in shape and have an approximate invert width ranging from 1 to 5 feet; the approximate width at the top of the channel ranges from 5 to 10 feet. Within the BSA, these channels are mostly unvegetated. However, at the time of the survey, approximately 155 feet of the channel in the area southwest of Adams Street had small, isolated patches of ruderal and emergent hydrophytic vegetation establishing in the sediments, including cattail (*Typha domingensis,* Obligate) and summer mustard (*Hirshfeldia incana*, Upland). With the exception of the constructed channel along the eastbound Adams Street off-ramp under Build Alternative 7, no portions of the channels occur within the project impact area.

Within the BSA, the unnamed channels are ephemeral. They were constructed in uplands and did not replace or relocate an existing potential water of the U.S. and did not convey flows to or from an adjacent or abutting wetland. As such, the portion of the channels within the BSA would be classified as non-jurisdictional waters, pursuant to Section (b)(5) of the Navigable Water Protection Rule and would not be regulated by USACE or RWQCB under Section 404 or Section 401 of the CWA, respectively. An Approved Jurisdictional Determination form was prepared for the portion of concrete-lined channel within the permanent impact area for Build Alternative 7 (PM 15.1 to PM 16.2); the form will be submitted independently from the NESMI. No other portions of the channel will be affected.

Flows within the channels in the BSA do not contribute to any of the beneficial uses listed for the two sub-basins and have negligible effects on downstream beneficial uses. Within the BSA, the unnamed concrete-lined channels have an ephemeral flow regime and no value to wildlife. It is not expected that the channels would be regulated by RWQCB as a water of the state under the Porter-Cologne Water Quality Act.

The portions of the channels within the BSA are concrete-lined. They lack riparian vegetation and have minimal value to fish and wildlife. The channels are not adjacent to a creek, lake, or riparian vegetation regulated by CDFW and do not provide direct surface flows to a creek, lake, or riparian vegetation. As such, it is not expected that the unnamed concrete-lined channels are jurisdictional features regulated by CDFW under Section 1600 of the California Fish and Game (CFG) Code.

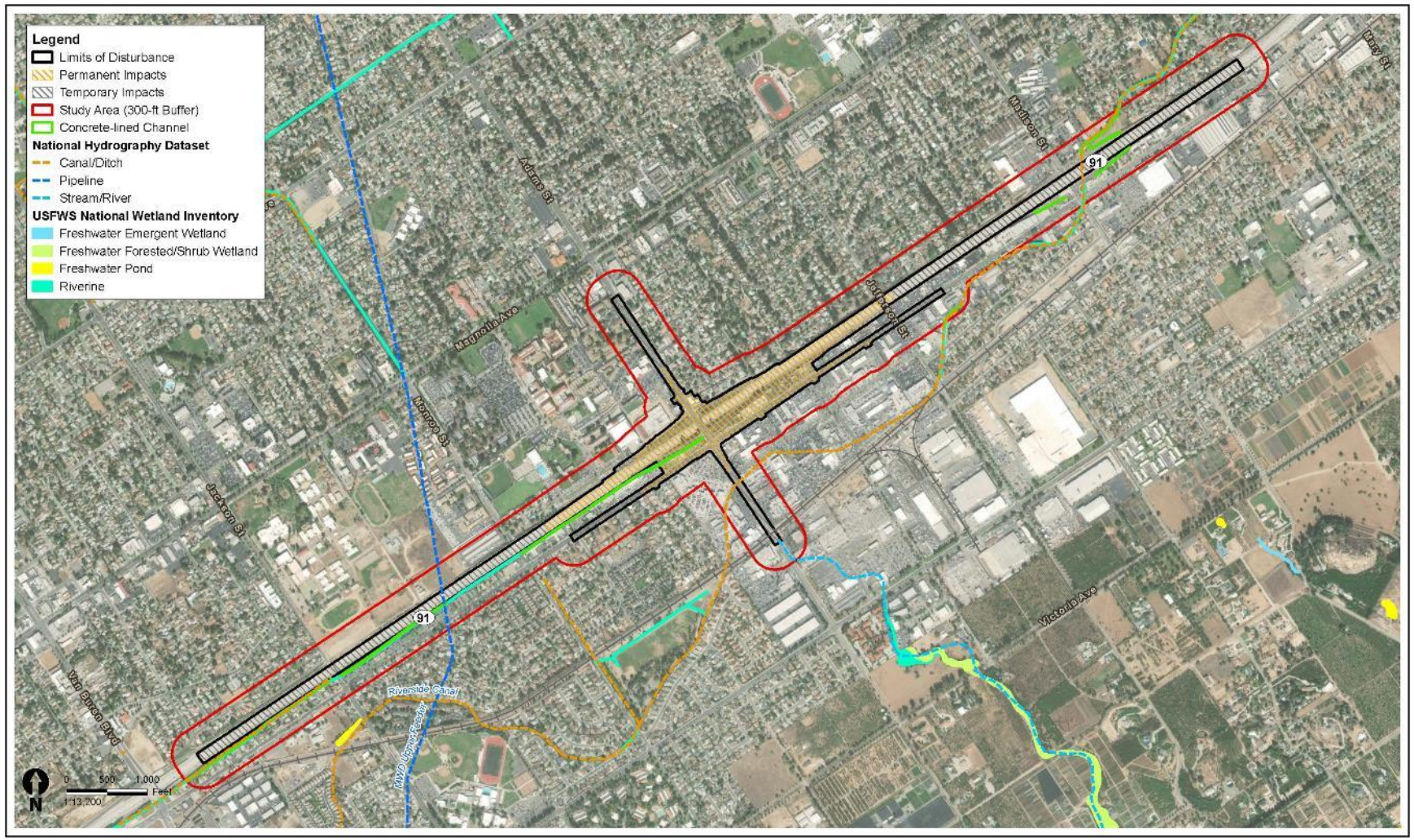


Figure 2.4.1-1. Aquatic Resources

2.4.1.3 ENVIRONMENTAL CONSEQUENCES

No-Build Alternative

If this project is not constructed, project-related impacts on federal and state jurisdictional waters and wetlands would not occur.

Build Alternative 7 (Locally Preferred Alternative)

Temporary Impacts

Although several aquatic features are present within the BSA, only one feature, the Riverside Canal, is potentially jurisdictional with respect to USACE and RWQCB under Section 404 and 401 of the CWA as well as Section 1600 of the CFG Code. However, no portion of the canal occurs within the project impact area. It is not expected that the other features are regulated as waters of the U.S, under the CWA, Porter-Cologne Water Quality Act, or Section 1600 of the CFG Code (see Section 2.3.1 for details). Aquatic resources within the BSA were investigated through desktop analysis and general field surveys; a formal Jurisdictional Delineation was not performed for the project. An Approved Jurisdictional Determination form would be prepared and submitted to USACE for the portion of the unnamed concrete-lined channel within the permanent impact areas for Build Alternative 7 of the project as an independent submittal from the NESMI. As such, no aquatic resource permits are anticipated to be required for the proposed project, and no temporary impacts on wetlands and other waters are anticipated.

The channel west of Adams Street, along the eastbound lanes of SR-91, would be affected by both Build Alternative 7. The drainage would remain but could be converted from an open ditch to below-grade drainage. However, project impacts on the concrete-lined channel would not be biologically important. Although the project could convert the channel from a concrete ditch to below-grade drainage under Build Alternative 7, the project would not negatively affect flows or functions and values on conservation lands downstream. Flows would still reach the ditch, and flows that currently enter the channel would do the same after construction. Implementation of the project would not alter water discharge or entry points to the ditch. Consequently, there would be no change to any riparian/riverine resources on site or conservation areas downstream, and all functions and values would be maintained. Therefore, no mitigation would be needed (WRC MSHCP Section 6.1.2, *Protection of Species Associated with Riparian/Riverine Resources and Vernal Pools*). Furthermore, any addition of BMPs to the project would have a neutral effect or would improve water quality within the onsite riverine resources as well as the conservation lands downstream.

Permanent Impacts

The one potentially jurisdictional feature occurs away from the project impact area, and no permanent impacts on wetlands and other waters are anticipated.

2.4.1.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No avoidance and minimization efforts or compensatory mitigation measures specific to wetlands and other waters are required.

2.4.2 Animal Species

2.4.2.1 REGULATORY SETTING

Federal and State Regulations

Many state and federal laws regulate impacts on wildlife. The U.S. Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries), and the California Department of Fish and Wildlife (CDFW) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in the Threatened and Endangered Species Section 2.3.5, below. All other special-status animal species are discussed here, including CDFW fully protected species and species of special concern, and USFWS or NOAA Fisheries candidate species.

Federal laws and regulations pertaining to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations pertaining to wildlife include the following:

- California Environmental Quality Act
- Sections 1600–1603 of the California Fish and Game Code
- Section 4150 and 4152 of the California Fish and Game Code

2.4.2.2 AFFECTED ENVIRONMENT

Information used in this section is based on the NESMI (Caltrans 2021g) and NESMI Addendum (Caltrans 2023b) prepared for this project.

Special-Status Animal Species

A literature review determined that 27 non-listed special-status species and one federal candidate species may potentially occur within the BSA based on the regional location of the project. Table 2.4.2-1 identifies the non-listed special-status and candidate animals that may potentially be present and their protection status. Species listed as threatened or endangered are discussed in Section 2.4.3. Five non-listed special-status animal species were determined to have habitat present: yellow warbler (*Setophaga petechia* [transient migrant only]), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), western yellow bat (*Lasiurus xanthinus*), western mastiff bat (*Eumops perotis californicus*), and pocketed free-tailed bat (*Nyctinomops femorosaccus*). Although marginally suitable habitat for San Diego black-tailed jackrabbit is present in the BSA, within ruderal open areas, the project site is completely surrounded by extensive development. There are no records of occurrence for this species within the project area (CDFW 2021); therefore, it is unlikely to occur and is not discussed further. Yellow warbler has the potential to occur only as a transient migrant within ornamental trees and shrubs in the surrounding developed areas of the project site; no breeding habitat is present. The three bat

species, as well as candidate species monarch butterfly (*Danaus plexippus*), have a potential to occur within the BSA and are discussed in the following subsections.

A complete list of non-listed and candidate animal species within the BSA is provided in Table 2.4.2-1.

Table 2.4.2-1. Special-Status Animal Species Occurring or Potentially Occurring in the BSA

Common/Scientific Name	Status Federal/ State/MSHCP	Species Requirements	Specific Habitat Present/ Absent	Rationale
Monarch Butterfly (*Danaus plexippus*)	C/-/-	Migratory species, with overwintering populations in California. Primarily overwinters in large trees within wind-protected groves, including Eucalyptus spp., Monterey pine (*Pinus radiata*), and cypress (*Cupressus macrocarpa*), at sites that are cool (but above freezing), sheltered from wind, have a moisture source, and are exposed to filtered sunlight. Winter roost sites are within the immediate vicinity of the coast (within 1 mile) and extend from northern Mendocino to Baja California, Mexico. Breeding and migratory habitats for monarch butterfly require the presence of native milkweed plants (Asclepias spp.) and other nectar-bearing flowers, as well as trees or shrubs for shading and roosting. Larval monarchs are dependent on native milkweed plants. Adult monarchs feed on nectar from a wide variety of flowering plants.	HP	Potentially suitable habitat that would support foraging adult and migrating monarch butterflies is present within the ruderal and ornamental landscaping portions of the BSA, which contain nectar-bearing flowering herbs and shrubs. Milkweed was not observed during field surveys, but focused surveys were not performed and emergence of this plant varies from year to year. It is known to grow along roadsides; therefore, it is possible that milkweed is present within the BSA. Although the habitat on site is of marginal quality, monarch has been reported within 0.5 mile of the BSA and there are multiple records of breeding (e.g., ovipositing, eggs, larvae) within 2 miles of the site from recent years (i.e., 2019, 2020, 2021). No overwintering habitat for monarch is present within the BSA.
Fish				
Arroyo Chub (*Gila orcuttii*)	-/CSC/ MSHCP	Occurs within warm, fluctuating streams and found within slow moving sections of stream containing sandy or muddy bottoms. In Riverside County, occurs within the Santa Ana and Santa Margarita river tributaries.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Santa Ana Speckled Dace (*Rhinichthys osculus ssp. 3*)	-/CSC/-	Formerly widespread in mountain portions of the Santa Ana, San Gabriel, and Los Angeles watersheds. Populations were scattered in foothill areas, and rare in lowlands. This subspecies of speckled dace is assumed extirpated from most of the Santa Ana River; it was last seen in the Santa Ana River near Rialto in 2001.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.

Common/Scientific Name	Status Federal/ State/MSHCP	Species Requirements	Specific Habitat Present/ Absent	Rationale
Amphibians				
Western Spadefoot (*Spea hammondii*)	-/CSC/ MSHCP	Found primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools and seasonal ponds are essential for breeding and egg laying. It is found at sea level to 4,500 ft. amsl in elevation.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Reptiles				
Silvery Legless Lizard (*Anniella pulchra pulchra*)	-/CSC/-	Occurs in sandy or loose loamy soils with high moisture content under sparse vegetation. Often found in leaf litter and under surface objects. Suitable habitat includes chaparral, coastal dunes, coastal scrub, broad-leaved upland forest, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
California Glossy Snake (*Arizona elegans occidentalis*)	-/CSC/-	Occurs most commonly in arid regions within desert habitats, but can also be found in chaparral, sagebrush, valley-foothill hardwood, pine-juniper, and annual grassland habitats. Often in areas with loose or sandy soils.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Coastal Whiptail (*Aspidoscelis tigris stejnegeri*)	-/CSC/ MSHCP	Occurs in a wide variety of habitats in coastal and inland valleys and foothills, including coastal sage scrub, sparse grassland, and riparian woodland, in areas with sparse vegetation and open areas. Found from Ventura County to Baja California.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
San Diego Banded Gecko (*Coleonyx variegatus abbotti*)	-/CSC/ MSHCP	Found in granite or rocky outcrops within coastal scrub and chaparral habitats along coastal and cismontane southern California from interior Ventura County south.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Northern Red Diamond Rattlesnake (*Crotalus ruber ruber*)	-/CSC/ MSHCP	Inhabits desert scrub, thornscrub, open chaparral, and woodland; occasionally found in grassland and cultivated areas. Prefers areas with boulders and rocky outcrops and dense vegetation. Occurs in Morongo Valley in San Bernardino and Riverside counties to the west and south into Mexico. Known elevation range is sea level to just under 15,000 ft. amsl, but apparently rare above 3,940 ft. amsl.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.

Common/Scientific Name	Status Federal/ State/MSHCP	Species Requirements	Specific Habitat Present/ Absent	Rationale
Western Pond Turtle (*Emys marmorata*)	-/CSC/MSHCP	Found in association with permanent or nearly permanent water in a wide variety of habitat types. It is omnivorous, taking a wide variety of plant and animal food. The pond turtle requires basking sites such as partially submerged logs, rocks, mats of floating vegetation, or open mud banks.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Coast Horned Lizard (*Phrynosoma blainvillii*)	-/CSC/ MSHCP	Found in arid and semi-arid climate conditions in chaparral, coastal sage scrub, primarily below 2,000 ft. amsl. Critical factors are the presence of loose soils with a high sand fraction; an abundance of native ants or other insects, especially harvester ants (Pogonomyrmex spp.); and the availability of both sunny basking spots and dense cover for refuge.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Birds				
Long-Eared Owl (*Asio otus*)	-/CSC/-	In southern California, the species breeds and roosts in riparian and oak forests, and hunts small mammals at night in adjacent open habitats; known to breed at several dozen locales in San Diego County and possibly Orange County, and probably do so in smaller numbers in other coastal southern California counties as well. Species is relatively intolerant to man-made disturbances and in particular night lighting. Foraging lands need to be rodent rich and relatively close to roosting and/or nesting habitat.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Burrowing Owl (*Athene cunicularia*)	-/CSC/ MSHCP(c)	Inhabits open, dry, nearly or quite level, grassland, prairie, desert floor, and shrubland habitats. Areas should be considered potential habitat if shrub cover is below 30% (CBOC 1997). In coastal southern California, a substantial fraction of birds are found in microhabitats highly altered by man, including flood control and irrigation basins, dikes, and banks, abandoned fields surrounded by agriculture, and road cuts and margins. There is a strong association between this species and burrowing mammals, especially ground squirrels (Spermophilus spp.); however, they will also occupy man-made niches such as banks and ditches, piles of broken concrete, and even abandoned structures.	HA	Suitable habitat is found within the BSA in portions of undeveloped land and area adjacent to open fields. However, no suitable burrows were found during a habitat assessment.

Common/Scientific Name	Status Federal/ State/MSHCP	Species Requirements	Specific Habitat Present/ Absent	Rationale
Yellow Rail (*Coturnicops noveboracensis*)	-/CSC/-	Found in shallow marshes and wet meadows. During the winter, they are found in drier freshwater and brackish marshes and deep grass and rice fields.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
White-Tailed Kite (*Elanus leucurus*)	-/FP/MSHCP	Species hunts in open country. This is a strongly lowland species, apparently rare anywhere in California above 2,000 ft. amsl. Nests are flimsy and are located low in trees and large shrubs near foraging areas in savannahs and at edges between open habitats and woodland or forest areas. Its diet is largely restricted to small mammals such as voles and mice.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Yellow-Breasted Chat (*Icteria Virens*)	-/CSC/ MSHCP	Nests in low thickets in dense riparian habitats. It is a local and uncommon breeder across southern California.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Loggerhead Shrike (*Lanius ludovicianus*)	-/CSC/ MSHCP	Found as a common resident and winter visitor throughout California in lowland and foothill habitats, where it frequents open areas with sparse shrubs and trees.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Yellow Warbler (*Setophaga petechia*)	-/CSC/ MSHCP	Nests in the upper story of riparian habitats in southern California. It is also a common, widespread migrant in spring and fall, occupying a wide variety of habitats at that time.	Nesting: HA Foraging: HP	Transient migrant only. Some potentially suitable foraging habitat can be found along residential streets and frontage roads abutting the highway; however, no nesting habitat is present.
Mammals				
Northwestern San Diego Pocket Mouse (*Chaetodipus fallax fallax*)	-/CSC/ MSHCP	Sandy herbaceous areas, usually in association with rocks and course gravel in southwest California; coastal and desert border areas in San Bernardino, Riverside, and San Diego counties. Elevation ranges from sea level to 6,000 ft. amsl. Vegetation community preferences include sage scrub, chamise-redshank chaparral, mixed chaparral, sage brush, desert wash, desert scrub, desert succulent scrub, pinyon-juniper, and annual grassland.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
California Western Mastiff Bat (*Eumops perotis californicus*)	-/CSC/-	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in the crevices	HP	No suitable foraging habitat present. However, some potentially suitable roosting habitat can be found under several bridges

Common/Scientific Name	Status Federal/ State/MSHCP	Species Requirements	Specific Habitat Present/ Absent	Rationale
		in vertical cliff faces, high buildings, and tunnels and travels widely when foraging.		throughout the BSA (Monroe, Jefferson, and Madison Street bridges).
Western Yellow Bat (*Lasiurus xanthinus*)	-/CSC/-	Found in valley-foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms.	HP	No suitable foraging habitat present. However, the BSA has many tall fan palm trees that could provide suitable roosting habitat.
San Diego Black-Tailed Jackrabbit (*Lepus californicus bennettii*)	-/CSC/ MSHCP	Common throughout the state except at high elevations in herbaceous and desert shrub areas, sage scrub, grasslands, open chaparral, and woodland in areas with open to intermediate canopy. Relatively tolerant of disturbance.	HP	Although marginally suitable habitat is present within the BSA in the undeveloped, disturbed lots adjacent to SR-91, the project area is completely surrounded by extensive development and the only records of occurrence for this species within the region are within undeveloped foothills in coastal sage scrub habitat, with the closest occurrence approximately 2.8 miles south of the project (CDFW 2020). As such, this species is not expected to occur.
San Diego Desert Woodrat (*Neotoma lepida intermedia*)	-/CSC/ MSHCP	Dry and/or sunny shrublands, especially (but not requiring) areas with cacti and abundant rocks and crevices. Does not require a source of drinking water. Sage scrub communities are frequently occupied.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Pocketed Free-Tailed Bat (*Nyctinomops* (*Tadarida) femorosaccus*)	-/CSC/-	Found rarely in southwestern California; found in southeastern deserts of California, with portions of western Riverside County apparently on the periphery of their range. Species roost in high rock crevices, bridges, roofs, buildings, and cliffs, and forage primarily on large moths, especially over water. Habitats are arid.	HP	No suitable foraging habitat present. However, some potentially suitable roosting habitat can be found under several bridges throughout the BSA (Monroe, Jefferson, and Madison Street bridges).
Southern Grasshopper Mouse (*Onychomys torridus ramona*)	-/CSC/-	Wide variety of dry to moderately dry scrub, grassland, and woodland habitats across southern California, exclusive of the more mesic coastal areas from Ventura County north.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.

Common/Scientific Name	Status Federal/ State/MSHCP	Species Requirements	Specific Habitat Present/ Absent	Rationale
Los Angeles Pocket Mouse (*Perognathus longimembris brevinasus*)	-/CSC/ MSHCP(c)	Habitat requirements for this subspecies are poorly known; it inhabits areas of open ground, prefers fine sandy soils (for burrowing), but is also found commonly on gravel washes and on stony soils, within brush and woodland habitats. It is rarely found on sites with a high cover of rocks.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
American Badger (*Taxidea taxus*)	-/CSC/-	Associated with large grassland and sparse sage scrub habitats. Occupies large burrows and forages on small mammals (e.g. ground squirrels, rabbits), snakes, birds, and insects.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.

Notes:
Federal Classification: C—Candidate Species.
California Classification: FP—Fully Protected, CSC—Species of Special Concern.
Habitat Present/Absent: P—Present: species is present. HP— Habitat Present: habitat is or may be present, and the species may be present. HA—Habitat Absent: no habitat present and no further work is needed.
MSHCP – Western Riverside County Multiple Species Habitat Conservation Plan Special Status Species
CNDDB – California Natural Diversity Database sensitive vegetation community

Western Riverside County Multiple Species Habitat Conservation Plan

The project is within both Riverside County and the boundaries of the WRC MSHCP. The project is a Covered Activity under Section 7.1 of the WRC MSHCP. In compliance with WRC MSHCP Section 6.1.2, habitat assessments were performed for riparian/riverine resources and vernal pools as well as fairy shrimp habitat. Based on the survey results, no vernal pools were detected, and no suitable habitat was found within the BSA for any WRC MSHCP conservation species, including suitable habitat for fairy shrimp or riparian birds.

No WRC MSHCP conservation areas occur within the project footprint including WRC MSHCP survey areas (Burrowing Owl Survey Areas, Amphibian Species Survey Areas, Mammal Species Survey Areas). A few small Burrowing Owl Survey Areas are present within the 300-foot BSA buffers for Build Alternative 7 but outside the project footprint. A habitat evaluation was performed to determine whether potentially suitable habitat for burrowing owl (*Athene cunicularia*) was present. Although open areas do exist within the BSA, no potential burrows or burrowing mammals (e.g., California ground squirrel [*Otospermophilus beecheyi*]) were observed. The open ruderal areas adjacent to the Riverside Rent-a-Space and Sherman Indian High School athletic fields on the westbound side of SR-91 contain areas of low-growing vegetation within open fields that could support a ground squirrel colony; however, the area is heavily disturbed, and the soil is hard packed and poorly suited to burrowing activity. No suitable burrows were observed in this area. The closest extant records of occurrence for burrowing owl are for the open fields and ruderal areas approximately 1.4 to 2.3 miles northwest of the BSA at Riverside Municipal Airport and 2.5 to 6.0 miles southeast of the BSA within Stephens' kangaroo rat (*Dipodomys stephensi*) core reserve lands. Because the BSA lacks suitable habitat and burrows that would support burrowing owl, and neither burrowing owl nor its sign was observed during field surveys, it is considered absent from the BSA.

The project site does not provide long-term conservation value for any WRC MSHCP plant or animal species, including Covered Species or Criteria Area species, and none were detected within the BSA during field surveys.

The project would not occur within or near any criteria cells or other sensitive habitats, including areas proposed for conservation. Therefore, edge effects from drainage runoff, toxins, lighting, noise, invasives, barriers, and grading on conservation areas would not occur as a result of project development. Consequently, Section 6.1.4 of the WRC MSHCP, *Guidelines Pertaining to the Urban/Wildlands Interface*, is not applicable to the proposed project.

Monarch Butterfly

Potentially suitable habitat that would support foraging adult and migrating monarch butterflies is present within the ruderal and ornamental landscaping portions of the BSA. These areas are highly disturbed and, therefore, only marginally suitable. However, they do contain some flowering plants that are nectaring sources for foraging adult monarchs, and breeding monarchs (e.g., ovipositing, eggs, larvae) have been reported in the area. Although milkweed, the host plant of monarch butterfly, was not detected within the BSA, its emergence can vary from year to year, and focused surveys for monarch breeding habitat were not performed for the project. Milkweed is known to grow in ruderal areas along roadways; therefore, it is possible that milkweed plants that could support breeding monarch butterfly may be present within the BSA. No overwintering habitat for monarch butterfly occurs within the BSA.

Migratory Avian Species

The BSA provides potential suitable foraging habitat for the special-status yellow warbler but no suitable nesting habitat is present as identified in Table 2.4.2-1. There is suitable habitat for many common birds protected under the MBTA.

No colonial nesting birds or their sign were detected during the May 2020 bridge habitat evaluation. The full list of non-listed special-status bird species evaluated for the BSA is provided in Table 2.4.2-1.

Special-Status Bat Species

Special-status bats with the potential to occur in the BSA are western yellow bat, California western mastiff bat, and pocketed free-tailed bat. Moderate potential exists for roosting bats to be present in the Adams Street, Monroe Street, Jefferson Street, and Madison Street SR-91 overcrossings, within the narrow gaps between the steel bridge beams and the concrete decking and abutments. Potential roosting habitat for tree-dwelling bat species is also present within the skirted fan palms throughout the BSA, particularly trees that are untrimmed and left with dead fronds. Although bats, including bat sign (e.g., guano, staining), were not detected during the field survey, bats could move into the site prior to the start of construction. Maternity colonies are not expected, however, and focused nighttime bat surveys were not performed.

Habitat Connectivity

The majority of the BSA is developed. It experiences high levels of human disturbance, and it lacks contiguous vegetation that could be used by animals for food and shelter. Therefore, habitat connectivity is extremely limited. The Riverside Canal within the BSA could provide an opportunity for limited regional animal movement, but it does not contain vegetation for habitation.

2.4.2.3 ENVIRONMENTAL CONSEQUENCES

No-Build Alternative

No construction and operation activities would occur under the No-Build Alternative, and no effects would occur.

Build Alternative 7 (Locally Preferred Alternative)

Temporary Impacts

Apart from the species discussed in additional detail below, all other special-status animal species were determined to be absent because of a lack of suitable habitat or their absence during field surveys, and, as such, no impacts are anticipated.

Monarch Butterfly

Potentially suitable habitat to support foraging and/or breeding monarch butterfly would be temporarily disturbed as a part of the project, which could result in a temporal loss of habitat. Potential indirect effects on potentially suitable foraging and/or breeding habitat for monarch butterfly adjacent to the project work area may include edge effects and degradation of habitat associated with litter, fire, the introduction of invasive plant species, erosion, sedimentation, chemical spills during construction, and dust and pollutants associated with vehicles and machinery. However, measure **BIO-6** (provided in Section 2.4.4, *Invasive Species*) and general

BMPs would be implemented for the project, which would help avoid potential indirect impacts on potentially suitable foraging and/or breeding habitat for monarch butterfly adjacent to the project limits of disturbance.

Migratory Avian Species

Build Alternative 7 would require the removal of vegetation and replacement of the existing bridge structure, which could impact migratory nesting birds. Therefore, bird protection measures **BIO-1**, **BIO-7**, and **BIO-8** would be incorporated during project construction to avoid and minimize impacts on native birds protected under the MBTA and CFG Code.

Special-Status Bat Species

Although no bat roosting sign was detected within the BSA during the habitat assessment, roosting bats could move into the area prior to construction. Project impacts on bat species, should they be present, could include temporary indirect disturbances, such as noise, vibration, dust, nighttime lighting, and human encroachment from construction. However, these impacts are expected to be greatly reduced with implementation of measures **BIO-2** through **BIO-5**, which would require preconstruction assessments and shielding of nighttime lighting away from suitable bat roosting habitat.

Permanent Impacts

Monarch Butterfly

Ruderal land cover types and ornamental landscaping would be permanently removed as a part of the project. Should nectaring sources (i.e., nectar-bearing flowering herbs and shrubs) or milkweed host plants be present within these areas, then direct impacts on suitable habitat for breeding, foraging, and/or migrating monarch butterfly would occur as a result of the project. Should milkweed be present within the proposed work area, then direct impacts on monarch butterfly and/or its potential breeding habitat could occur. Depending on the time of year when construction is performed, all life stages of monarch butterfly associated with the breeding season (i.e., breeding adults, eggs, larvae, pupae) could be affected, if individuals are present. However, measure **BIO-9** would be implemented to ensure that any direct impacts on monarch butterfly or its suitable foraging and/or breeding habitat would be avoided.

Migratory Avian Species

With the implementation of measures **BIO-1**, **BIO-7**, and **BIO-8** during project construction, permanent impacts on migratory nesting birds are not anticipated under Build Alternative 7.

Special-Status Bat Species

Replacement of the Adams Street bridge could harm cavity- and crevice-roosting bats directly during bridge demolition and construction. In addition, the removal or trimming of trees that are suitable for foliage- and/or crevice-dwelling bats could harm roosting bats and reduce potential roosting habitat for these species (e.g., western yellow bat and hoary bat [*Lasiurus cinereus*]) or crevice-dwelling species roosting in any trees containing snags, crevices, or peeling bark. However, implementation of measures **BIO-2** through **BIO-4** would ensure that any direct impacts on bats would be avoided.

2.4.2.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The following avoidance and minimization measures will be implemented to minimize effects during construction:

BIO-1 Trash will be stored in closed containers so that it is not readily accessible to wildlife and will be removed from the construction site on a regular basis so as to avoid attracting wildlife to the project site.

BIO-2 Prior to the start of project construction, a daytime assessment will be conducted by a qualified bat biologist to re-examine areas that are suitable for bat use, including maternity roosts. If bat sign is observed at that time, then nighttime bat surveys will be conducted to confirm whether the areas with suitable habitat identified during the daytime assessment are utilized by bats for day roosting and/or night roosting, ascertain the level of bat foraging and roosting activity at each of these locations, and perform exit counts to visually determine the approximate number of bats utilizing the roosts. Acoustic monitoring will also be used during these surveys to identify the bat species present and index relative bat activity for the site on that specific evening. The qualified bat biologist, in coordination with Caltrans and CDFW, could use the results of these surveys to inform development and implementation of additional avoidance and minimization measures, including exclusion.

BIO-3 Prior to tree removal or trimming, large trees and snags should be examined by a qualified bat biologist to ensure that no roosting bats are present. Palm frond trimming, if necessary, should be conducted outside the maternity season (i.e., April 1–August 31) to avoid potential mortality to flightless young and outside the bat hibernation season (November–February).

BIO-4 If maternity sites are identified during the preconstruction bat habitat suitability assessment, construction activities at that location will not be allowed during the maternity season (i.e., April 1–August 31), unless a qualified bat biologist has determined that the young have been weaned. If maternity sites are present, and it is anticipated that construction activities cannot be completed outside the maternity season, then bat eviction and exclusion at maternity roost sites will be completed under the direction of CDFW and the qualified bat biologist as soon as possible after the young have been weaned or outside the maternity season, or as otherwise approved by the qualified bat biologist in coordination with CDFW.

BIO-5 Should nighttime construction activities occur, shields to direct lighting away from suitable bat roosting habitat within and adjacent to the project footprint will be installed to minimize potential impacts on bat activities and behavior from nighttime lighting.

BIO-7 In the event that vegetation clearing is necessary during the breeding bird season (i.e., February 1–September 30), a qualified biologist will conduct a preconstruction survey of construction areas and an appropriate buffer no more than 3 days prior to construction to identify the locations of avian nests. Should nests be found, an appropriate buffer will be established around each nest site, based on the professional judgment of a qualified biologist. Buffers will be delineated by temporary flagging or other means and remain in effect as long as construction is occurring or until the nest is no longer active. To the extent feasible, no construction will take place within the buffer until the young have fledged and left the nest. In the event that construction must occur within the buffer, the biological monitor will take steps to ensure that construction activities will not disturb or disrupt nesting activities. If the biological monitor determines that construction activities are disturbing or disrupting nesting activities, the biologist will have the authority to halt construction to reduce noise and/or disturbance at the nests, as appropriate.

BIO-8 Any bridges with swallow nesting habitat will be cleared of all swallow nests prior to any work conducted between February 1 and September 30. Swallow nests will be removed under the guidance of a qualified biologist prior to February 1, before swallows return to the nesting site. Prior to the removal of nests, the qualified biologist will ensure that no bats are roosting in the nests. Removal of swallow nests that are under construction must be repeated as frequently

as necessary to prevent nest completion or until a nest exclusion device is installed, such as netting or a similar mechanism that keeps swallows from building nests. Nest removal and exclusion device installation will be monitored by a qualified biologist. Such exclusion efforts must be continued to keep the structures free of swallows, as well as swifts utilizing bridge holes, until September 30 or completion of construction

BIO-9 To avoid direct impacts on monarch butterfly and its host plant (milkweed), pre-construction surveys will be performed prior to the start of project activities to identify areas where milkweed is present within the project limits of disturbance. Any individual milkweed that is found will be flagged and demarcated as an environmentally sensitive area (ESA) to be avoided to the maximum extent feasible. Any milkweed plants that are located within the project work area and cannot be avoided will be relocated to the edge of the right-of-way outside the project impact area. To the maximum extent feasible, relocation should occur between November and January to avoid the monarch butterfly breeding season, following completion of the blooming period for milkweed and prior to the start of new milkweed growth. If relocation during this time period cannot be avoided, then all milkweed plants will be closely inspected by a qualified biologist for the presence of immature stages of monarch butterfly (e.g., eggs, larvae, pupae, caterpillars). If any immature monarch butterfly are found, then consultation with USFWS will need to be initiated.

Measure **BIO-9** will allow the project to avoid possible direct or indirect effects on candidate species monarch butterfly or potential suitable foraging and/or breeding habitat for this species that may be present within the BSA. Thus, no compensatory mitigation for monarch butterfly is required.

2.4.3 Threatened and Endangered Species

2.4.3.1 REGULATORY SETTING

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (FHWA) (and the Department, as assigned), are required to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take Statement or a Letter of Concurrence. Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts on rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The California Department of Fish and Wildlife (CDFW) is the agency responsible for implementing CESA. Section 2080 of the California Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue,

catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFW. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of FESA, the CDFW may also authorize impacts on CESA species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

2.4.3.2 AFFECTED ENVIRONMENT

Information used in this section is based on the approved NESMI (Caltrans 2021g) and NESMI Addendum (Caltrans 2023b) prepared for this project.

An official USFWS Species List was initially obtained on May 18, 2020 for the proposed project. Subsequently, updated species lists were obtained on March 11, 2021, December 14, 2022, and July 9, 2023 (the most recent species list is included in Section 4.2 of this IS/EA).

A literature review determined that 24 federally and/or state-listed threatened or endangered species may potentially occur within the BSA. Of the 24 federally and/or state-listed plant and animal species initially reviewed, none were determined to occur or potentially occur within the BSA under Build Alternative 7, based on species requirements and BSA conditions. Table 2.4.3-1 provides a list of all federally and/or state-listed plant and animal species reviewed for the project, along with a summary of the habitat requirements for each species. Effects determinations and/or take statements for each of the listed species identified in the USFWS official species list and/or CNDDB database search are also shown below.

There is no USFWS-designated critical habitat present within the BSA. Therefore, consultation with USFWS would not be required for the loss or adverse modification of critical habitat.

Table 2.4.3-1. Effects Determination and Take Statements for Federally and State-Listed Species Identified in the Official USFWS Species List and/or CNDDB Database Search

Common/Scientific Name	Status Federal/ State/ CRPR/ MSHCP	Species Requirements	Federal Effects Determination/ State Take Statement	Reason for Determination
Plants				
Munz's Onion (*Allium munzii*)	E/T/1B.1/ MSHCP(b)	This perennial bulbiferous herb is found on mesic exposures or seasonally moist microsites in grassy openings in coastal sage scrub, chaparral, juniper woodland, and valley and foothill grasslands in clay soils. Associated with a special "clay soil flora" and is only known from Riverside County. At least one population (Bachelor Mountain) is reported to be associated with pyroxenite outcrops instead of clay. Occurs at elevations from 974 ft. to 3,510 ft. amsl. Blooms from March through May.	No Effect/No Take Will Occur	No suitable habitat for this species is present in the BSA. The BSA is mostly developed and does not support the vegetation communities or soils suitable for this species. This species is not expected to occur. No further constraint is present.
San Diego Ambrosia (*Ambrosia pumila*)	E/-/1B.1/ MSHCP(b)	This perennial rhizomatous herb occurs in open floodplain terraces or in the watershed margins of vernal pools. This species occurs in a variety of associations that are dominated by sparse non-native grasslands or ruderal habitat in association with river terraces, vernal pools, and alkali playas. It generally occurs at low elevations less than 1,600 ft. amsl in known Riverside County populations and less than 600 ft. amsl in San Diego County. It blooms from April through October.	No Effect/-	No suitable habitat for this species is present in the BSA. While the undeveloped sections of the BSA consist primarily of ruderal habitat, there is no association with vernal pools or floodplain terraces. Therefore this species is not expected to occur within the BSA. No further constraint is present.
Marsh Sandwort (*Arenaria paludicola*)	E/E/1B.1/-	This perennial stoloniferous herb occurs in wetland and freshwater marshes and grows up through dense mats of *Typha* sp., *Juncus* sp., and *Scirpus* sp. Elevation ranges from sea level to 558 ft. amsl. This species was documented within the Santa Ana River in late 1899; however, the species is now believed to be extirpated from southern California. It blooms from May through August.	No Effect/No Take Will Occur	No suitable habitat for this species is present in the BSA. The BSA is mostly developed and does not support the vegetation communities or soils suitable for this species. This species is not expected to occur. No further constraint is present.
Nevin's Barberry (*Berberis nevinii*)	E/E/1B.1/ MSHCP(d)	This perennial evergreen shrub is very rare and local; found on steep north-facing slopes or in low-grade sandy washes in chaparral, coastal sage	No Effect/No Take Will Occur	No suitable habitat for this species is present in the BSA. The BSA is mostly developed and does not

Common/Scientific Name	Status Federal/ State/ CRPR/ MSHCP	Species Requirements	Federal Effects Determination/ State Take Statement	Reason for Determination
		scrub, riparian scrub, and cismontane woodland from 968 ft. to 2,700 ft. amsl. In western Riverside County, known only in the vicinity of Vail Lake. It blooms from February through June.		support the vegetation communities or soils suitable for this species. This species is not expected to occur. No further constraint is present.
Salt Marsh Bird's-beak (*Chloropyron maritimum* ssp. *maritimum*)	E/E/1B.2/-	This hemiparasitic annual herb generally occurs within coastal dunes, salt marshes, and coastal swamps, but has also been documented inland in the San Bernardino Valley within alkaline meadows. Elevations range from sea level to 99 ft. amsl. The typical blooming period extends from May through July.	No Effect/No Take Will Occur	No suitable habitat for this species is present in the BSA. The BSA is mostly developed and does not support the vegetation communities or soils suitable for this species. This species is not expected to occur. No further constraint is present.
Slender-horned Spineflower (*Dodecahema leptoceras*)	E/E/1B.1/ MSHCP(b)	This annual herb is found on flood deposited fine sand terraces and washes in Riversidian alluvial fan sage scrub and is also associated with cismontane woodland and chaparral having suitable hydrology and fine sands. It is often associated with cryptogrammic soils. It is known from elevations ranging from 656 ft. to 2,493 ft. amsl. Its blooming period ranges from April through June.	No Effect/No Take Will Occur	No suitable habitat for this species is present in the BSA. The BSA is mostly developed and does not support the vegetation communities or soils suitable for this species. This species is not expected to occur. No further constraint is present.
Santa Ana River Woollystar (*Eriastrum densifolium* ssp. *sanctorum*)	E/E/1B.1/ MSHCP	A perennial herb known from a single extended but heavily fragmented population in Riverside and San Bernardino counties; it formerly extended into Orange County. An inhabitant of alluvial fan sage scrub in sandy to gravelly soils that can be found at elevations ranging from 450 ft. to 2,000 ft. amsl. It typically blooms from June through August.	No Effect/No Take Will Occur	No suitable habitat for this species is present in the BSA. The BSA is mostly developed and does not support the vegetation communities suitable for this species. This species is not expected to occur. No further constraint is present.
Gambel's Water Cress (*Nasturtium gambelii*)	E/T/1B.1/-	This perennial rhizomatous herb occurs in freshwater to brackish marshes and swamps at elevations from 15 ft. to 1,200 ft. amsl. It blooms from April to October.	No Effect/No Take Will Occur	No suitable habitat for this species is present in the BSA. The BSA is mostly developed and does not support the vegetation communities or soils suitable for this species. This species is not expected to occur. No further constraint is present.

Common/Scientific Name	Status Federal/ State/ CRPR/ MSHCP	Species Requirements	Federal Effects Determination/ State Take Statement	Reason for Determination
Invertebrates				
Quino Checkerspot Butterfly (*Euphydryas editha quino*)	E/-/-/MSHCP	Habitat associations seem to be tied to both host plant species and topography. Larvae feed on *Plantago erecta, Plantago patagonia, Antirrhinum coulterianum, Cordylanthus rigidus* (and possibly other Plantago species), *Collinsia concolor*, and *Castilleja exserta*. Adults nectar mostly on small annuals; often occur on open or sparsely vegetated rounded hilltops, ridgelines, and occasionally rocky outcrops. Habitat components have been found in association with, but not restricted to, vernal pools, sage scrub, chaparral, native and non-native grassland, and open oak and juniper woodland communities. The key component seems to be open-canopied habitats.	No Effect/-	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Delhi Sands Flower-Loving Fly (*Rhaphiomidas terminatus abdominalis*)	E/-/-/MSHCP	Found within 12 disjunct locations within the cities of Colton, Rialto, and Fontana. Only found in areas with Delhi sands and is typically associated with the following native plants: California buckwheat (*Eriogonum fasciculatum*), telegraph weed (*Heterotheca grandiflora*), and California croton (*Croton californica*). This species has a low tolerance of disturbances.	No Effect/-	No Delhi sands nor suitable habitat are present within the BSA. This species is not expected to occur. No further constraint is present.
Riverside Fairy Shrimp (*Streptocephalus woottoni*)	E/-/-/-	Restricted to deep seasonal vernal pools, vernal pool like ephemeral ponds, and stock ponds and other human-modified depressions. Species prefers warm–water pools that have low to moderate dissolved solids, are less predictable, and remain filled for extended periods of time. Basins that support Riverside fairy shrimp are typically dry a portion of the year, but usually are filled by late fall, winter, or spring rains, and could persist throughout. All known habitat lies within annual grasslands, which could be interspersed through chaparral or coastal sage scrub vegetation. In Riverside County, found in pools formed over the following soils: Murrieta stony clay loams, Las Posas series, Wyman clay loam, and Willows soils.	No Effect/-	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.

Common/Scientific Name	Status Federal/ State/ CRPR/ MSHCP	Species Requirements	Federal Effects Determination/ State Take Statement	Reason for Determination
Fish				
Santa Ana Sucker (*Catostomus santaanae*)	T/CSC/-/ MSHCP	Occurs in stream channels with a mosaic of loose sand, gravel, cobble, and boulder substrates in riffles, runs, pools, and shallow sandy stream margins with cool, running water. Historical range included the Los Angeles, San Gabriel, and Santa Ana River drainage systems in southern California. An introduced population also occurs in the Santa Clara River drainage system.	No Effect/-	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Steelhead, Southern California Coast Distinct Population Segment (*Oncorhynchus mykiss irideus*)	E/CSC/-/-	An anadromous fish that has physiological tolerances to warm water and changing conditions. Populations known from San Mateo Creek in San Diego County.	No Effect/-	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Amphibians				
Arroyo Toad (*Anaxyrus californicus*)	E/CSC/-/ MSHCP(c)	Found in rivers with willows, cottonwoods, and sycamores. Prefers sandy/gravelly areas in drier parts of its range near washes or intermittent streams with clear standing water that is required for egg deposition.	No Effect/-	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Birds				
Tricolored Blackbird (*Agelaius tricolor*)	-/T/-/ MSHCP	Occurs in open country in western Oregon, California, and northwestern Baja California. Breeds near freshwater, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow (Salix spp.), blackberry (Rubus spp.), wild rose (Rosa spp.), and tall herbs, and forages in grassland and cropland habitats. Seeks cover for roosting in emergent wetland vegetation, especially cattails (Typha spp.) and tules (Scirpus spp.), and also in trees and shrubs.	-/No Take Will Occur	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Swainson's Hawk (*Buteo swainsoni*)	-/T/-/MSHCP	Suitable breeding habitat consists of areas containing Joshua trees (*Yucca brevifolia*), Fremont cottonwoods (*Populus fremontii*), or other large trees located adjacent to open fields, including agricultural fields. Forages in open	-/No Take Will Occur	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.

Common/Scientific Name	Status Federal/ State/ CRPR/ MSHCP	Species Requirements	Federal Effects Determination/ State Take Statement	Reason for Determination
		desert, grasslands, agricultural fields, or livestock pastures.		
Western Yellow-Billed Cuckoo (*Coccyzus americanus occidentalis*)	T/E/-/ MSHCP(a)	Breeds and nests in extensive stands of dense, mature cottonwood/willow riparian forest along broad, lower flood bottoms of larger river systems at scattered locales in western North America. Requires large stands of riparian woodland for nesting sites, typically in excess of 300 ft. in width and 25 acres in area.	No Effect/No Take Will Occur	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Southwestern Willow Flycatcher (*Empidonax traillii extimus*)	E/E/-/ MSHCP(a)	Highly restricted distribution in southern California as a breeder. Occupies extensive riparian forests, wet meadows, and lower montane riparian habitats primarily below 4,000 ft. amsl. Occurs in riparian habitats along rivers, streams, or other wetlands, where dense growths of willows, Baccharis spp., arrowweed (Pluchea spp.), buttonbush (Cephalanthus spp.), tamarisk (Tamarix spp.), Russian olive (Eleagnus spp.), or other plants are present, often with a scattered overstory of cottonwood (Populus spp.).	No Effect/No Take Will Occur	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Bald Eagle (*Haliaeetus leucocephalus*)	D/E, FP/-/ MSHCP	Primarily in or near seacoasts, rivers, swamps, and large lakes. Eats mainly fish and carrion. This species is a localized winter resident and rare migrant, with only very rare breeding efforts in coastal southern California (e.g., Lake Skinner, Riverside County).	-/No Take Will Occur	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
California Black Rail (*Laterallus jamaicensis coturniculus*)	-/T/-/-	Found in salt marshes, freshwater marshes, and wet meadows. Most California populations, especially in the southern part of the state, are nonmigratory, and these habitat types serve for breeding, foraging, and overwintering. In tidal areas, also requires dense cover of upland vegetation to provide protection from predators when rails must leave marsh habitats during high tides.	-/No Take Will Occur	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Coastal California Gnatcatcher (*Polioptila californica californica*)	T/CSC/-/ MSHCP	Year-round obligate, permanent resident of coastal sage scrub vegetation on mesas, arid hillsides, and in washes. Nests almost exclusively in California sagebrush (Artemisia californica).	No Effect/-	No suitable habitat is present within the BSA. This species is not

Common/Scientific Name	Status Federal/ State/ CRPR/ MSHCP	Species Requirements	Federal Effects Determination/ State Take Statement	Reason for Determination
		Occurs in low-lying foothills and valleys in cismontane southwestern California and Baja California.		expected to occur. No further constraint is present.
Least Bell's Vireo (*Vireo bellii pusillus*)	E/E/-/ MSHCP(a)	Found as a summer resident of southern California where it inhabits low riparian growth in the vicinity of water or in dry river bottoms below 2,000 ft. amsl. Species selects dense vegetation low in riparian zones for nesting; most frequently located in riparian stands between 5 and 10 years old; when mature riparian woodland is selected, vireos nest in areas with a substantial robust understory of willows, as well as other plant species.	No Effect/No Take Will Occur	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Mammals				
San Bernardino Merriam's Kangaroo Rat (*Dipodomys merriami parvus*)	E/CSC/-/ MSHCP(c)	Prefers soils of sandy loam, occasionally to sandy gravel, in open to moderately shrubby habitats, especially intermediate seral stages of alluvial fan sage scrub up to 1,970 ft. amsl from active channels.	No Effect/-	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Stephens' Kangaroo Rat (*Dipodomys stephensi*)	E/T/-/MSHCP	Found almost exclusively in open grasslands or sparse shrublands with cover of less than 50% during the summer. Avoids dense grasses and is more likely to inhabit areas where the annual forbs disarticulate in the summer and leave more open areas. Typically found in sandy and sandy loam soils with low clay to gravel content for burrowing; will sometimes utilize the burrows of other mammals. Tends to avoid rocky soils. In general, the highest abundances of species occur on gentle slopes less than 15%.	No Effect/No Take Will Occur	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.

Notes:
Federal Classification: E—Federal Endangered, T—Federal Threatened.
California Classification: E—State Endangered, T—State Threatened, FP—Fully Protected, CSC—Species of Special Concern.
Habitat Present/Absent: P—Present: species is present. HP— Habitat Present: habitat is or may be present, and the species may be present. HA—Habitat Absent: no habitat present and no further work is needed.
MSHCP – Western Riverside County Multiple Species Habitat Conservation Plan Special Status Species

2.4.3.3 ENVIRONMENTAL CONSEQUENCES

No-Build Alternative

No construction activities would occur under the No-Build Alternative, and no effects would occur.

Build Alternative 7 (Locally Preferred Alternative)

Temporary Impacts

Because of the lack of suitable habitat for federally or state-listed endangered and/or threatened species, federal Section 7 consultation with USFWS or a Consistency Determination from CDFW under Section 2080.1 or 2081 of the CFG Code will not be required for the project. A *no effect* determination has been reached for all 24 federally listed plant and/or animal species potentially occurring within the BSA. Authorization from CDFW under Section 2081 will not be required because none of the four solely state-listed species (tricolored blackbird [*Agelaius tricolor*], Swainson's hawk [*Buteo swainsoni*], bald eagle [*Haliaeetus leucocephalus*], and California black rail [*Laterallus jamaicensis coturniculus*]) have the potential to occur. As such, no temporary impacts on threatened or endangered species are expected to occur.

Permanent Impacts

No permanent impacts on threatened or endangered species are anticipated under Build Alternative 7 as no listed species are present.

2.4.3.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

No avoidance and minimization efforts or compensatory mitigation measures specific to threatened and endangered species are required.

2.4.4 Invasive Species

2.4.4.1 REGULATORY SETTING

On February 3, 1999, President William J. Clinton signed Executive Order (EO) 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration (FHWA) guidance issued August 10, 1999 directs the use of the State's invasive species list maintained by the California Invasive Species Council to define the invasive species that must be considered as part of the National Environmental Policy Act (NEPA) analysis for a proposed project.

2.4.4.2 AFFECTED ENVIRONMENT

Information used in this section is based on the approved NESMI prepared for this project (Caltrans 2021g).

Seeds of invasive species can be transported to natural open space areas through a variety of mechanisms, including vehicles. Recurring fires can encourage the establishment of invasive species and so can some forms of routine land maintenance (e.g., disking). The impact invasive

species have on southern California native vegetation communities, as well as the plants and animals that are found within these areas, is, in some circumstances, catastrophic. Therefore, a need exists to identify and recommend measures that reduce and/or avoid further transport of invasive species into natural open space areas. Because this project is federalized, EO 13112 is triggered, which states that federal agencies are required to combat the introduction or spread of invasive species in the United States.

Based on the Cal-IPC classification, eight species of plants observed within the BSA are classified as invasive exotic plants, six of which are ranked as "moderate"; two are ranked as "high" (Table 2.4.4-1). Invasive species that have severe ecological effects are given a "high" rating (Cal-IPC 2020).

Table 2.4.4-1. Cal-IPC Classified Invasive Plant Species Observed within the BSA

Scientific Name	Common Name	Cal-IPC Ranking
Avena barbata	Slender wild oat	Moderate
Bromus diandrus	Ripgut brome	Moderate
Carpobrotus edulis	Iceplant	High
Centaurea melitensis	Tocalote	Moderate
Hedera helix	English ivy	High
Hirschfeldia incana	Shortpod mustard	Moderate
Pennisetum setaceum	African fountain grass	Moderate
Washingtonia robusta	Mexican fan palm	Moderate

2.4.4.3 ENVIRONMENTAL CONSEQUENCES

No-Build Alternative

The No-Build Alternative is not expected to add impacts from invasive species because it would not change existing conditions.

Build Alternative 7

Temporary Impacts

There would be no temporary impacts related to invasive species.

Permanent Impacts

The proposed project has the potential to spread invasive species through personnel entering and exiting construction with contaminated equipment, the inclusion of invasive species in seed mixtures and mulch, and the improper removal and disposal of invasive species so that seed is spread along the highway. In addition to Caltrans Standard Specifications (13-4.03E[3] - Vehicle and Equipment Cleaning and 13-4.03E[4] – Vehicle and Equipment Fueling and Maintenance) and BMPs, measure **BIO-6** would be implemented to minimize the potential for invasive species to spread into the BSA. As such, the project would not contribute to the propagation of invasive plant species.

2.4.4.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

To ensure that the build alternative does not promote the introduction or spread of invasive plant species to the open space areas within the study area, in addition to Caltrans Standard

Specifications (13-4.03E[3] – Vehicle and Equipment Cleaning and 13-4.03E[4] – Vehicle and Equipment Fueling and Maintenance) and BMPs, the following measure will be implemented.

BIO-6 A weed abatement plan will be developed to minimize the spread and importation of non-native plant material during and after construction, in compliance with Executive Order 13112. The plan will include the following:

- Soil and vegetation disturbance will be minimized to the greatest extent feasible;
- The construction contractor will inspect and clean construction equipment prior to transporting equipment from one project location to another;
- Fill material will be obtained from weed-free sources;
- Only certified weed-free straw, mulch, and/or fiber rolls will be used for erosion control;
- Following construction, all revegetated areas will avoid the use of species listed in Cal-IPC's California Invasive Plant Inventory; and
- Eradication procedures (e.g., spraying and/or hand weeding) will be included in the plan. If invasive plants are established, then the use of herbicides will be prohibited within and adjacent to native vegetation, except as specifically authorized by the Caltrans District Biologist.

2.5 Cumulative Impacts

2.5.1 Regulatory Setting

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the proposed project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over a period of time.

Cumulative impacts on resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

The California Environmental Quality Act (CEQA) Guidelines Section 15130 describes when a cumulative impact analysis is necessary and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under CEQA can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts under the National Environmental Policy Act (NEPA) can be found in 40 Code of Federal Regulations (CFR) Section 1508.7.

2.5.2 Methodology

Federal regulations provide little direct guidance for addressing cumulative effects under NEPA, and therefore individual agencies have developed procedures within the framework provided by the Council on Environmental Quality. Caltrans, as delegated from Federal Highway Administration, has developed a step-by-step process that defines the study area for the resource; assesses the health of the resource; identifies the effects of the proposed project and past, present, and reasonably foreseeable projects; and assesses the potential cumulative impact, the project's contribution, and the need for mitigation.

As specified in Caltrans/Federal Highway Administration guidance (Guidance for Preparers of Cumulative Impact Analysis 2016), the cumulative impact analysis should focus only on resources that are adversely affected by the cumulative action. This typically includes resources currently in poor or stressed conditions, declining health, or at risk.

Apart from the projects listed below, there were no other planned or reasonably foreseeable project improvements identified within the RSA. These projects (Table 2.5.2-1) were evaluated for potential cumulative impacts related to the proposed project.

Table 2.5.2-1. Cumulative Projects List

Name	Jurisdiction	Description	Status	Distance
SR-91 Landscaping Project (1L320)	Caltrans	Rehabilitate landscaping and irrigation systems between postmiles 15.6 and 21.6.	PA/ED phase	Adjacent
SR-91 Managed Lane Project	RCTC	Possible conversion of High-Occupancy Vehicle (HOV) to High-Occupancy Toll (HOT) lane and addition of a general purpose lane along SR-91 in the study area.	Feasibility study phase	Adjacent
Parking Structure	City of Riverside	Propose 40-space parking structure on Winstrom Street.	Design review	Adjacent
California Baptist University Specific Plan	City of Riverside	The Specific Plan provides for CBU to evolve to a more urban intensive campus with closely integrated educational, residential, recreational, and other campus life facilities to best support the mission and vision of CBU.	Ongoing	Adjacent
Riverside Auto Center Specific Plan	City of Riverside	The Riverside Auto Center Specific Plan, last amended in November 2007, is intended to assist in the revitalization of the Auto Center, originally developed in 1965.	Ongoing	Adjacent
Kaiser Permanente Riverside Medical Center Expansion Project	City of Riverside	The proposed project plans to redevelop approximately 15.5 acres of the existing 37.5-acre medical center located at 10800 Magnolia Avenue to expand acute care medical service facilities and ancillary uses.	Environmental phase as of early 2022	3 miles southwest

2.5.3 Assessment of Cumulative Impacts

2.5.3.1 Resources Areas Where There is No Cumulative Condition

As specified in the guidance, if a proposed project would not cause direct or indirect impacts on a resource, it would not contribute to a cumulative impact on that resource and accordingly need not be included in the evaluation of potential cumulative impacts. As discussed at the beginning of the chapter or in related sections above, the proposed project would not result in direct or indirect impacts on the following resources; therefore, no discussion is provided for these resources in the evaluation of potential cumulative impacts.

- Coastal Zone
- National Fisheries
- Wild and Scenic Rivers
- Wildfire
- Energy
- Farmland/Timberlands
- Natural Communities
- Plant Species

The analysis in this chapter and in Chapter 3 determined that other resource areas would not be affected by the project. Because no impacts on these resource areas would result from the project, there is no potential for the project to contribute to a cumulative impact on the following resources.

Land Use

The improvements associated with the build alternative are consistent with local and regional goals to improve traffic operations and to reduce congestion in the area. The build alternative would improve areas that are currently designated or used for transportation. Land use compatibility conflicts are not expected where existing land uses would be converted for transportation use. Potential impacts on land use may occur as a result of land acquisitions for the right of way required to construct the build alternative. Temporary impacts from TCEs include construction staging, reduced parking availability, or disruption in access to buildings and services. With implementation of **TRAF-1**, a Traffic Management Plan would be prepared and executed to minimize potential access effects on local businesses.

Cumulative projects could be under construction in the same timeframe as the project. To the extent that construction periods overlap, there is a potential for cumulative land use impacts from multiple land acquisitions and construction detours and construction-related impacts to occur simultaneously in and adjacent to the project area. Caltrans, the City of Riverside, and San Bernardino County would coordinate the timing of land acquisitions, and project detours and lane closures for all projects in the area in order to minimize these land use–related impacts. The project would have no adverse impacts on land use, and, with coordination of timing of construction of other projects, there would be no cumulative impact. Because there would be no cumulative impact, the project could not contribute to a cumulative impact

Parks and Recreation

No parks are located close to the project area. There are Class 2 bike lanes nearby, but the project is not anticipated to have any temporary or permanent impact on those or any other recreational facilities. The project would not introduce any additional population that might result in the increased use of or need for parks or recreational facilities. The project would have no impact on recreational facilities and therefore could not contribute to a cumulative impact.

Population and Housing

The project will not affect growth beyond what is currently planned, nor will it affect accessibility. In addition, the project will accommodate existing and planned growth but will not induce population growth in the area, either directly or indirectly. Displacement of businesses is anticipated; however, this will not lead to construction of housing elsewhere. Therefore, there would be no impact.

Because there is no impact on population and housing directly or indirectly, or in the future, there is no potential for the project to contribute to a cumulative impact related to population and housing.

Utilities and Service Systems

The study area for analysis of cumulative impacts related to utilities and service systems includes the area within a 0.5-mile radius of the project site. The project would not involve the construction of new utility facilities for use by the proposed project; however, relocation or modification of some existing facilities could be required due to project-related ground

disturbance, resulting in intermittent disruptions of utilities during construction. It is possible that other projects may also result in utility relocation and temporary disruption of services. Cumulative projects, like the proposed project, would coordinate with utilities to minimize disruptions. The impacts would be minimal and temporary and would not constitute a cumulative impact.

The project would require some water for construction activities. Any wastewater generated during construction would be minimal and the project would have sufficient water supplies and would be served by a landfill with sufficient permitted capacity. As with the project, other cumulative projects would likely generate a minimal amount of wastewater, have sufficient water supplies, and be served by a landfill with sufficient space. Therefore, there would be no cumulative impact.

Transportation

The study area for the assessment of cumulative impacts for transportation includes the area within a 0.5-mile radius of the project site. Temporary, short-term construction of the proposed project would require nearby temporary lane closures, rerouting of traffic, and other activities. The project and the future transportation projects would include the preparation of a TMP that would include identification of detour routes within the construction area; placement of appropriate signs, cones, and barricades in the vicinity of construction; scheduling of construction activities during off-peak hours; and development of plans that ensure emergency access and entry to existing residences and businesses within the construction areas. Construction impacts would be temporary and less than significant with implementation of **TRAF-1** (see Section 2.2.8, *Traffic and Transportation/Pedestrian and Bicycle Facilities*).

Cumulative projects could be under construction in the same timeframe as the project. To the extent that construction periods overlap, there is a potential for cumulative local level traffic impacts from multiple project detours and lane reductions to occur simultaneously in and adjacent to the project area, potentially resulting in deterioration of traffic operations on local roadways. Caltrans, the City of Riverside, and San Bernardino County would coordinate the timing of project detours and lane closures for all projects in the area in order to minimize traffic impacts. The project would have no adverse short-term impacts on traffic/transportation, and, with coordination of timing of construction of other projects, there would be no cumulative impact. Because there would be no cumulative impact, the project could not contribute to a cumulative impact.

Cultural Resources

Given the limited number of other projects in the vicinity of the project and the developed and disturbed nature of the project area, the potential for cumulative impacts resulting from the proposed project and cumulative projects on archaeological resources would not be substantial. Impacts on archaeological resources related to potential unanticipated discovery of buried resources would be reduced with implementation of measures **CR-1** and **CR-2**. In compliance with CEQA and, where applicable, Section 106 of the NHPA, the cumulative projects would include similar measures to reduce impacts. Because the proposed project would not have any impacts on built environment resources that qualify as historical properties and/or historical resources, it would not contribute to cumulative impacts on such resources. Therefore, impacts resulting from the project, in combination with the cumulative projects, would not result in a cumulative impact related to archaeological resources or built environment resources.

Hydrology and Floodplain

The proposed project would have no effect on the existing floodplain and no impact on hydrology of the project area and therefore could not contribute to a cumulative impact.

Geology/Soils/Seismicity/Topography

The project, in conjunction with other planned projects in the vicinity, could result in short-term increases in erosion due to grading activities. Increased development density in the surrounding areas could expose persons and property to potential impacts related to seismic activity. However, construction in accordance with the accepted engineering standards and building codes, on a project-by-project basis, for this project and the cumulative projects, would reduce the potential for structural damage due to seismic activity to the maximum extent feasible. And therefore, no cumulative impact is anticipated.

Paleontological Resources

The project vicinity represents an area of high paleontological sensitivity. Future projects in the vicinity could also be located in this area of high paleontological resource sensitivity and could have the potential to affect paleontological resources within the same formation. The potential for each project to affect paleontological resources would vary based on the footprint and construction methods of the project. All projects that could affect paleontological resources would be required to evaluate and assess impacts and, if necessary, provide mitigation measures similar to measure **PAL-1,** which requires preparation and implementation of a Paleontological Mitigation Plan. The mitigation would offset the impact by recovering the information potential of the resource. Because all projects would be required to implement measures to recover information, thereby fully mitigating the impact of that project, there would be no cumulative impact on paleontological resources.

Minerals

The project area is in Mineral Resource Zone 4, meaning that there is insufficient data available to make a determination on the presence of significant mineral resources in the area. However, the project area is developed and not currently used for mineral extraction and the project would have no impact on the availability of mineral resources. Therefore, there is no potential for the project to contribute to a cumulative impact on mineral resources.

Hazardous Waste/Materials

Construction activities associated with the proposed project and cumulative projects, including site grading and the use and transport of petroleum-based lubricants, solvents, fuels, and paints to and from the site, could result in accidental release of or disturbance of hazardous materials that pose a risk to workers and the public. Avoidance and/or minimization measures **HAZ-1** through **HAZ-3** would be implemented to minimize these potential impacts for the proposed project. Cumulative projects would have similar impacts and would be required to implement similar measures to comply with regulations.

These types of impacts would be localized in time and space, occurring only in the immediate vicinity of the project sites during project construction. In addition, the implementation of appropriate minimization/avoidance measures during construction would further reduce the impact. Therefore, there would not be a cumulative impact related to inadvertent releases of hazardous materials during construction.

Biological Resources

The study area for the assessment of cumulative impacts on animal species is a one-mile radius of the project area. There is potential for the project to result in temporary impacts on habitat for bird and bat species related to vegetation removal and structure modification during construction. Whether cumulative projects result in vegetation removal or structural modifications that affect potential habitat for bats will depend on the location of the project and the nature of construction. The project site is heavily disturbed and located in an urbanized area. Measures related to timing of construction and preconstruction surveys would be implemented for the proposed project. To comply with federal and state laws other projects would have similar measures, if impacts were identified. Because these impacts would be temporary and minimized in accordance with regulations, there would not be a cumulative impact related to habitat for the species that could potential occur in the project area.

2.5.3.2 RESOURCES AREAS WHERE THERE IS A POTENTIAL TO CONTRIBUTE A CUMULATIVE IMPACT

For resources identified as having a less-than-significant impact or a less-than-significant impact with mitigation, a preliminary review of the potential impacts identified was conducted to determine if a reasonably foreseeable cumulative impact could occur. The resources that were determined to potentially contribute to significant cumulative impacts to a potentially considerable degree when combined with past, present, and reasonably foreseeable future projects are discussed below.

Public Services

The study area for assessing cumulative impacts on public services is the city of Riverside.

The proposed project would not increase the need for emergency services and therefore could not contribute to a cumulative impact related to demand for emergency services. Construction activities related to the project and to cumulative projects would be short term and could require temporary lane closures, rerouting of traffic, and other activities that could affect emergency response times. However, for the proposed project and the cumulative projects, the affected emergency service response times associated with construction would be temporary, and detour routes would be provided. Therefore, the project, in consideration with other projects that could occur during the same timeframe, would not result in a cumulative impact related to emergency services.

The study area for assessing impacts related to access to CBU is a one-mile radius around the project area. The SR-91/Adams Street interchange serves as the primary access point to CBU, a private university. The project construction could cause temporary disruptions to the campus and to access to the campus. Cumulative projects within the area may also result in similar impacts and be under construction at the same time. CBU Specific Plan projects would be coordinated with the proposed project to minimize effects. Projects associated with other cumulative projects may result in access impacts. Implementation of measure **COM-1** to coordinate with CBU to reduce temporary impacts would minimize the project's contribution to any potential cumulative impact to less than considerable.

Visual/Aesthetics

The project area is developed, and land use is primarily a mix of commercial, institutional, light industrial and single-family residential. There are no scenic highways, routes, or resources in the vicinity of the project area. The study area for evaluating cumulative visual impacts is a 0.5-

mile radius. Other projects in the area include development and transportation projects that, like the proposed project, would be largely consistent with the existing land uses. While there may be temporary impacts from construction, long-term impacts would likely be less than significant, because projects would comply with the policies and goals of the City of Riverside General Plan. However, increasing density and/or changes in development could result in a cumulative impact. Construction of Build Alternative 7 (Locally Preferred Alternative) would also not substantially alter the existing views of and from the SR-91/Adams Street interchange. The proposed ramp realignments, noise barriers, and new signage would be consistent with the existing roadway features. The visual quality of the existing corridor would be somewhat altered by the proposed project build alternative, but the new improvements would not result in a change that would alter the visual quality of the corridor. Additionally, measures **VIS-1** to install landscaping and **VIS-2** to incorporate aesthetic features, would further reduce this impact. Therefore, while the project could contribute to a cumulative visual impact, the contribution would not be considerable.

Water Quality and Stormwater

The study area for evaluating cumulative impacts on water quality and stormwater is the Santa Ana River Hydrologic Unit, the Middle Santa Ana River Hydrologic Area and the Arlington Hydrologic Sub-Area. Reach 3 of the Santa Ana River is listed as a Section 303(d) impaired water body and therefore the health of the resource is poor and a cumulative impact exists. The project could result in short-term effects on the water quality in the area, due to runoff during construction and from erosion. However, implementation of a SWPPP would reduce long-term water quality impacts due to implementation of the proposed project. Any potential impacts associated with additional sediment discharge risks, increased runoff, altered drainage patterns, or water quality degradation would be reduced by installation/replacement of new drainage systems, post-construction erosion controls, and, as mentioned, a SWPPP that maintains BMPs. Therefore, the contribution of the project would be temporary and minimal and not considerable.

Air Quality

Analysis of air quality impacts is inherently cumulative, in that project emissions are analyzed with consideration of existing air quality thresholds and in that much of the analysis is based on traffic studies that incorporate cumulative information. Projects that exceed the project-specific significance thresholds are considered to be cumulatively considerable. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant. Construction of the project would result in short-term degradation of air quality related to dust from grading, hauling, and other activities and emissions from construction equipment. Measures to reduce emissions during construction have been identified for the proposed project in order to comply with regulations. With these measures, the project's contribution to a cumulative impact on air quality would not be considerable.

Once constructed, the project is not anticipated to have any impacts related to air quality because it would not increase traffic volumes and it would reduce congestion and idling. The project would have no impact and would not contribute to a cumulative impact.

Greenhouse Gas Emissions

Analysis of greenhouse gas emissions is inherently cumulative and the discussion in Section 3.2.8, *Greenhouse Gas Emissions*, describes the methods and results of this analysis in more depth. That analysis determined that the proposed project would have a less-than-significant

impact, or a less than considerable contribution to the cumulative impact. The analysis discusses construction emissions, which would be approximately 2,000 metric tons of CO_2e emissions over 24 months. Project operations would not result in any increase in greenhouse gas emissions compared to No-Build conditions in 2047. The project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. With implementation of construction-related GHG emissions reduction measures, the project's contribution to the cumulative impact would not be considerable.

Energy

The study area for analysis of cumulative impacts related to transportation fuels is statewide. Because compliance with stringent vehicle efficiency standards is mandated to mitigate the cumulative energy impacts of the proposed project and all other projects and developments in the service areas, the proposed project is not expected to result in a substantial contribution toward a cumulatively considerable energy impact. Furthermore, the project is not expected to affect operational energy requirements, and the energy requirements during the short-term (two-year) construction period would not require new or expanded sources of energy or new infrastructure to meet the energy demand associated with project construction.

2.5.4 Avoidance, Minimization and/or Mitigation Measures

No additional measures are planned for cumulative impacts.

Chapter 3 CEQA Evaluation

3.1 Determining Significance under CEQA

The proposed project is a joint project by the California Department of Transportation (Department) and the Federal Highway Administration (FHWA) and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). FHWA's responsibility for 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 United States Code (USC) Section 327 and the Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans. The Department is the lead agency under CEQA and NEPA.

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

CEQA, on the other hand, does require the Department to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an EIR must be prepared. Each and every significant effect on the environment must be disclosed in the EIR and mitigated if feasible. In addition, the CEQA Guidelines list a number of "mandatory findings of significance," which also require the preparation of an EIR. There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of this project and CEQA significance.

3.2 CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects will indicate that there are no impacts to a particular resource. A NO IMPACT answer in the last column reflects this determination. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project, and standardized measures that are applied to all or most Caltrans projects such as Best Management Practices (BMPs) and measures included in the Standard Plans and Specifications or as Standard Special Provisions, are an integral part of the project and have been considered prior to any significant determinations documented below; see Chapters 1 and 2 for a detailed discussion of these features. The annotations to this checklist are summaries of information contained in

Chapter 2 in order to provide the reader with the rationale for significance determinations; for a more detailed discussion of the nature and extent of impacts, please see Chapter 2. This checklist incorporates by reference the information contained in Chapters 1 and 2.

3.2.1 Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐		☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

3.2.1.1 CEQA Significance Determinations for Aesthetics

a), b) No Impact. SR-91 within the project area is not designated as a State Scenic Highway. No trees, rock outcroppings, historic buildings, or officially designated scenic vistas or scenic views would be affected by the project. The project is in an urbanized area within the city of Riverside. Therefore, there would be no impact on scenic resources within a State Scenic Highway.

c) Less than Significant. The project is located in an urbanized area. It is an interchange improvement project located along SR-91. It would not conflict with any zoning or other regulations governing scenic quality and would generally be consistent with the current visual landscape. The visual quality of the existing corridor would be somewhat altered by the proposed project build alternative, but the new improvements would not result in a change that would alter the visual quality of the corridor in a significant way. The proposed build alternative would result in less area for landscape future improvements than currently exists. Measures **VIS-1** to install landscaping and **VIS-2** to incorporate aesthetic features, would ensure that impacts would be less than significant.

d) No Impact. Although the project would involve roadway improvements, it would not introduce a new source of light or glare that would adversely affect daytime or nighttime views in the area. Therefore, there would be no impact related to light and glare.

3.2.2 Agriculture and Forest Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.				
Would the project:	**Significant and Unavoidable Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

3.2.2.1 CEQA Significance Determinations for Agriculture and Forest Resources

a), b), c), d), e) No Impact. According to the California Department of Conservation's Farmland Mapping and Monitoring Program, no areas near or within the project area are designated as Prime Farmland, Unique Farmland, or Farmland or Statewide Importance.

No part of the proposed project would occur in areas that are designated as Farmland or under a Williamson Act contract.

The project is in an urban area within the city of Riverside. It is not within or near areas designated as forestland or timberland.

Therefore, there would be no impacts related to the loss or conversion of farmlands, forests, or timberlands.

3.2.3 Air Quality

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.				
Would the project:	**Significant and Unavoidable Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

3.2.3.1 CEQA Significance Determinations for Air Quality

a) No Impact. The proposed project is located in the South Coast Air Basin (SCAB), within the jurisdiction of the South Coast Air Quality Management District (SCAQMD) and the California Air Resources Board (CARB). SCAQMD is the primary agency responsible for writing the Air Quality Management Plan (AQMP), which provides the blueprint for meeting state and federal ambient air quality standards, in cooperation with the Southern California Association of Governments (SCAG), local governments, and the private sector. SCAQMD prepares and updates the AQMPs for various pollutants with emissions inventories, based on data from SCAG, including the regional transportation planning documents prepared by SCAG.

As discussed in Section 4.3 of the Air Quality Report, the project is included in the SCAG 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) under project number 3M01WT022- RIV131202 and incorporated into the SCAG 2023 Federal Transportation Improvement Program (FTIP). FHWA and the Federal Transit Administration's (FTA) approved the 2020–2045 RTP/SCS on June 5, 2020, and the 2023 FTIP on December 15, 2022. The project's design, concept, and scope have not changed significantly from what was analyzed in the regional emission analysis prepared for the federally approved 2020–2045 RTP/SCS and the 2023 FTIP. The air quality conformity analysis prepared for the RTP/SCS and FTIP found that the plans, which account for regionally significant projects and financial constraints, would conform to the State Implementation Plans for attaining and maintaining the National Ambient Air Quality Standards, as provided in Section 176(c) of the federal Clean Air Act.

The 2016 AQMP was adopted by the SCAQMD Governing Board on March 3, 2017. It incorporates the latest scientific and technological information and planning assumptions, including the 2020–2045 RTP/SCS and updated emission inventory methodologies for various source categories. Because the project is included in the SCAG 2020–2045 RTP/SCS, it is consistent with the SCAQMD AQMP. Therefore, the project would not conflict with or obstruct implementation of the applicable air quality plan, and there would be no impact.

b), c) Less-than-Significant Impact. As discussed in Chapter 3 of the Air Quality Report, the project is within a federal nonattainment area for particulate matter with a diameter of 2.5 microns or less ($PM_{2.5}$) and an attainment/maintenance area for particulate matter with a diameter of 10 microns or less (PM_{10}); however, the project was determined to not be a Project of Air Quality Concern (POAQC) for PM_{10} or $PM_{2.5}$ by SCAG's Transportation Conformity

Working Group (TCWG) on January 25, 2022 (ICF 2022). This determination was made because the project would not significantly increase total traffic volumes or result in a significant increase in the number of diesel vehicles. The determination is included in Section 4.3.2 of the Air Quality Report.

The Mobile Source Air Toxics (MSAT) analysis provided in Section 4.3.4 of the Air Quality Report shows that the project would have a low potential for MSAT effects because the proposed project would not result in substantial changes in traffic volumes or vehicle mix. In addition, MSAT emissions for the build alternative and No-Build Alternative in 2047 would be less than emissions under existing (2020) conditions because of improvements in engine emissions technologies as well as the retirement of older vehicles. On a regional basis, the U.S. Environmental Protection Agency's (U.S. EPA's) vehicle and fuel regulations, coupled with fleet turnover, will, over time, cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be significantly lower than they are today. Therefore, the project would not result in impacts related to MSAT emissions.

The project is within an attainment area for the state carbon monoxide (CO) standard and an attainment/maintenance area for the federal CO standard. Based on the screening process discussed in Section 4.3.1 of the Air Quality Report, project area intersections would not be suspected of resulting in higher CO concentrations than those existing within the region at the time of attainment demonstration.

According to Section 4.3 of the Air Quality Report, proposed Build Alternative 7 (2047) conditions would result in a decrease in emissions of approximately 55 percent for ROG, 47 percent for CO, and 61 percent for NO_X and increased emissions of approximately 13 percent for PM_{10} and 8 percent for $PM_{2.5}$ compared with existing conditions. Although PM_{10} and $PM_{2.5}$ emissions would increase under Build Alternative 7 in 2047 compared with existing conditions, increases in PM_{10} and $PM_{2.5}$ emissions would be greater under No-Build Alternative 2047 conditions (14 percent and 8 percent, respectively). Therefore, any increases in PM_{10} and $PM_{2.5}$ would not be attributed to the build alternative. Project operation would not increase criteria pollutants or expose sensitive receptors to substantial pollutant concentrations.

During construction, short-term degradation of air quality is expected from the release of particulate emissions (airborne dust) generated by grading, hauling, and other activities related to construction. Emissions from construction equipment powered by gasoline and diesel engines are also anticipated. These would include CO, NO_X, volatile organic compounds (VOCs), directly emitted PM_{10} and $PM_{2.5}$, and toxic air contaminants (TACs) such as diesel particulate matter (DPM). Construction is expected to increase congestion in the area, thereby increasing emissions from traffic during delays. However, such emissions would be temporary and limited to the immediate area surrounding the construction site. Compliance with SCAQMD rules and regulations during construction would reduce construction-related air quality impacts from fugitive dust emissions, construction equipment emissions, asbestos, and lead to less-than-significant levels through implementation of measures **AQ-1** through **AQ-4** (see Section 5.1 of the Air Quality Report). Therefore, the project's impact on regional air quality emissions would be less than significant. In addition, with implementation of these measures, the project would not expose sensitive receptors to substantial pollutant concentrations.

d) Less-than-Significant Impact. Project operation would not introduce new sources of emissions. Some phases of construction, particularly asphalt paving, would result in short-term odors in the immediate area of each paving site. Such odors would be quickly dispersed as distance from the site increases. Compliance with SCAQMD rules and Caltrans standard measures, in addition to measures **AQ-1** through **AQ-4**, would reduce any short-term project air quality impacts, including objectionable odors. Therefore, impacts would be less than significant.

3.2.4 Biological Resources

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or NOAA Fisheries?	☐		☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

3.2.4.1 CEQA Significance Determinations for Biological Resources

a) Less-than-Significant Impact. Project construction could result in vegetation removal and bridge replacement that could affect habitat for several bat species and migratory and/or special status birds. Measures **BIO-2** through **BIO-4** and **BIO-7** and **BIO-8** would restrict windows of construction and vegetation removal, and require preconstruction surveys. Project construction would also temporarily disturb and permanently remove potentially suitable habitat for breeding, foraging, and/or migrating monarch butterfly, which is a federal candidate species. Measure **BIO-9** will allow the project to avoid possible direct or indirect effects on monarch butterfly or potential suitable foraging and/or breeding habitat for this species that may be present within the BSA. Therefore, this impact would be less than significant with incorporation of the referenced measures. No compensatory mitigation for monarch butterfly is required.

b) No Impact. There is no riparian habitat or other sensitive natural communities within the BSA that would be affected directly, or indirectly, by the project. Therefore, there would be no impact.

c) No Impact. Although several aquatic features are present within the BSA, only one feature, the Riverside Canal, is potentially jurisdictional with respect to the U.S. Army Corps of Engineers and Regional Water Quality Control Board under Section 404 and 401 of the Clean Water Act (CWA) as well as Section 1600 of the California Fish and Game (CFG) Code.

However, no portion of the canal occurs within the project impact area. It is not expected that other features are regulated as waters of the United States under the CWA, Porter-Cologne Water Quality Control Act, or Section 1600 of the CFG Code. There would be no impact.

d) Less-than-Significant Impact. The project area is developed and experiences high levels of ongoing human disturbance. There is no contiguous vegetation that could be used by animals for food and shelter. Therefore, the project area does not provide habitat connectivity and there would be no impact on wildlife movement or corridors.

All developed and undeveloped portions of the BSA contain suitable nesting habitat (e.g., mature trees, shrubs, grasses, open areas for ground nesting birds) for a variety of avian species, including raptors, protected by the Migratory Bird Treaty Act or California Fish and Game Code sections. The proposed project has the potential to impact active native resident and/or migratory bird nests if, and to the extent that, those trees and shrubs are trimmed or removed, or ground cover is removed, during the avian nesting season and they contain nests. Construction could also occur adjacent to active nests causing nest failures or abandonment. Measures **BIO-7** and **BIO-8** would avoid or minimize any potential impacts on nesting birds. Thus, the impact would be less than significant with mitigation incorporated. No compensatory mitigation would be required.

e) No Impact. The proposed project would not conflict with local policies or ordinances for protecting biological resources. There would be no impact.

f) No Impact. The project site does not occur within or near any Western Riverside County Multiple Species Habitat Conservation Plan conservation area and no covered species or criteria area species were detected within the BSA during field surveys. The project would not conflict with the provisions of an adopted habitat conservation plan (including the Western Riverside County Multiple Species Conservation Plan), natural community conservation plan, or other approved local, regional, or state habitat conservation plan. Therefore, there would be no impacts.

3.2.5 Cultural Resources

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐

3.2.5.1 CEQA Significance Determinations for Cultural Resources

a) Less-than-Significant Impact. Physical effects on Rose Garden Village, Helgeson Buick Showroom, Royal Rose Apartments, Big Ben Clock Tower, Sinclair House, and Peterson House would not occur because their associated buildings are hundreds of feet away from the area of direct impact (ADI). The potential for visual, auditory, and atmospheric effects, if any, would be temporary and, therefore, minor.

b), c) Less-than-Significant Impact. Construction activities would occur in an urban environment; therefore, the potential for encountering intact archaeological resources and human remains is low. With implementation of measure **CR-1**, impacts on cultural materials discovered during construction would be avoided and/or minimized. With implementation of measure **CR-2**, if human remains are discovered, the Caltrans District 8 Environmental Branch and Native American Heritage Commission (NAHC) would work with the most likely descendant regarding respectful treatment and disposition of the remains. Therefore, impacts would be less than significant with incorporation of the referenced measures.

3.2.6 Energy

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

3.2.6.1 CEQA SIGNIFICANCE DETERMINATIONS FOR ENERGY

a), b) Less Than Significant Impact. The proposed project would use a minimal amount of energy during construction (e.g., excavation, cut-and-fill road work, demolition, and other related activities). Construction-related effects related to energy would very likely be greatest during the site preparation phase because of the energy use associated with excavation and transporting soil to and from the site. However, such construction activities would be short term in duration and, therefore, would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project construction.

During operation, the proposed project would accommodate existing traffic demand but would not create new demand, either directly or indirectly. The project would also not reduce congestion and/or improve the level of service with respect to traffic. As such, operation of the proposed project would not result in a wasteful, inefficient, or unnecessary consumption of energy resources.

California's Desert Renewable Energy Conservation Plan (DRECP) identifies 2,147,000 acres within Riverside County that are potentially suitable for renewable energy development. The proposed project is not within the DRECP planning boundary (California Energy Commission 2010). As such, the project would not result in a significant impact with respect to obstructing a state or local plan regarding renewable energy or energy efficiency. Therefore, impacts would be less than significant.

3.2.7 Geology and Soils

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

3.2.7.1 CEQA Significance Determinations for Geology and Soils

a i) through a iv), c) Less-than-Significant Impact. The project site is in the seismically active Southern California region. In addition, some areas south of Indiana Avenue occur within a designated liquefaction zone where lateral spreading could occur. However, based on available data, on-site soil is not considered expansive. The proposed build alternative is not anticipated to adversely affect geologic or topographic conditions or be affected by fault rupture within the project limits. The primary geologic and geotechnical constraint associated with the design and construction of the build alternative is seismic shaking.

The proposed project includes the construction of new structures and replacement of existing structures. Existing ramps would also be improved. Design and construction of the proposed project would follow Caltrans' current seismic design standards for highways and structures. A Geotechnical Report, a Materials Report, and a Foundation Report will be prepared during the final design phase of the project to confirm structural and roadway design requirements. With implementation of standard measures, impacts related to exposing people or structures to potential substantial adverse effects would be less than significant.

b) Less-than-Significant Impact. Excavated soil would be exposed during construction, increasing the potential for soil erosion. Implementation of standard control techniques, including erosion control measures that would be part of the stormwater pollution prevention plan (SWPPP) would ensure that this impact would be less than significant.

d) No Impact. The subsurface soils at the site are expected to consist of engineered fill underlain by alluvial deposits composed predominately of silty sand and sand. Consistency of the soils is increasing with depth, typically from loose to dense. Coarse-grained soils (sandy soils) are generally anticipated to be non-expansive or have a very low expansion potential. Soil expansion potential will be evaluated during the PS&E phase for the proposed project. The proposed project would not create substantial direct or indirect risks to life or property from expansive soils; therefore, no impact is anticipated in this regard.

e) No Impact. The proposed project would not result in the use of septic tanks. No impact is anticipated in this regard.

f) Less than Significant with Mitigation Incorporated. Geologic mapping indicates that the entire project area is underlain by Pleistocene-age older alluvial fan deposits (Qoa), which are characterized as having high paleontological sensitivity. As such, excavations within the project area that would affect Pleistocene-age older alluvial fan deposits (Qoa) may result in an adverse direct impact on scientifically important paleontological resources. With implementation of measure **PAL-1**, a Paleontological Mitigation Plan (PMP) would be prepared to detail procedures for monitoring, recovery, and notification in the event of a fossil discovery. Therefore, impacts related to the destruction of a unique paleontological resource or site or a unique geologic feature would be less than significant with mitigation incorporated.

3.2.8 Greenhouse Gas Emissions

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

3.2.8.1 CEQA Significance Determinations for Greenhouse Gas Emissions

a) Less-than-Significant Impact. An individual project does not generate enough greenhouse gas (GHG) emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact though its incremental change in emissions when combined with the contributions of all other sources of GHGs. In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (CEQA Guidelines Sections 15064(h)(1) and 15130). To make this determination, the incremental impacts of the project must be compared to the past, current, and probable future projects. The task of gathering sufficient information on a global scale regarding all past, current, and future projects to make this determination is difficult, if not impossible.

GHG emissions for transportation projects can be divided into those produced during construction and those produced during operations. The following presents a best-faith effort to describe potential GHG emissions related to the proposed project.

Construction GHG emissions would result from material processing and transportation, on-site construction equipment, and traffic delays due to construction. These emissions would be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

Use of long-life pavement, improved traffic management plans, and changes in materials, can also help offset emissions produced during construction by allowing longer intervals between maintenance and rehabilitation activities. Refer to measures **GHG-1**, **CC-1**, and **CC-2**.

Construction-period GHG emissions were modeled using the Sacramento Metropolitan Air Quality Management District's Road Construction Emissions Model, version 9.0.0. The proposed project is estimated to total approximately 3,004.75 metric tons over the course of the approximately 2-year construction period.

The purpose of the proposed project is to reduce congestion and improve traffic circulation by reconstructing the existing SR-91/Adams Street interchange without increasing capacity. As the project would not increase vehicle capacity, no increase in vehicle miles traveled (VMT) would occur as a result of project implementation. Therefore, implementation of Build Alternative 7 would not result in an increase in GHG emissions compared with No-Build conditions in 2047. Additionally, the GHG emissions under the No-Build and Build conditions in 2047 would not increase relative to emissions under Existing (2020) conditions.

b) Less-than-Significant Impact. The proposed project is included in SCAG's 2020–2045 RTP/SCS (SCAG 2020) as RTP ID 3M01WT022- RIV131202. CARB's regional reduction target

for SCAG as of October 2018 is 8 percent by 2020 and 19 percent by 2035, compared to 2005 levels (CARB 2021b). (The 2016 RTP/SCS used earlier targets of a 9 percent per capita reduction by 2020 and a 16 percent per capita reduction by 2035. It should be noted that the SCAG planning region comprises Imperial, Orange, San Bernardino, and Ventura Counties in addition to Riverside County, and that targets apply in the region as a whole and to all GHG emission sources, not individual counties or transportation alone.) The RTP/SCS concluded that implementing the plan would result in an 8 percent per capita GHG reduction by 2020, an 18 percent reduction by 2035, and a 21 percent reduction by 2047.

Additionally, the County of Riverside updated their adopted Climate Action Plan (CAP) in 2019. The County's CAP outlines measures to help Riverside County meet CARB and State-wide reduction goals by reducing GHG emissions by 15 percent by 2020, 49 percent by 2030, and 83 percent by 2050. The CAP update estimates that if State and Riverside County measures are successfully implemented, the County will be able to reduce GHG emissions beyond state and CARB targets by 2050 (County of Riverside 2019). Strategies that will be implemented under the project to reduce GHG emissions and potential climate change impacts are summarized in Section 3.3.5 below. As such, the project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

3.2.9 Hazards and Hazardous Materials

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

3.2.9.1 CEQA Significance Determinations for Hazards and Hazardous Materials

a), b) Less-than-Significant Impact. During construction, the potential exists for encountering hazardous materials in soils as well as road and structural materials. Such hazardous materials could include aerially deposited lead (ADL) as well as lead chromate and treated wood waste. In addition, up to 10 parcels have been identified for further follow-up site investigation and Phase 2 environmental site assessment. Construction on these sites could result in the disturbance of hazardous materials that could present a risk to workers and the public. This could be a significant impact. Implementation of measure **HAZ-1**, requiring follow-up site investigations and Phase 2 studies of those parcels, would reduce this impact to less than significant. The hazardous materials anticipated to be used during construction, as well as any hazardous waste encountered or disturbed, would be handled in accordance with all applicable federal, state, and local regulations. In addition, Caltrans policies regarding the use, storage, handling, disposal, and transport of hazardous waste/materials would be adhered to. Routine maintenance activities during operation would be required to follow applicable regulations and requirements with respect to the handling and disposing of potentially hazardous materials. As such, with implementation of **HAZ-1**, the proposed project would result in a less-than-significant impact related to hazardous wastes and materials.

c) Less-than-Significant Impact. Although the project site is adjacent to the California Baptist University (CBU) campus, as discussed above, the handling of hazardous materials during both construction and operation would be subject to strict regulation. Therefore, impacts related to emissions or the handling of hazardous materials near existing or proposed schools would be less than significant.

d) No Impact. None of the locations of recognized environmental concern associated with the proposed project are included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. There would be no impact.

e) No Impact. The project is not within an airport land use plan area or within 2 miles of a public airport or public use airport. Therefore, the project would not result in a safety hazard or excessive noise for people residing or working in the project area, and there would be no impact.

f) Less-than-Significant Impact. During construction, the project would require short-term closure of ramps and modifications to existing facilities. The temporary closures and detours could have short-term impacts on emergency response and evacuation procedures within the project area, which would be a significant impact. However, a Transportation Management Plan (TMP) would be implemented during construction as a part of measure **TRAF-1**, and coordination with emergency service providers would be required, reducing potential impacts related to emergency response plans to a less-than-significant level.

g) No Impact. The project site is in a developed urban area that is not surrounded by the brush and grass typically found in wildland fire areas. According to the Fire Hazard Severity Zone maps of the California Department of Forestry and Fire Protection (CAL FIRE), the project area has not been categorized as a high or very high Fire Hazard Severity Zone (CAL FIRE 2007). The project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fire. Therefore, there would be no impact.

3.2.10 Hydrology and Water Quality

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
(iv) impede or redirect flood flows?	☐	☐	☐	☒
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

3.2.10.1 CEQA Significance Determinations for Hydrology and Water Quality

a), c i) through iii), e) Less-than-Significant Impact. The potential temporary effects of the proposed project on the quality of the water in the area would be associated with runoff during construction, including runoff from erosion. All major construction within Caltrans' right of way would conform to Caltrans' Statewide National Pollution Discharge Elimination System (NPDES) Permit No. CAS000003 and General NPDES Permit for Construction Activities No. CAS000002, which regulate stormwater and non-stormwater discharges. The construction contractor would be required to develop, implement, and maintain a SWPPP that (1) meets the requirements of the Construction General Permit and identifies potential pollutant sources associated with construction activities, (2) identifies non-stormwater discharges, and (3) identifies, implements, and maintains BMPs to reduce or eliminate pollutants associated with the construction site. BMPs would reduce long-term water quality impacts due to implementation of the proposed project. Measures **WQ-1** through **WQ-3** will be implemented to minimize impacts to water quality during construction activities.

The project would result in up to 2.60 acres of net new impervious surface area throughout the project area, which would increase the volume of runoff during a rain event. However, compared with the size of the watershed area, the new impervious surface area would account for only 0.006 percent of the acreage of the watershed area within which the project limits are located. Although pavement widening could result in a slightly higher volume of runoff due to increased

runoff, increases in sediment loading are not anticipated. The existing drainage design would either be modified to fit with new drainage systems or removed and replaced by new systems. Therefore, the project would not affect the ability of receiving waters to accommodate added flows. Post-construction erosion controls would be required to ensure that the project site would not pose any additional sediment discharge risks than it did prior to the beginning of construction. Furthermore, roadway drainage would be designed to discharge to permanent treatment BMPs so that stormwater can either be treated before being discharged into a receiving water or infiltrated into the ground to the maximum extent practicable. As such, the project would result in a less-than-significant impact related to increased runoff, altered drainage patterns, or water quality degradation.

b), c iv), d) No Impact. The volume of water used for construction, dust control, and other uses would be minimal; therefore, construction activities would not deplete groundwater supplies or interfere with groundwater recharge. The project would not result in a significant floodplain encroachment, as defined in 23 California Code of Regulations (CFR) 650.105. In addition, the project would not involve the development of housing. The proposed roadway improvements would not have the potential to expose people or property to substantial risk of loss, injury, or death involving flooding; therefore, no impacts in this regard are expected.

3.2.11 Land Use and Planning

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

3.2.11.1 CEQA Significance Determinations for Land Use and Planning

a) No Impact. The project would introduce improvements at an existing interchange. Project improvements would not include new buildings or structures that would create a barrier and impede community cohesion or physically divide an established community.

b) Less Than Significant Impact. The project would improve mobility and relieve congestion at the SR-91/Adams Street interchange. Some land uses would be changed to transportation land uses; however, surrounding land uses would be maintained. The project would not conflict with any applicable plans, policies, or regulations and future development projects in the area would be analyzed on a project-by-project basis. Therefore, less than significant impacts are anticipated.

3.2.12 Mineral Resources

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

3.2.12.1 CEQA Significance Determinations for Mineral Resources

a), b) No Impact. According to Section 510, Mineral Resources, of the *City of Riverside General Plan and Supporting Documents EIR* (City of Riverside 2007b), the project area is in Mineral Resource Zone (MRZ) 4, meaning that insufficient data are available for making a determination as to the presence of significant mineral resources in the area. However, the project is located in a developed area that is not currently used for mineral extraction. The project would not result in areas that are currently accessible being inaccessible in the future. Therefore, the project itself would not result in the loss of availability of mineral resources and no impact in this regard is anticipated.

3.2.13 Noise

Would the project result in:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

3.2.13.1 CEQA Significance Determinations for Noise

a) Less-than-Significant Impact. When considering noise impacts under CEQA, the baseline noise level is compared to the build noise level. Caltrans' Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects (Protocol), takes the guidelines provided under 23 CFR Part 772 for preparing operational and construction noise studies and evaluating noise abatement and applies them to Caltrans projects. According to the Protocol, there is a potential for a project to cause a significant adverse environmental effect due to noise if the project is predicted to result in substantial noise increases (i.e., a 12 decibel [dB] increase) over the existing noise level. Under CEQA, the assessment entails looking at the setting of the noise impact and then how large or perceptible any noise increase would be in the given area. Key considerations include: the uniqueness of the setting, the sensitivity of the noise receptors, the magnitude of the noise increase, the number of residences affected, and the absolute noise level.

A field investigation was conducted to identify land uses that could be subject to traffic and construction noise impacts from the project. Land uses in the project area consist of primarily commercial uses, residences with backyards, and recreational uses. The focus was on locations with defined outdoor activity areas, such as outdoor seating areas and residential backyards; commercial buildings without outdoor areas that could be used frequently by tenants were not included.

The noise modeling results indicate worst-hour traffic noise levels at the modeled receivers in the existing year ranged from 51 A-weighted decibels, hourly equivalent sound level (dBA Leq(h)) to 70 dBA Leq(h). For the design-year No-Build condition, the worst-hour noise levels are predicted to range from 52 dBA Leq(h) to 71 dBA Leq(h). Under the Build Alternative 7 design-year condition, the worst-hour noise levels are predicted to range from 53 dBA Leq(h) to 74 dBA Leq(h). The increase in noise levels, relative to existing conditions, is predicted to be in the range of 0 to 12 dB under the design build condition. The 12 dB increase would occur at a commercial land use (receiver M03.04, Activity Category F) located on the south side of SR-91 between Adams Street and Jefferson Street. As the project setting is highly urbanized, with the receiver operating as a used car dealership, and because of the proximity to SR-91, the magnitude of the noise increase is not considered substantial and would not result in a

significant noise impact under CEQA. No other receivers would have noise levels greater than 5 dB when compared with existing conditions Therefore, under CEQA, impacts are considered less than significant and no mitigation is required.

Construction Noise Impacts

During construction of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. However, construction noise would be short term, lasting only during the construction period. In addition, construction would be conducted in accordance with Caltrans Standard Specification Section 14-8.02, Noise Control. The project's potential to expose people to or generate noise levels in excess of standards established in a general plan or noise ordinance, or applicable standards of other agencies, are anticipated to be less than significant with implementation of measures listed in Section 2.3.7.6 (**NOI-1** through **NOI-3**).

b) Less-than-Significant Impact. Any groundborne noise or vibration would be limited to the construction period and would be short term in duration. Construction would involve reconfiguration of the SR-91/Adams Street interchange in an area that experiences noise levels consistent with an active interstate highway. The project would comply with measures **NOI-1, NOI-2** and **NOI-3**, and as such, impacts related to the generation of excessive groundborne vibration or groundborne noise are anticipated to be less than significant.

c) No Impact. The nearest airport is the Riverside Municipal Airport, located approximately 2 miles northwest the project site at 6951 Flight Road in the City of Riverside. The Riverside Municipal Airport has a flight tower and two runways servicing business-class aircraft and small cabin-class aircraft. There are no habitable structures proposed as part of the project and no noise impacts related to air traffic would occur. The project is not expected to expose people residing or working in the project area to excessive noise levels.

3.2.14 Population and Housing

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.2.14.1 CEQA SIGNIFICANCE DETERMINATIONS FOR POPULATION AND HOUSING

a), b) No Impact. Potential growth-related impacts were evaluated using the first-cut screening analysis. Because no new transportation facilities would be constructed, the results of the analysis indicate that the project would not change accessibility. In addition, the project would accommodate existing and planned growth but would not influence growth beyond what is currently planned. As such, the project would not induce substantial unplanned population growth in the area, either directly or indirectly.

Although the project would require the displacement of some businesses, relocation assistance would be provided. The displacement of businesses would not necessitate the construction of replacement housing elsewhere. Therefore, there would be no impact.

3.2.15 Public Services

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☒	☐

3.2.15.1 CEQA Significance Determinations for Public Services

a) (fire protection, police protection, schools, other public facilities)

Less-than-Significant Impact. The project would not result in a partial acquisition or temporary construction easement (TCE) involving any emergency service facility within 500 feet of the project area. However, the project would involve construction activities that would require nearby temporary lane closures, the rerouting of traffic, and other activities. Construction activities could result in traffic delays that could affect the ability of fire, law enforcement, and emergency service providers to meet response-time goals. However, the affected emergency service response times associated with construction would be temporary, and detour routes would be provided. Traffic-related impacts would be minimized by providing alternative routes and access points. With implementation of measure **COM-1**, Caltrans would coordinate with local emergency providers and communicate with the surrounding community prior to construction to minimize construction-related impacts as a part of the TMP.

The SR-91/Adams Street interchange serves as the primary access point to the CBU campus, a private university that could experience temporary disruptions associated with project construction. Furthermore, other nearby public schools, such as Madison Elementary School, Ramona High School, Chemewa Middle School, and Arlington High School, could also experience temporary disruption from project construction. This could be a significant impact. As part of measure **TRAF-1**, an avoidance and minimization measure for the project, a TMP would be prepared prior to construction. In addition, with implementation of measure **COM-1**, Caltrans would continue to coordinate with CBU and the Riverside Unified School District through project design and construction to make known construction-related delays and identify “workarounds” to reduce temporary impacts on those trying to access the CBU campus and nearby public schools. As such, although construction would result in temporary impacts related to access to a private university, area public schools, and quality of life, such impacts would not last beyond construction. Adequate measures would be taken to reduce construction impacts to the extent practicable. Impacts related to the provision of new or physically altered governmental facilities would be less than significant.

a) (parks) No Impact. There are several Class II bicycle lanes in the vicinity of the project and no other parks or public facilities. No impacts on parks or public facilities are anticipated as a result of the project because none are close enough to the project area to be affected by

construction activities. As such, the project would result in no impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities.

3.2.16 Recreation

Would the Project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

3.2.16.1 CEQA Significance Determinations for Recreation

a) No Impact. The project is a transportation improvement project that would not introduce any new housing or employment opportunities, and would only accommodate planned development. There would be no anticipated population increase and no potential to result in increased use of parks or other recreational facilities. There would be no impact.

b) No Impact. Two planned Class II bikeways along Adams Avenue and Indiana Avenue would be introduced as a part of the project. These would be within an existing roadway right of way. As such, inclusion of the bikeways would not result in an adverse physical effect on the environment. No impacts on other recreational facilities are anticipated as a result of the build alternative because none are close enough to the project area to be affected by construction activities.

3.2.17 Transportation/Traffic

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d) Result in inadequate emergency access?	☐	☐	☒	☐

3.2.17.1 CEQA Significance Determinations for Transportation/Traffic

a) No Impact. The project would be consistent with all plans and programs from the City of Riverside General Plan and County of Riverside General Plan. Therefore, the project would not conflict with a program, plan, ordinance, or policy pertaining to the circulation system, including transit, roadway, bicycle, and pedestrian facilities. Therefore, there would be no impact in this regard.

b) Less-than-Significant Impact. Consistent with Caltrans' *Transportation Analysis under CEQA*, the project would not result in measurable increases in VMT because the project would not add through lanes on existing or new highways, including general purpose lanes, HOV lanes, peak period lanes, auxiliary lanes, or lanes through grade-separated interchanges. As indicated in Section 15064.3 (2) transportation projects that reduce or have no impact on VMT should be presumed to cause a less-than-significant transportation impact. As such, less-than-significant impacts are anticipated in this regard.

c) Less-than-Significant Impact. The project would be designed, constructed, and operated consistent with the Caltrans *Highway Design Manual* and other applicable federal, state, and local standards and specifications for intersections, freeway on- and off-ramps, roadways, retaining walls, and pedestrian access improvements.

The project would reconfigure the existing tight diamond interchange by constructing hook ramps in the eastbound direction that would intersect Indiana Avenue east of the Adams Street Overcrossing. Hook off-ramps introduce a sharp curve at the ramp terminal that could pose a hazard to drivers exiting the freeway at a high speed. The project development team identified the below features that will be considered in the final design phase of the project to enhance the safety of the hook off-ramp; these features will continue to be bolstered as project development continues.

- Lengthen ramp farther west under the Adams Street Overcrossing bridge structure.
- Install signal ahead warning sign and associated pavement markings.
- Install curve warning sign with speed limit.
- Place chevron signs all along the length of the curve.
- Install warning signs along both sides of the ramp for greater emphasis.

- Post a lower speed limit on the ramp exit panel at the beginning of the ramp.
- Add speed reduction pavement markings along the ramp prior to the curves.
- Consider flashing beacons.
- Install overhead sign structure approaching the ramp terminal with lane assignment signs.
- Use roadside signs using LED borders, for enhanced visibility.

The project would not substantially increase hazards due to geometric design features or incompatible uses. As such, less-than-significant impacts are anticipated in this regard.

d) Less-than-Significant Impact. As noted above, construction activities would include short-term closures that would result in temporary impacts on emergency services. However, implementation of a TMP and coordination with emergency responders, as included as a part of measure **TRAF-1**, would be required. Therefore, impacts would be less than significant.

3.2.18 Tribal Cultural Resources

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☒	☐
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐

3.2.18.1 CEQA Significance Determinations for Tribal Cultural Resources

a), b) Less-than-Significant Impact. There are no known tribal cultural resources within the area of potential effect (APE) that are listed in or eligible for listing in the California Register of Historical Resources (CRHR) or a local register.

Consultation with the NAHC and several Native American tribes was conducted to comply with AB 52. The NAHC was contacted on June 18, 2020, with a request for a Sacred Lands File search and a contact list with Native American tribes and interested individuals with cultural ties to the project area. The NAHC responded on June 19, 2020, stating that a search of the Sacred Lands File revealed no sacred lands or traditional cultural properties in proximity to the APE. The NAHC also provided a list of Native American contacts who might have knowledge of cultural resources in the project area. With input from the Caltrans District 8 Native American coordinator, Section 106 outreach letters and maps of the project APE were sent to five identified Native American groups on November 12, 2020. The letters included a description of the project area and a map indicating the project location. Groups that did not respond were contacted by phone on December 24, 2020, and a follow-up email was sent the same day.

Responses have been received from three of the five Native American groups. Cheryl Madrigal of the Rincon Band of Luiseño Indians responded by email on December 7, 2020, and identified the location as being within the territory of the Luiseño people and Rincon's specific area of historic interest. She requested copies of documents pertaining to the project and would like to consult on the project to be aware of any potential impacts on cultural resources. A copy of the Archaeological Survey Report (ASR) was forwarded for review on October 18, 2021. Ms. Madrigal responded on December 6, 2021, stating that the tribe has no further comments.

Juan Ochoa responded by email on behalf of Gary Dubois and the Pechanga Band of Luiseño Indians on December 28, 2020, and stated that the project is within Luiseño territory and that

the tribe requests consultation with Caltrans for the duration of the project. A copy of the ASR, found in Attachment D of this document, was forwarded for review on October 18, 2021. Juan Ochoa responded on October 19, 2021, stating that he had received the document and would review it in the coming weeks. No further communications have been received to date.

Dr. Shasta Gaughen, Tribal Historic Preservation Officer (THPO) of the Pala Band of Mission Indians, responded by email to Caltrans District 8 on December 29, 2020. Dr. Gaughen did not identify the project area as part of Pala's traditional use area. Dr. Gaughen deferred to the wishes of tribes that are closer to the project area.

Ann Brierty, THPO of the Morongo Band of Mission Indians, and Joseph Ontiveros, THPO of the Soboba Band of Luiseno Indians, did not respond to contact letters from November 16, 2020, or phone calls and emails from December 24, 2020.

A summary of the consultation and copies of any correspondence are provided in Attachment E of the Historic Property Survey Report (HPSR), Native American Consultation.

Though there are no known tribal cultural resources, it is possible that construction could result in the inadvertent discovery of a tribal cultural resources, which could be a significant impact. In the event that previously unknown buried cultural materials and human remains are encountered during construction, measures **CR-1** and **CR-2** would be implemented, reducing the impact to a less-than-significant level.

3.2.19 Utilities and Service Systems

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	☒
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

3.2.19.1 CEQA Significance Determinations for Utilities and Service Systems

a) Less-than-Significant Impact. The proposed project would require the relocation of some overhead power lines within the project limits. Although the relocation of overhead power lines is not anticipated to result in adverse impacts, with implementation of measure **UT-1**, a Utility Relocation Plan would be developed to avoid and minimize potential impacts. The Utility Relocation Plan would be prepared in cooperation with the utility provider to identify the relocation area and minimize impacts on various resources. Should the relocation of utilities result in impacts on resources not analyzed in this environmental document, additional environmental documentation would be required. However, the relocation of power lines would be done in coordination with the appropriate utility companies. Coordination would focus on relocating facilities in such a manner as to minimize environmental impacts and ensure ongoing maintenance and repairs. As such, impacts would be less than significant.

b), c), d), e) No Impact. Construction of the proposed project is not expected to generate the need for new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunication facilities. The proposed project would improve or install on-site and off-site drainage structures to facilitate the flow of floodwater within the project limits. However, these improvements would not have any effects on existing flows. No new or expanded entitlements would be needed with the proposed project. Furthermore, the proposed project would not require wastewater treatment. However, the proposed project would require the use of a local landfill, if applicable, to dispose of demolition materials during construction. The use of local landfills would be temporary, lasting only the duration of construction. It is Caltrans policy to recycle materials whenever possible. This includes relocating usable signs and metal guardrails. The signs identified for removal would be available for recycling.

Furthermore, the proposed project would be in compliance with all federal, state, and local solid waste statutes and regulations.

3.2.20 Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

3.2.20.1 Regulatory Setting

SB 1241 requires the Office of Planning and Research, the Natural Resources Agency, and CAL FIRE to develop amendments to the CEQA checklist and include questions related to fire hazard impacts for projects located on lands classified as Very High Fire Hazard Severity Zones. The 2018 updates to the CEQA Guidelines expanded this requirement to include projects “near” Very High Fire Hazard Severity Zones. The project is not located in or near a Very High Fire Hazard Severity Zone.

3.2.20.2 CEQA Significance Determinations for Wildfire

a) No Impact. Construction activities have the potential to result in temporary, localized, site-specific disruptions during the construction period. This could lead to an increase in delay times for emergency response vehicles and disruption of traffic during construction. However, the proposed project would include preparation and implementation of a TMP as part of measure **TRAF-1**. All routes for emergency service providers would be maintained during construction, or alternative routes would be provided. All emergency service providers would be alerted in advance of any temporary road closures, giving them adequate time to make appropriate accommodations and provide prompt emergency response times that meet the defined service objectives. Therefore, impacts would be less than significant during the construction period.

b), c), d) No Impact. According to the Fire Hazard Severity Zone maps from CAL FIRE, the majority of the project area is not categorized as a Very High Fire Hazard Severity Zone (CAL FIRE 2009). However, the project would not install any new infrastructure, such as powerlines or other utilities, that could exacerbate existing wildfire risks. Furthermore, it would not expose people or structures to significant wildfire risks. Embankments, including fill slopes and side slopes, would be constructed per the standards described in the *Highway Design Manual*, sixth edition, Index 304/1, Side Slope Standards.

3.2.21 Mandatory Findings of Significance

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	☒
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

3.2.21.1 CEQA Significance Determinations for Mandatory Findings of Significance

a) Less-than-Significant Impact. The project area is developed and largely urban and would redesign an existing interchange. The project would not affect any cultural resources or substantially degrade the quality of the environment.

There is little habitat for wildlife that could be converted and therefore lost. As discussed above, impacts on bird and bat species are temporary and would be minimized through avoidance and minimization measures. Therefore, the project does not have the potential to substantially reduce the habitat of any wildlife species or to threaten to eliminate any plant or animal species.

b), c) No Impact. As discussed in detail in Section 2.4, the proposed project would not result in cumulatively considerable impacts when considered with past, present, and reasonably foreseeable future projects and therefore would have no cumulative impacts. The proposed project would not result in environmental effects that would have substantial effects on human beings, either directly or indirectly.

3.3 Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the Earth's climate system. The Intergovernmental Panel on Climate Change, established by the United Nations and World Meteorological Organization in 1988, is devoted to greenhouse gas (GHG) emissions reduction and climate change research and policy. Climate change in the past has generally occurred gradually over millennia, or more suddenly in response to cataclysmic natural disruptions. The research of the Intergovernmental Panel on Climate Change and other scientists over recent decades, however, has unequivocally attributed an accelerated rate of climatological changes over the past 150 years to GHG emissions generated from the production and use of fossil fuels.

Human activities generate GHGs consisting primarily of carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF_6), and various hydrofluorocarbons (HFCs). CO_2 is the most abundant GHG; while it is a naturally occurring and necessary component of Earth's atmosphere, fossil-fuel combustion is the main source of additional, human-generated CO_2 that is the main driver of climate change. In the U.S. and in California, transportation is the largest source of GHG emissions, mostly CO_2.

The impacts of climate change are already being observed in the form of sea level rise, drought, more intense heat, extended and severe fire seasons, and historic flooding from changing storm patterns. Both mitigation and adaptation strategies are necessary to address these impacts. The most important mitigation strategy is to reduce GHG emissions. In the context of climate change (as distinct from CEQA and NEPA), "mitigation" involves actions to reduce GHG emissions or to enhance the "sinks" that store them (such as forests and soils) to lessen adverse impacts. "Adaptation" is planning for and responding to impacts to reduce vulnerability to harm, such as by adjusting transportation design standards to withstand more intense storms, heat, and higher sea levels. This analysis includes a discussion of both in the context of this transportation project.

3.3.1 Regulatory Setting

This section outlines federal and state efforts to comprehensively reduce GHG emissions from transportation sources.

3.3.1.1 FEDERAL

To date, no national standards have been established for nationwide mobile-source GHG reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the project level.

The National Environmental Policy Act (NEPA) (42 United States Code [USC] Part 4332) requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision on the action or project.

The Federal Highway Administration (FHWA) recognizes the threats that extreme weather, sea level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. FHWA therefore supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices (FHWA 2019). This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values— "the triple bottom line of sustainability" (FHWA n.d.). Program and project elements that foster sustainability and

resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life.

The federal government has taken steps to improve fuel economy and energy efficiency to address climate change and its associated effects. The most important of these was the Energy Policy and Conservation Act of 1975 (42 USC Section 6201) as amended by the Energy Independence and Security Act (EISA) of 2007; and Corporate Average Fuel Economy (CAFE) Standards. This act established fuel economy standards for on-road motor vehicles sold in the United States. The U.S. Department of Transportation's National Highway Traffic and Safety Administration (NHTSA) sets and enforces the CAFE standards based on each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the United States. The Environmental Protection Agency (U.S. EPA) calculates average fuel economy levels for manufacturers, and also sets related GHG emissions standards under the Clean Air Act. Raising CAFE standards leads automakers to create a more fuel-efficient fleet, which improves our nation's energy security, saves consumers money at the pump, and reduces GHG emissions (U.S. DOT 2014).

U.S. EPA published a final rulemaking on December 30, 2021, that raised federal GHG emissions standards for passenger cars and light trucks for model years 2023 through 2026, increasing in stringency each year. The updated GHG emissions standards will avoid more than 3 billion tons of GHG emissions through 2050. In April 2022, NHTSA announced corresponding new fuel economy standards for model years 2024 through 2026, which will reduce fuel use by more than 200 billion gallons through 2050 compared to the old standards and reduce fuel costs for drivers (U.S. EPA 2022a; NHTSA 2022c).

3.3.1.2 STATE

California has been innovative and proactive in addressing GHG emissions and climate change by passing multiple Senate and Assembly bills and executive orders (EOs) including, but not limited to, the following:

EO S-3-05 (June 1, 2005): The goal of this EO is to reduce California's GHG emissions to: (1) year 2000 levels by 2010, (2) year 1990 levels by 2020, and (3) 80 percent below year 1990 levels by 2050. This goal was further reinforced with the passage of Assembly Bill (AB) 32 in 2006 and Senate Bill (SB) 32 in 2016.

Assembly Bill (AB) 32, Chapter 488, 2006, Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 codified the 2020 GHG emissions reduction goals outlined in EO S-3-05, while further mandating that CARB create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." The Legislature also intended that the statewide GHG emissions limit continue in existence and be used to maintain and continue reductions in emissions of GHGs beyond 2020 (Health and Safety Code [H&SC] Section 38551(b)). The law requires ARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

EO S-01-07 (January 18, 2007): This order sets forth the low carbon fuel standard (LCFS) for California. Under this EO, the carbon intensity of California's transportation fuels was to be reduced by at least 10 percent by the year 2020. CARB re-adopted the LCFS regulation in September 2015, and the changes went into effect on January 1, 2016. The program establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the governor's 2030 and 2050 GHG reduction goals.

Senate Bill (SB) 375, Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires CARB to set regional emissions reduction targets for passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable

Communities Strategy" (SCS) that integrates transportation, land-use, and housing policies to plan how it will achieve the emissions target for its region.

SB 391, Chapter 585, 2009, California Transportation Plan: This bill requires the State's long-range transportation plan to identify strategies to address California's climate change goals under AB 32.

EO B-16-12 (March 2012) orders State entities under the direction of the Governor, including CARB, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.

EO B-30-15 (April 2015) establishes an interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. It further orders all state agencies with jurisdiction over sources of GHG emissions to implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 GHG emissions reductions targets. It also directs CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent ($MMTCO_2e$). [GHGs differ in how much heat each traps in the atmosphere, called global warming potential, or GWP. CO_2 is the most important GHG, so amounts of other gases are expressed relative to CO2, using a metric called "carbon dioxide equivalent," or CO_2e. The global warming potential of CO_2 is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO_2.] Finally, it requires the Natural Resources Agency to update the state's climate adaptation strategy, Safeguarding California, every 3 years, and to ensure that its provisions are fully implemented.

SB 32, Chapter 249, 2016, codifies the GHG reduction targets established in EO B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030.

SB 1386, Chapter 545, 2016, declared "it to be the policy of the state that the protection and management of natural and working lands … is an important strategy in meeting the state's greenhouse gas reduction goals, and would require all state agencies, departments, boards, and commissions to consider this policy when revising, adopting, or establishing policies, regulations, expenditures, or grant criteria relating to the protection and management of natural and working lands."

SB 743, Chapter 386 (September 2013): This bill changes the metric of consideration for transportation impacts pursuant to CEQA from a focus on automobile delay to alternative methods focused on vehicle miles traveled, to promote the state's goals of reducing greenhouse gas emissions and traffic related air pollution and promoting multimodal transportation while balancing the needs of congestion management and safety.

SB 150, Chapter 150, 2017, Regional Transportation Plans: This bill requires CARB to prepare a report that assesses progress made by each metropolitan planning organization in meeting their established regional greenhouse gas emission reduction targets.

EO B-55-18 (September 2018) sets a new statewide goal to achieve and maintain carbon neutrality no later than 2045. This goal is in addition to existing statewide targets of reducing GHG emissions.

AB 1279, Chapter 337, 2022, The California Climate Crisis Act: This bill mandates carbon neutrality by 2045 and establishes an emissions reduction target of 85 percent below 1990 level as part of that goal. This bill solidifies a goal included in EO B-55-18. It requires CARB to work with relevant state agencies to ensure that updates to the scoping plan identify and recommend measures to achieve these policy goals and to identify and implement a variety of policies and

strategies that enable carbon dioxide removal solutions and carbon capture, utilization, and storage technologies in California, as specified.

3.3.2 Environmental Setting

The proposed project is in an urban area of Riverside County with a well-developed road and street network. The project area is composed of mainly residential, public and private facilities/institutions like universities and schools, and commercial/retail areas. The interchange in the project area experiences severe congestion during peak hours and is not set up to handle future traffic growth. A Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) by the Southern California Association of Governments (SCAG) guides transportation and housing development in the project area. The Riverside County Climate Action Plan (CAP) and the General Plan Air Quality element addresses GHGs in the project area.

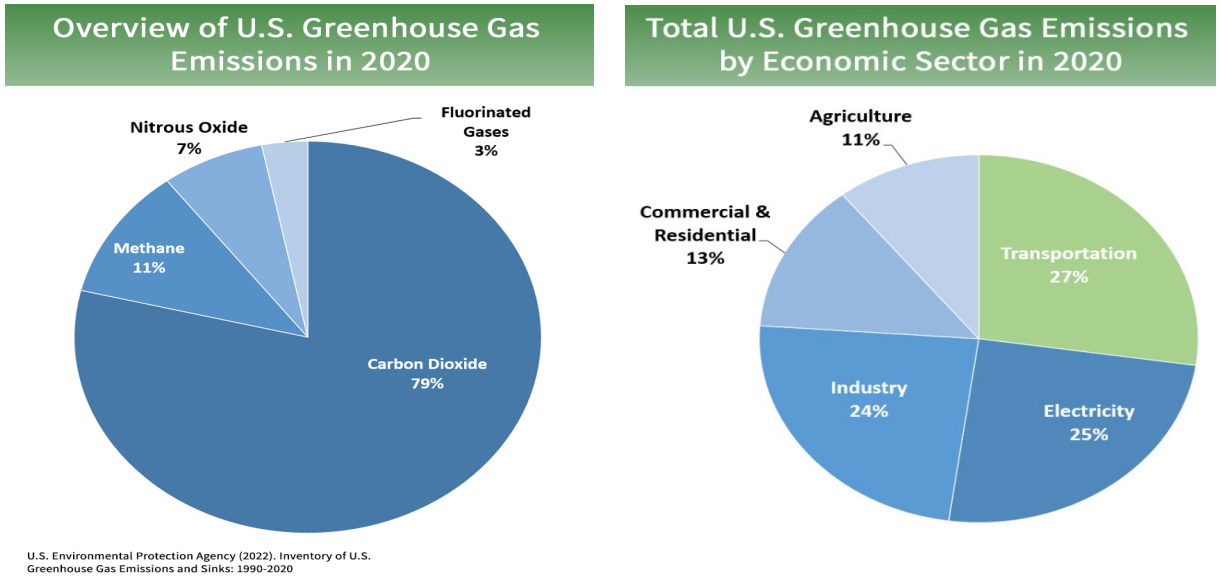
A GHG emissions inventory estimates the amount of GHGs discharged into the atmosphere by specific sources over a period of time, such as a calendar year. Tracking annual GHG emissions allows countries, states, and smaller jurisdictions to understand how emissions are changing and what actions may be needed to attain emission reduction goals. U.S. EPA is responsible for documenting GHG emissions nationwide, and the CARB does so for the state, as required by Health and Safety Code Section 39607.4.

3.3.2.1 GHG INVENTORIES

A GHG emissions inventory estimates the amount of GHGs discharged into the atmosphere by specific sources over a period of time, such as a calendar year. Tracking annual GHG emissions allows countries, states, and smaller jurisdictions to understand how emissions are changing and what actions may be needed to attain emission reduction goals. U.S. EPA is responsible for documenting GHG emissions nationwide, and the CARB does so for the state, as required by H&SC Section 39607.4. Cities and other local jurisdictions may also conduct local GHG inventories to inform their GHG reduction or climate action plans.

National GHG Inventory

The annual GHG inventory submitted by the U.S. EPA to the United Nations provides a comprehensive accounting of all human-produced sources of GHGs in the United States. Total GHG emissions from all sectors in 2020 were 5,222 million metric tons (MMT), factoring in deductions for carbon sequestration in the land sector. Of these, 79 percent were CO_2, 11 percent were CH_4, and 7 percent were N_2O; the balance consisted of fluorinated gases. Total GHGs in 2020 decreased by 21 percent from 2005 levels and 11 percent from 2019. The change from 2019 resulted primarily from less demand in the transportation sector during the COVID-19 pandemic. The transportation sector was responsible for 27 percent of total U.S. GHG emissions in 2020, more than any other sector (Figure 3-1), and for 36 percent of all CO_2 emissions from fossil fuel combustion. Transportation CO_2 emissions for 2020 decreased 13 percent from 2019 to 2020, but were 7 percent higher than transportation CO_2 emissions in 1990 (U.S. EPA 2022b).

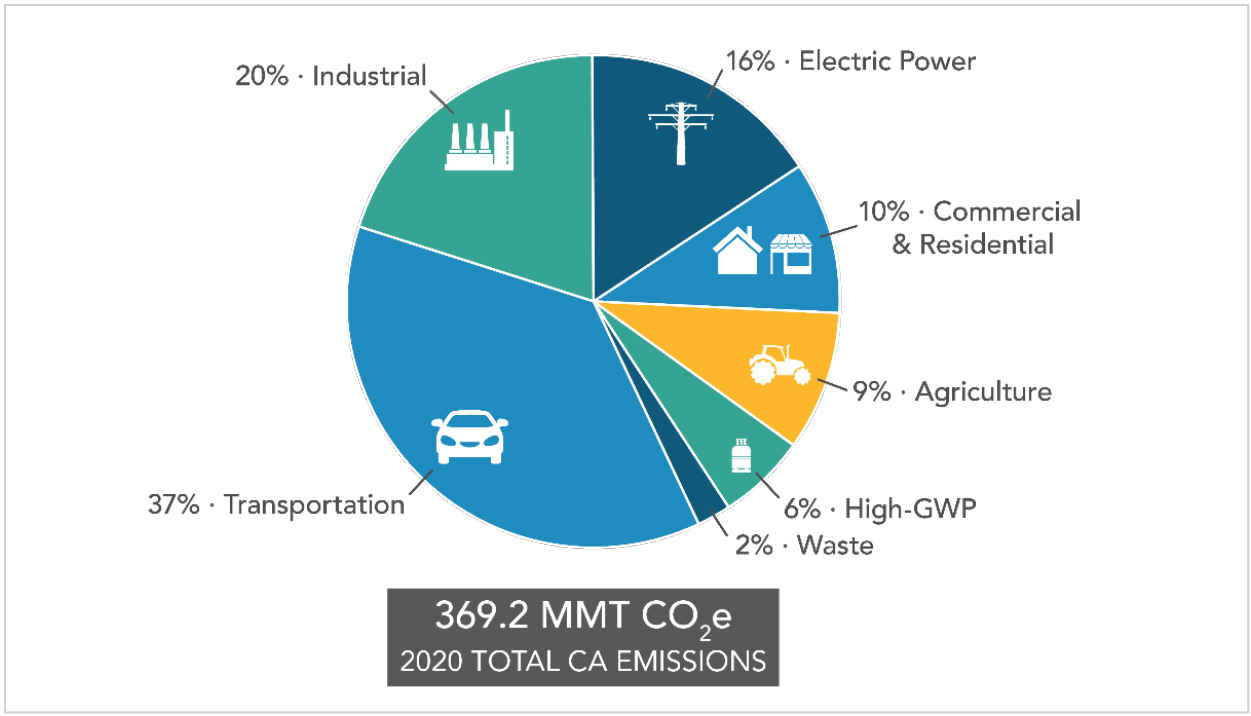


Source: U.S. EPA 2022b.

Figure 3-1. U.S. 2020 Greenhouse Gas Emissions

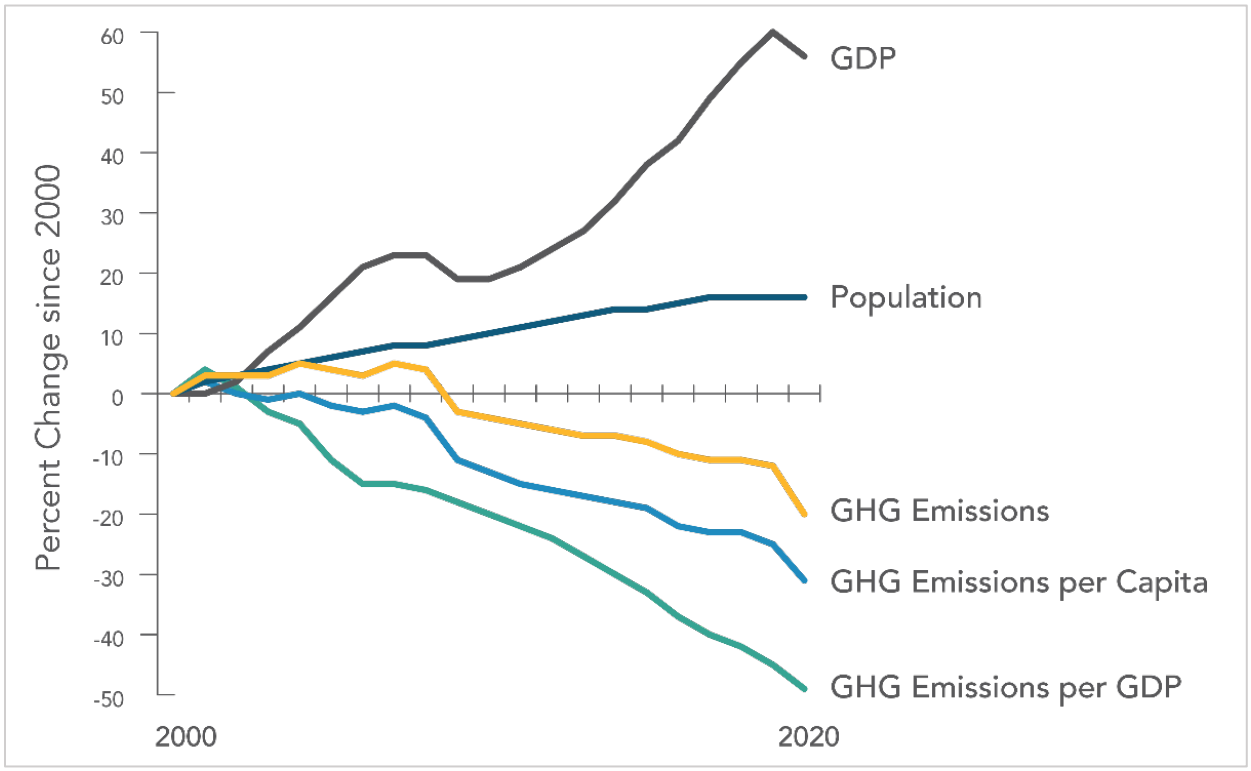
State GHG Inventory

CARB collects GHG emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year. It then summarizes and highlights major annual changes and trends to demonstrate the state's progress in meeting its GHG reduction goals. The 2022 edition of the GHG emissions inventory reported emissions trends from 2000 to 2020. Total California GHG emissions in 2020 were 369.2 $MMTCO_2e$, a reduction of 35.3 $MMTCO_2e$ from 2019 and 61.8 $MMTCO_2e$ below the 2020 statewide limit of 431 $MMTCO_2e$. Much of the decrease from 2019 to 2020, however, is likely due to the effects of the COVID-19 pandemic on the transportation sector, during which vehicle miles traveled declined under stay-at-home orders and reductions in goods movement. Nevertheless, transportation remained the largest source of GHG emissions, accounting for 37 percent of statewide emissions (Figure 3-2). (Including upstream emissions from oil extraction, petroleum refining, and oil pipelines in California, transportation was responsible for about 47 percent of statewide emissions in 2020; however, those emissions are accounted for in the industrial sector.) California's gross domestic product (GDP) and GHG intensity (GHG emissions per unit of GDP) both declined from 2019 to 2020 (Figure 3-3). It is expected that total GHG emissions will increase as the economy recovers over the next few years (CARB 2022a).



Source: CARB 2022a.

Figure 3-2. California 2020 Greenhouse Gas Emissions by Scoping Plan Category



Source: CARB 2022a.

Figure 3-3. Change in California GDP, Population, and GHG Emissions Since 2000

AB 32 required CARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update it every 5 years. CARB adopted the first scoping plan in 2008. The second updated plan, *California's 2017 Climate Change Scoping Plan*, adopted on December 14, 2017, reflects the 2030 target established in EO B-30-15 and SB 32. The draft 2022 Scoping Plan Update additionally lays out a path to achieving carbon neutrality by 2045 (CARB 2022b).

3.3.2.2 REGIONAL PLANS

CARB sets regional GHG reduction targets for California's 18 metropolitan planning organizations (MPOs) to achieve through planning future projects that will cumulatively achieve those goals, and reporting how they will be met in the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Targets are set at a percent reduction of passenger vehicle GHG emissions per person from 2005 levels.

The proposed project is included in SCAG's 2020-2045 RTP/SCS (SCAG 2020) as RTP ID 3M01WT022- RIV131202. CARB's regional reduction target for SCAG as of October 2018 is 8 percent by 2020 and 19 percent by 2035, compared to 2005 levels (CARB 2021b). (The 2016 RTP/SCS used earlier targets of a 9 percent per capita reduction by 2020 and a 16 percent per capita reduction by 2035. It should be noted that the SCAG planning region comprises Imperial, Orange, San Bernardino, and Ventura Counties in addition to Riverside County, and that targets apply in the region as a whole and to all GHG emission sources, not individual counties or transportation alone.) The RTP/SCS concluded that implementing the plan would result in an 8 percent per capita GHG reduction by 2020, an 18 percent reduction by 2035, and a 21 percent reduction by 2040.

Additionally, the County of Riverside updated their adopted CAP in 2019. The County's CAP outlines measures to help Riverside County meet CARB and State-wide reduction goals by reducing GHG emissions by 15 percent by 2020, 49 percent by 2030, and 83 percent by 2050. The CAP update estimates that if State and Riverside County measures are successfully implemented, the County will be able to reduce GHG emissions beyond State and CARB targets by 2050 (County of Riverside 2019).

Table 3-1. Regional GHG Reduction Policies or Strategies

Title	GHG Reduction Policies or Strategies
Southern California Association of Governments 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (adopted September 3, 2020)	The SCS prepared as part of Connect SoCal complies with the emission reduction targets established by CARB and meets the requirements of SB 375 by achieving GHG emission reductions at 8% below 2005 per capita emissions levels by 2020 and 19% below 2005 per capita emissions levels by 2035. The RTP/SCS includes the following strategies. Several are directly tied to supporting related GHG reductions while others support the broader goals of Connect SoCal: • Improve mobility, accessibility, reliability, and travel safety for people and goods • Enhance the preservation, security, and resilience of the regional transportation system • Reduce greenhouse gas emissions and improve air quality • Adapt to a changing climate and support an integrated regional development pattern and transportation network
Riverside County General Plan	Land Use Element • Policy LU 2.1k(f): f. Site development to capitalize upon multi-modal transportation opportunities and promote compatible land use arrangements that reduce reliance on the automobile.

Title	GHG Reduction Policies or Strategies
	• Policy LU 11.4: Provide options to the automobile in communities, such as transit, bicycle and pedestrian trails, to help improve air quality. • Policy LU 13.4: Incorporate safe and direct multi-modal linkages in the design and development of projects, as appropriate. Circulation Element • Policy C 1.2: Support development of a variety of transportation options for major employment and activity centers including direct access to transit routes, primary arterial highways, bikeways, park-n-ride facilities, and pedestrian facilities. • Policy C 1.7: Encourage and support the development of projects that facilitate and enhance the use of alternative modes of transportation, including pedestrian-oriented retail and activity centers, dedicated bicycle lanes and paths, and mixed-use community centers. • Policy C 5.2: Encourage the use of drought-tolerant native plants and the use of recycled water for roadway landscaping. • Policy C 20.14 (Previously C 20.12): Encourage the use of alternative non-motorized transportation and the use of non-polluting vehicles. Air Quality Element • Policy AQ 20.1: Reduce VMT by requiring expanded multi-modal facilities and services that provide transportation alternatives, such as transit, bicycle and pedestrian modes. Improve connectivity of the multi-modal facilities by providing linkages between various uses in the developments. • Policy AQ 20.3: Reduce VMT and GHG emissions by improving circulation network efficiency. • Circulation Element (Amendment No. 960 – Public Review Draft, February 2015) • Policy C 1.8: Ensure that all development applications comply with the California Complete Streets Act of 2008 as set forth in California Government Code Sections 65040.2 and 65302.
Riverside County Climate Action Plan (2019)	Includes GHG mitigation, GHG reduction targets, and adaptations. The County's 2030 and 2050 target emissions level are 3.58 and 1.19 $MMTCO_2e$ per year, respectively. In order to meet the County's 2030 and 2050 emissions reduction targets, 22 priority actions were identified in the transportation, energy, and solid waste sectors. Transportation Measures • R2-T1: Alternative Transportation Options • R2-T2: Adopt and Implement a Bicycle Master Plan to Expand Bike Routes Around the County • R2-T3: Ride-Sharing and Bike-to-Work Programs within Businesses • R2-T4: Electrify the Fleet
Western Riverside Council of Governments Subregional Climate Action Plan (2014)	Western Riverside Council of Governments Subregional Climate Action Plan established a 2010 baseline of 5.83 $MMTCO_2e$ and includes the following transportation-related policies that would help to reduce GHG emissions: • Measure SR-8: Express Lanes • Measure SR-9: Congestion Pricing • Measure SR-12: Electric Vehicle Plan and Infrastructure • Measure SR-13: Construction and Demolition Waste Diversion

3.3.3 Project Analysis

GHG emissions from transportation projects can be divided into those produced during operation of the State Highway System (SHS) (operational emissions) and those produced during construction. The primary GHGs produced by the transportation sector are CO_2, CH_4, N_2O, and HFCs. CO_2 emissions are a product of burning gasoline or diesel fuel in internal combustion engines, along with relatively small amounts of CH_4 and N_2O. A small amount of HFC emissions related to refrigeration is also included in the transportation sector.

The CEQA Guidelines generally address greenhouse gas emissions as a cumulative impact due to the global nature of climate change (Pub. Resources Code, § 21083(b)(2)). As the California Supreme Court explained, “because of the global scale of climate change, any one project's contribution is unlikely to be significant by itself.” (Cleveland National Forest Foundation v. San Diego Assn. of Governments (2017) 3 Cal.5th 497, 512). In assessing cumulative impacts, it must be determined if a project’s incremental effect is “cumulatively considerable” (CEQA Guidelines Sections 15064(h)(1) and 15130).

To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. Although climate change is ultimately a cumulative impact, not every individual project that emits greenhouse gases must necessarily be found to contribute to a significant cumulative impact on the environment.

3.3.3.1 OPERATIONAL EMISSIONS

The purpose of the proposed project is to reduce congestion and improve traffic circulation by reconstructing the existing SR-91/Adams Street interchange without increasing capacity. As the project would not increase vehicle capacity, no increase in VMT would occur as a result of project implementation. Therefore, implementation of Build Alternative 7 would not result in an increase in GHG emissions compared with No-Build conditions in 2047, as discussed in the GHG emissions analysis provided in Section 4.3.5 of the Air Quality Report. Additionally, the GHG emissions under the No-Build and Build conditions in 2047 would not increase relative to emissions under Existing (2020) conditions. This is due to improvements in engine emissions technologies as well as the retirement of older vehicles.

Construction Emissions

Construction GHG emissions would result from material processing and transportation, on-site construction equipment, and traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

Use of long-life pavement, improved traffic management plans, and changes in materials, can also help offset emissions produced during construction by allowing longer intervals between maintenance and rehabilitation activities.

Construction-period GHG emissions were modeled using the Sacramento Metropolitan Air Quality Management District’s Road Construction Emissions Model, version 9.0.0. The proposed project is estimated to total approximately 3,004.75 metric tons over the course of the approximately two-year construction period.

All construction contracts include Caltrans Standard Specifications Sections 7-1.02A and 7-1.02C, which require contractors to comply with all laws applicable to the project and certify they are aware of and will comply with all CARB emission reduction regulations; Section 14-9.02, Air Pollution Control, requires contractors to comply with all air pollution control rules,

regulations, ordinances, and statutes. Certain common regulations, such as equipment idling restrictions, that reduce construction vehicle emissions also help reduce GHG emissions.

3.3.4 CEQA Conclusion

Project operations would not result in any increase in GHG emissions. As discussed above, the proposed project is estimated to result in approximately 3,004.75 metric tons of GHG emissions over the course of the approximately 2-year construction period. The proposed project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. With implementation of construction-related GHG emissions reduction measures, the impact would be less than significant.

Caltrans is firmly committed to implementing measures to help reduce GHG emissions. These measures are outlined in the following section.

3.3.5 Greenhouse Gas Reduction Strategies

3.3.5.1 STATEWIDE EFFORTS

In response to AB 32, California is implementing measures to achieve emission reductions of GHGs that cause climate change. Climate change programs in California are effectively reducing GHG emissions from all sectors of the economy. These programs include regulations, market programs, and incentives that will transform transportation, industry, fuels, and other sectors, to take California into a sustainable, low-carbon and cleaner future, while maintaining a robust economy (CARB 2022d).

Major sectors of the California economy, including transportation, will need to reduce emissions to meet 2030 and 2050 GHG emissions targets. The Governor's Office of Planning and Research identified five sustainability pillars in a 2015 report: (1) increasing the share of renewable energy in the State's energy mix to at least 50 percent by 2030; (2) reducing petroleum use by up to 50 percent by 2030; (3) increasing the energy efficiency of existing buildings by 50 percent by 2030; (4) reducing emissions of short-lived climate pollutants; and (5) stewarding natural resources, including forests, working lands, and wetlands, to ensure that they store carbon, are resilient, and enhance other environmental benefits (OPR 2015). OPR later added strategies related to achieving statewide carbon neutrality by 2045 in accordance with EO B-55-18 and AB 1279 (OPR 2022).

The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital that the state build on past successes in reducing criteria and toxic air pollutants from transportation and goods movement. GHG emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled (VMT). Reducing today's petroleum use in cars and trucks by 50% is a key state goal for reducing greenhouse gas emissions by 2030 (California Environmental Protection Agency 2015).

In addition, SB 1386 (Wolk 2016) established as state policy the protection and management of natural and working lands and requires state agencies to consider that policy in their own decision making. Trees and vegetation on forests, rangelands, farms, and wetlands remove carbon dioxide from the atmosphere through biological processes and sequester the carbon in above- and below-ground matter.

Subsequently, Governor Gavin Newsom issued Executive Order N-82-20 to combat the crises in climate change and biodiversity. It instructs state agencies to use existing authorities and

resources to identify and implement near- and long-term actions to accelerate natural removal of carbon and build climate resilience in our forests, wetlands, urban greenspaces, agricultural soils, and land conservation activities in ways that serve all communities and in particular low-income, disadvantaged, and vulnerable communities. To support this order, the California Natural Resources Agency (2022a) released *Natural and Working Lands Climate Smart Strategy*, with a focus on nature-based solutions.

3.3.5.2 CALTRANS ACTIVITIES

Caltrans continues to be involved on the Governor's Climate Action Team as the CARB works to implement EOs S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. EO B-30-15, issued in April 2015, and SB 32 (2016), set an interim target to cut GHG emissions to 40 percent below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

Climate Action Plan for Transportation Investments

The California Action Plan for Transportation Infrastructure (CAPTI) builds on executive orders signed by Governor Newsom in 2019 and 2020 targeted at reducing GHG emissions in transportation, which account for more than 40 percent of all polluting emissions, to reach the state's climate goals. Under CAPTI, where feasible and within existing funding program structures, the state will invest discretionary transportation funds in sustainable infrastructure projects that align with its climate, health, and social equity goals (California State Transportation Agency 2021).

California Transportation Plan

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. It serves as an umbrella document for all the other statewide transportation planning documents. The CTP 2050 presents a vision of a safe, resilient, and universally accessible transportation system that supports vibrant communities, advances racial and economic justice, and improves public and environmental health. The plan's climate goal is to achieve statewide GHG emissions reduction targets and increase resilience to climate change. It demonstrates how GHG emissions from the transportation sector can be reduced through advancements in clean fuel technologies; continued shifts toward active travel, transit, and shared mobility; more efficient land use and development practices; and continued shifts to telework (Caltrans 2021a).

Caltrans Strategic Plan

The Caltrans 2020–2024 Strategic Plan includes goals of stewardship, climate action, and equity. Climate action strategies include developing and implementing a Caltrans Climate Action Plan; a robust program of climate action education, training, and outreach; partnership and collaboration; a VMT monitoring and reduction program; and engaging with the most vulnerable communities in developing and implementing Caltrans climate action activities (Caltrans 2021b).

Caltrans Policy Directives and Other Initiatives

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) established a Department policy to ensure coordinated efforts to incorporate climate change into Departmental decisions and activities. Caltrans Greenhouse Gas Emissions and Mitigation Report (Caltrans 2020) provides a comprehensive overview of Caltrans' emissions. The report

documents and evaluates current Caltrans procedures and activities that track and reduce GHG emissions and identifies additional opportunities for further reducing GHG emissions from Department-controlled emission sources, in support of Departmental and State goals.

3.3.5.3 PROJECT-LEVEL GHG REDUCTION STRATEGIES

The following measures will also be implemented in the project to reduce GHG emissions and potential climate change impacts from the project.

GHG-1 The following strategies will be implemented to reduce GHG emissions and potential climate change impacts from the project:

A. Use alternative fuels, such as renewable diesel, in construction equipment.

B. Limit idling to 5 minutes for delivery and dump trucks as well as other diesel-powered equipment.

C. Schedule truck trips outside of peak morning and evening commute hours.

D. Reduce construction waste and maximize the use of recycled materials (reduces consumption of raw materials, reduces landfill waste, and encourages cost savings).

E. Incorporate measures to reduce the consumption of potable water.

F. Supplement existing training with information regarding methods to reduce GHG emissions related to construction.

G. Maximize use of recycled materials (e.g., tire rubber).

H. Salvage large removed trees for lumber or similar on-site beneficial uses, other than standard wood-chipping (e.g., for use in roadside landscape projects or green infrastructure components).

I. Recycle on-site project features as practicable (e.g., metal-beam guardrails, light standards, sub-base granular material, or native material that meets Caltrans specifications for incorporation into new work).

J. Reduce the need for the transport of earthen materials by balancing cut-and-fill quantities.

3.3.6 Adaptation

Reducing GHG emissions is only one part of an approach to addressing climate change. Caltrans must plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their intensity, and in the frequency and intensity of wildfires. Flooding and erosion can damage or wash out roads; longer periods of intense heat can buckle pavement and railroad tracks; storm surges combined with a rising sea level can inundate highways. Wildfire can directly burn facilities and indirectly cause damage when rain falls on denuded slopes that landslide after a fire. Effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. Accordingly, Caltrans must consider these types of climate stressors in how highways are planned, designed, built, operated, and maintained.

3.3.6.1 FEDERAL EFFORTS

Under NEPA Assignment, Caltrans is obligated to comply with all applicable federal environmental laws and FHWA NEPA regulations, policies, and guidance.

The *Fourth National Climate Assessment*, published in 2018, presents the foundational science and the "human welfare, societal, and environmental elements of climate change and variability for 10 regions and 18 national topics, with particular attention paid to observed and projected risks, impacts, consideration of risk reduction, and implications under different mitigation pathways."

The U.S. Department of Transportation (DOT) Policy Statement on Climate Adaptation in June 2011 committed the federal DOT to "integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of DOT in order to ensure that taxpayer resources are invested wisely, and that transportation infrastructure, services and operations remain effective in current and future climate conditions" (U.S. DOT 2011). The U.S. DOT Climate Action Plan of August 2021 followed up with a statement of policy to "accelerate reductions in greenhouse gas emissions from the transportation sector and make our transportation infrastructure more climate change resilient now and in the future," following this set of guiding principles (U.S. DOT 2021):

- Use best-available science
- Prioritize the most vulnerable
- Preserve ecosystems
- Build community relationships
- Engage globally

U.S. DOT developed its CAP pursuant to the federal EO 14008, Tackling the Climate Crisis at Home and Abroad (January 27, 2021). EO 14008 recognized the threats of climate change to national security and ordered federal government agencies to prioritize actions on climate adaptation and resilience in their programs and investments (White House 2021).

FHWA order 5520 (*Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events*, December 15, 2014) established FHWA policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems. FHWA has developed guidance and tools for transportation planning that foster resilience to climate effects and sustainability at the federal, state, and local levels (FHWA 2019).

3.3.6.2 STATE EFFORTS

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system. A number of state policies and tools have been developed to guide adaptation efforts.

California's *Fourth Climate Change Assessment* (Fourth Assessment) (2018) is the state's effort to "translate the state of climate science into useful information for action." It provides information that will help decision makers across sectors and at state, regional, and local scales protect and build the resilience of the state's people, infrastructure, natural systems, working lands, and waters. The State's approach recognizes that the consequences of climate change occur at the intersections of people, nature, and infrastructure. The Fourth Assessment reports that if no measures are taken to reduce GHG emissions by 2021 or sooner, the state is

projected to experience a 2.7 to 8.8 degrees Fahrenheit increase in average annual maximum daily temperatures, with impacts on agriculture, energy demand, natural systems, and public health; a two-thirds decline in water supply from snowpack and water shortages that will impact agricultural production; a 77% increase in average area burned by wildfire, with consequences for forest health and communities; and large-scale erosion of up to 67% of Southern California beaches and inundation of billions of dollars' worth of residential and commercial buildings due to sea level rise (State of California 2018).

Sea level rise is a particular concern for transportation infrastructure in the coastal zone. Major urban airports will be at risk of flooding from sea level rise combined with storm surge as early as 2040; San Francisco airport is already at risk. Miles of coastal highways vulnerable to flooding in a 100-year storm event will triple to 370 by 2100, and 3,750 miles will be exposed to temporary flooding. The Fourth Assessment's findings highlight the need for proactive action to address these current and future impacts of climate change.

In 2008, then-governor Arnold Schwarzenegger recognized the need when he issued EO S-13-08, focused on sea level rise. Technical reports on the latest sea level rise science were first published in 2010 and updated in 2013 and 2017. The 2017 projections of sea level rise and new understanding of processes and potential impacts in California were incorporated into the *State of California Sea-Level Rise Guidance Update* in 2018. This EO also gave rise to the *California Climate Adaptation Strategy* (2009a), updated in 2014 as *Safeguarding California: Reducing Climate Risk* (Safeguarding California Plan), which addressed the full range of climate change impacts and recommended adaptation strategies. The Safeguarding California Plan was updated in 2018 and again in 2021 as the *California Climate Adaptation Strategy*, incorporating key elements of the latest sector-specific plans such as the *Natural and Working Lands Climate Smart Strategy, Wildfire and Forest Resilience Action Plan, Water Resilience Portfolio*, and the CAPTI (described above). Priorities in the 2021 California Climate Adaptation Strategy include acting in partnership with California Native American Tribes, strengthening protections for climate-vulnerable communities that lack capacity and resources, nature-based climate solutions, use of best available climate science, and partnering and collaboration to best leverage resources (California Natural Resources Agency 2022b).

EO B-30-15, signed in April 2015, requires state agencies to factor climate change into all planning and investment decisions. This EO recognizes that effects of climate change in addition to sea level rise also threaten California's infrastructure. At the direction of EO B-30-15, the Office of Planning and Research published *Planning and Investing for a Resilient California: A Guidebook for State Agencies* in 2017, to encourage a uniform and systematic approach.

AB 2800 (California Legislative Information 2020b) created the multidisciplinary Climate-Safe Infrastructure Working Group to help actors throughout the state address the findings of California's Fourth Climate Change Assessment. It released its report, *Paying it Forward: The Path Toward Climate-Safe Infrastructure in California*, in 2018. The report provides guidance to agencies on how to address the challenges of assessing risk in the face of inherent uncertainties still posed by the best available science on climate change. It also examines how state agencies can use infrastructure planning, design, and implementation processes to address the observed and anticipated climate change impacts (Climate Change Infrastructure Working Group 2018).

3.3.6.3 CALTRANS ADAPTATION EFFORTS

Caltrans Vulnerability Assessments

Caltrans completed climate change vulnerability assessments to identify segments of the State Highway System vulnerable to climate change effects of precipitation, temperature, wildfire, storm surge, and sea level rise.

The climate change data in the assessments were developed in coordination with climate change scientists and experts at federal, state, and regional organizations at the forefront of climate science. The findings of the vulnerability assessments guide analysis of at-risk assets and development of Adaptation Priority Reports as a method to make capital programming decisions to address identified risks.

3.3.6.4 PROJECT ADAPTATION ANALYSIS

Sea Level Rise Analysis

The proposed project is outside the Coastal Zone and not in an area subject to sea-level rise. Direct impacts on transportation facilities due to projected sea-level rise are not expected.

Precipitation and Flooding

As discussed in the Caltrans Climate Change Vulnerability Assessments for District 8 (Caltrans 2019), the Southwest region of the United States can expect less total precipitation but heavier individual precipitation events. These conditions were experienced in District 8 during the winter of 2016–2017 when heavy precipitation caused millions of dollars in damage to Caltrans assets. Changes in precipitation with a 100-year storm event in 2025, 2055, and 2085 were estimated with the Representative Concentration Pathway 8.5 emissions scenario. Storm precipitation depths are anticipated to increase by less than 5 percent along the project corridor in 2025 and 2085. In 2055, the 100-year storm precipitation depth along the project corridor could increase by up to 9.9 percent. None of the proposed construction considered for this project is within a floodplain; even if it were, it would have no effect on the floodplain. As such, the proposed project would not increase the risk of flooding because it would not increase the base flood elevation. As discussed in detail in Section 2.2.1, Water Quality and Storm Water Runoff, the project would result in a net increase in impervious surfaces. However, the project would not affect the ability of receiving waters to accommodate the added flow. As such, a projected increase of up to 9.9 percent in precipitation depth would not exceed the capacity of waterways in the project area or affect the safety of bridges over these channels. Standard BMPs would be implemented as part of the project to make it more resilient to the effects of heavier precipitation events.

Wildfire

The proposed project area is not located within or near a Very High Hazard Safety zone; therefore, there would be no impact related to wildfire risks.

Temperature

Based on the Caltrans District 8 Climate Change Vulnerability Assessment Map (Caltrans 2019), the average minimum air temperature in the project area is projected to increase by 2.6 degrees Fahrenheit (°F) by 2025, by 5.0°F by 2055, and by 7.8°F by 2085. The average maximum temperature over seven consecutive days in the project area will increase by up to

3.8°F by 2025, up to 6.7°F by 2055, and by up to 10.0°F by 2085. Therefore, the overall minimum and maximum temperatures of the day in the project area are projected to continue to increase from 2022 to 2085. The mean annual maximum temperature in Riverside, California, is 79.5°F. The coldest month in Riverside is January when the average lowest temperature is 39.1°F. The hottest month in Riverside is August when the average highest temperature is 94.4°F (https://wrcc.dri.edu, 2022). Accordingly, an 7.8°F increase in the absolute minimum air temperature and 10.0°F increase in the average maximum temperature over seven consecutive days in the project area, could increase the annual low or minimum temperature to 46.9°F, (a 19.9 percent increase), and the annual high or maximum temperature to 104.4°F, (a 10.6 percent increase).

Temperature can affect pavement performance, and changes in temperature can cause blowups, buckling, and rutting, impacting the pavement's roadway life. The FHWA's Long-Term Pavement Performance program shows that 36 percent of total damage to flexible pavements, and 24 percent of total damage to rigid pavements is caused by environmental factors. Pavements are designed based on the typical historical climatic conditions for the project area. However, as weather changes occur due to climate change, historic climatic conditions may no longer be as indicative for future environmental conditions.

Temperature affects the choice of pavement materials, the design of foundations and retaining walls in terms of ground moisture conditions, and the need for expansion/contraction of bridge joints. The changes in temperature in the project area help determine the selection of the pavement binder grade and material. A binder must be selected that can maintain pavement integrity under both extreme cold and heat conditions. Based on the projected temperature increase in the project area, the binder will need to allow the pavement to maintain integrity under high temperatures. The temperature increase should also be considered when determining the expansions and contraction allowances for bridge joints. Higher average temperatures can affect flexible pavement; increased maximum pavement temperatures increases the potential for rutting and shoving, requiring more rut-resistant asphalt mixtures. This may require raising high-temperature asphalt binder grades, increasing the use of the binder polymerization, and/or improving the aggregate structure in asphalt mixtures. Higher average temperatures can also increase the age hardening of the asphalt binder in flexible pavements. To mitigate this, binders that will age more slowly may be used or projects may expand the use of asphalt pavement preservation techniques to reduce binder aging. During extreme heat waves, there is also an increased potential for asphalt rutting and shoving to flexible pavement. To mitigate this, the mitigation strategies above should be utilized, while considering that the historical basis for selecting binder grades may no longer be valid. Higher average temperatures can also affect rigid pavement, as higher temperatures increase the potential for concrete temperature-related curling and moisture warping. To mitigate this, projects will need to factor in more consideration for the concrete coefficient of thermal expansion and drying shrinkage. Projects may need to incorporate design elements to reduce damage from thermal effects, such as through using shorter joint spacing, thicker slabs, less rigid support, and enhanced load transfer. Additionally, higher extreme maximum temperatures, such as a during a heat wave, will increase the risk of concrete pavement blowups on rigid pavement, due to excessive slab expansion. To mitigate this, pavement design should use shorter joint spacing in the new design and keep joints clean. In extreme cases, projects should install expansion joints in existing pavements.

Based on the projected temperature increase, the project would likely have to assess ground conditions, as less water can alter the design factors for foundations and retaining walls. If extreme high temperatures are also accompanied by drought, there is increased potential for subgrade shrinkage, which should be considered for the pavement design. Any landscaping and

vegetation will need to withstand higher temperatures. Additionally, extreme temperatures could cause pavement discontinuities and deformations, which could lead to more frequent maintenance. As there is a substantial projected temperature increase in the project area, worker safety will be affected if employees spend extended time outside in high temperatures, such as during maintenance work. To ensure worker safety in higher extreme temperatures, more work may be required to be conducted at night, impacting construction and maintenance scheduling.

Because of the long time frame of these future temperature changes and the uncertainty in exact magnitude, phased adaptation options or short-term actions can be used until it is clear how climate conditions are changing. One short-term strategy would be to utilize perpetual pavement, a thick asphalt layer with multiple layers of varying levels of stiffness. The surface layer could then easily be replaced as needed to accommodate changes to temperature and climate over time.

The following adaptation measures will be implemented to reduce the effects of climate change on the proposed project:

CC-1: Adjust the pavement binder and mix design specifications to better match expected future environmental conditions. Move to stiffer asphalt grades and use slower aging binders as needed to address increased temperatures and projected temperature change.

CC-2: Adjust the pavement structural design to account for temperature and climatic changes. Incorporate design elements, like shorter joint spacing and others, to reduce damage from high temperatures. For concrete pavements, robust designs that limit moisture damage and shrinkage are a good alternative. Stabilized subbases and base materials may be a good alternative to unbound bases especially in areas where the groundwater table may rise or where precipitation is increasing.

Chapter 4 Comments and Coordination

Early and continuing coordination with the general public and public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation, as well as the level of analysis required, and to identify potential impacts and avoidance, minimization, and/or mitigation measures and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including Project Development Team (PDT) meetings and interagency coordination meetings. In addition to consultation with participating agencies, the environmental document process will include public coordination by providing the public an opportunity to comment on the document during the public review period. This chapter summarizes the results of efforts to identify, address, and resolve project -related issues through early and continuing coordination.

4.1 Consultation and Coordination

Meetings and/or consultations with the resource agencies listed below have occurred in conjunction with development of the project.

4.1.1 Air Quality Coordination

Pursuant to the interagency consultation requirement of 40 Code of Federal Regulations 93.105 (c)(1)(i), the project-level particulate matter (PM) hot-spot analysis was presented to the Southern California Association of Governments' (SCAG's) Transportation Conformity Working Group (TCWG) for discussion and review on January 25, 2022. The project has undergone interagency consultation and was determined to be not a project of air quality concern (POAQC). A copy of the TCWG's determinations is included in Section 4.2 at the end of this chapter.

The proposed project still requires an air quality conformity analysis determination letter from the Federal Highway Administration (FHWA). The FHWA will base its determination on the air quality conformity analysis prepared for the project. This is done after the preferred alternative is selected, which will not occur until after circulation of this environmental document is completed.

4.1.2 Native American Coordination

4.1.2.1 NATIVE AMERICAN HERITAGE COMMISSION

The Native American Heritage Commission (NAHC) was contacted on June 18, 2020, requesting a Sacred Lands File Search and a Native American contact list for Tribes and interested individuals with cultural ties to the project area. The NAHC responded on June 19, 2020, stating that a search of the sacred lands records files revealed no Sacred Lands or traditional cultural properties in proximity to the area of potential effect (APE). The NAHC also provided a list of Native American contacts who might have knowledge of cultural resources in the project area.

4.1.2.2 NATIVE AMERICAN TRIBES

Based on this NAHC list and input from District 8's District Native American Coordinator, Section 106 outreach letters and maps of the project APE were sent to following tribal representatives on November 12, 2020:

- Gary Dubois, Tribal Historic Preservation Officer, Pechanga Band of Luiseño Indians
- Joseph Ontiveros, Tribal Historic Preservation Officer, Soboba Band of Luiseño Indians
- Dr. Shasta Gaughen, Tribal Historic Preservation Officer, Pala Band of Mission Indians
- Cheryl Madrigal, Tribal Historic Preservation Officer, Rincon Band of Luiseño Indians
- Ann Brierty, Tribal Historic Preservation Officer, Morongo band of Mission Indians

The Section 106 outreach letters included a description of the project area and a map indicating the project location. Groups that had not responded were then contacted by phone on December 24, 2020, and a follow up email was sent the same day.

Responses have been received from three of the five groups. Juan Ochoa responded on behalf of Gary Dubois and the Pechanga Band of Luiseño Indians on December 28, 2020, by email and stated that the project is within Luiseño territory and that they request consultation through the duration of the project with Caltrans. A copy of the Archaeological Survey Report (ASR) was forwarded for review on October 18, 2021. Juan Ochoa responded on October 19, 2021, that he had received the document and would review in the coming weeks. No further communications have been received to date.

Dr. Shasta Gaughen, Tribal Historic Preservation Officer (THPO) of the Pala Band of Mission Indians, responded to Caltrans District 8 on December 29, 2020, by email and did not identify the project as within the boundaries of Pala's Traditional Use Area. They deferred to the wishes of Tribes closer to the project area.

Cheryl Madrigal of the Rincon Band of Luiseño Indians responded by email to Caltrans District 8 on December 7, 2020, and identified the location as within the Territory of the Luiseño people and Rincon's specific Area of Historic Interest. They requested copies of existing documents pertaining to the project and would like to consult on the project to be aware of any potential impacts on cultural resources. A copy of the ASR was forwarded for review on October 18, 2021. Cheryl Madrigal responded on December 6, 2021, stating that the Tribe had no further comments.

Ann Brierty, THPO of the Morongo Band of Mission Indians, and Joseph Ontiveros, THPO of the Soboba Band of Luiseño Indians, did not respond to contact letters sent on November 16, 2020, or phone calls and emails from December 24, 2020.

A summary of consultation conducted and copies of correspondence are provided in the Attachment E of the Historic Property Survey Report (HPSR), Native American Consultation.

4.1.3 Local Historical Societies, Historic Preservation Groups, Potentially Interested Local Government Agencies, and Other Potentially Interested Parties

Outreach letters were sent to 15 local historical societies, historic preservation groups, potentially interested local government agencies, and other potentially interested parties on July 21, 2020. The letters included description of the project area and maps of the project APE.

Letter recipients who did not initially respond subsequently received follow up emails and phone calls on July 30, August 7, August 8, and September 2, 2020. See Attachment F of the HPSR for a Built Environment Interested Parties contact log and example letter. Letters were sent to the following:

- Enrigue Arroyo, Park Superintendent, California Citrus Park
- Scott Watson, Historic Preservation Officer, City of Riverside
- Robyn Peterson, Director, Museum of Riverside
- Erin Gettis, Assistant Parks Director, Riverside County Parks
- Ruth McCormick, Local History Specialist, Riverside Public Library
- Michael Gentile, President, Old Riverside Foundation
- Cleda-Givens Bullock, President, Riverside African American Historical Society
- Steve Lech, President, Riverside County Heritage Association
- Steve Lech, President, Riverside Historical Society
- Steve Emerson, PhD, Director, and Elizabeth Brandt Flater, Collections Librarian, California Baptist University
- Michelle Rojas, Special Collections and Reference Librarian, La Sierra University
- Glen Edward Freeman, Raincross Square
- Lorene Sisquoc, Director, and Amanda Wixon, Curator, Sherman Indian Museum
- Catherine Gudis, PhD, Director, Public History Program, University of California, Riverside
- Cherry Williams, Director of Distinctive Collections, Inland Southern California Collection, Special Collections and University Archives, University of California-Riverside

Responses have been received from 10 letter recipients. In a July 30, 2020, phone call, Enrique Arroyo, Superintendent of the California Citrus Historic Park, stated that the project location was out of the Park's area of knowledge and that he and the Park should be removed from the consulting party list.

In a July 30, 2020, phone call, Ruth McCormick, Local History Specialist at the Riverside Public Library, stated she had no special knowledge of the project area, the collection had no material relevant to the project area, and the Library should be removed from the consulting party list.

In an August 3, 2020, email, Erin Gettis, Assistant Parks Director for Riverside County Parks, stated Parks has no jurisdiction in the project area, no oversight role as part of the County Historical Commission, and no database or other information pertinent to the project area. She requested removal of Parks from the consulting party list.

In an August 11, 2020, email and telephone call, Scott Watson, Historic Preservation Officer for the City of Riverside, provided City-authored reports and studies relevant to the project area and confirmed his interest in acting as a consulting party on behalf of the City.

In a September 8, 2020, letter, Robyn Peterson, Director of the Museum of Riverside, noted that although Riverside Auto Center was the first such business in the nation, the core Mid-Century Modern buildings had been replaced or extensively modified. Peterson also noted that California Baptist University's entrance and campus contained several Mid-Century structures along

Adams Street. Peterson did not provide any information regarding potential historic properties or express concern regarding any historic properties.

In a July 30, 2020, phone call, Steve Emerson, director of the Annie Gabriel Library at California Baptist University (CBU), stated that most of the project area was redeveloped; he had no additional knowledge of resources or special issues in the project area. He asked to be removed from the consulting party list.

In an August 6, 2020, email, Elizabeth Brandt Flater, collections librarian for the Annie Gabriel Library at CBU, stated that she had no knowledge of resources or special issues in the project area and asked to be removed from the consulting party list.

In an August 6, 2020, email, Michelle Rojas, special collections and reference librarian at La Sierra University, stated that, after consultation with her colleagues and review of her collection, she had no special knowledge of the project area and asked to be removed from the consulting party list.

In an August 7, 2020, email, Cherry Williams, director of Distinctive Collections, Inland Southern California Collection, at the University of California, Riverside, stated that neither she nor her colleagues had additional knowledge regarding the area and asked to be removed from the consulting party list.

In an August 17, 2020, email, Catherine Gudis, director of the Public History Program, Department of History, University of California, Riverside, stated that, after consultation with her colleagues and review of her collection, she had no relevant information regarding the project area. However, because of her work involving regional history, she expressed interest in acting as a consulting party.

4.1.4 State Historic Preservation Officer

Caltrans notified the State Historic Preservation Officer (SHPO) of its determination that two properties within the APE are eligible for inclusion in the National Register of Historic Places (NRHP). Caltrans requested concurrence regarding its finding of no adverse effect on historic properties. On December 15, 2021, Caltrans submitted Section 106 documentation to the SHPO for review and concurrence. SHPO did not comment on the HPSR package. In accordance with Stipulation VIII.C.6(a) of the Caltrans Section 106 Programmatic Agreement (PA), on February 16, 2022, after 60 days had passed since Caltrans had submitted the HPSR package to SHPO, Caltrans notified SHPO that it intended to proceed to the next step prescribed by the Section 106 PA based on its determinations of NRHP eligibility.

4.1.5 U.S. Fish and Wildlife Service

U.S. Fish and Wildlife Service (USFWS) was contacted regarding federally listed threatened and endangered species potentially occurring in the vicinity of the project. Caltrans received a list of species to be addressed in the Natural Environment Study (Minimal Impacts) NES(MI) for the proposed project from USFWS on March 11, 2021. An updated species list was received from the USFWS on December 14, 2022, and once again on July 9, 2023. The current (i.e., July 9, 2023) USFWS species list is included in Section 4.2 at the end of this chapter.

4.1.6 Affected Landowner/Stakeholder Meetings

In an effort to keep affected landowners and stakeholders apprised regarding the status of the proposed SR-91/Adams Street Interchange Project, representatives from Caltrans and the City

of Riverside convened meetings with representatives from California Baptist University and the automotive center development on September 21, 2022, and December 21, 2022. Specific topics of discussion at these meetings included updates regarding the build alternatives under consideration and a review of the project schedule.

4.1.7 Western Riverside Regional Conservation Authority Coordination

A wildlife agencies and Western Riverside Regional Conservation Authority (RCA) meeting was held on September 17, 2020. Attendees included Tricia Campbell (RCA), Elizabeth Dionne (RCA), John Field (RCA), Karin Cleary-Rose (USFWS), Michael Grimes (Caltrans), Malisa Lieng (Caltrans), Thuy Nguyen (City of Riverside), Karen Chapman (TYLin), Christina Diaz (TYLin), Eric Johnson (TYLin), Wendy Worthy (Dudek), Greg Hoisington (ICF), Vincent Tong (ICF), Colleen Martin (ICF), and Marisa Flores (ICF). City of Riverside representatives introduced the SR-91/Adams Street Interchange Project and presented the results from the 2020 biological resource field surveys. An open discussion was then held to discuss the concrete-lined channels within the BSA and whether or not a formal jurisdictional delineation was needed for the project given that the channels are human-made, concrete, and in highly developed areas. Based on this conversation, it was decided as a team that the concrete-lined channels within the project limits of disturbance are not jurisdictional under the U.S Army Corps of Engineers (due to their ephemeral hydrological regime), and not jurisdictional to Regional Water Quality Control Board (because there would not be any increased impact on receiving waters and the project would be neutral or beneficial to receiving waters) or the California Department of Fish and Wildlife (CDFW) (because the channels do not have functions and values for fish and wildlife resources) and that a formal jurisdictional delineation was not required in this case. It was also determined that the concrete-lined channels are likely not classified as riparian/riverine resources under the Western Riverside County Multiple Species Habitat Conservation Plan (WRC MSHCP), but a WRC MSHCP Consistency Analysis would be included in the NES(MI) report to assess potential project impacts on WRC MSHCP riparian/riverine resources.

4.2 Agency Coordination Documentation

Correspondence obtained from agencies, in response to Caltrans' request for information and input/concurrence, related to the proposed SR-91/Adams Street Interchange Project, is included on the following pages.

PROJECT LEVEL CONFORMITY

- Project-Level Conformity Contact List
- PM Hot-Spot Interagency Review Form Template
- Caltrans Conformity Streamlining Exemption Form

Lists of PM hot spot interagency review forms, qualitative analyses and quantitative analyses

PM Hot Spot Forms

JANUARY 2022

January 2022	Determination
EA# 1M190 SR-243 Intersection Improvements in City of Banning	Not a POAQC – Hot Spot Analysis Not Required
RIV131202	Not a POAQC – Hot Spot Analysis Not Required

DECEMBER 2021

December 2021	Determination
RIV151218	Not a POAQC – Hot Spot Analysis Not Required
LA99ITC101	Not a POAQC – Hot Spot Analysis Not Required
RIV190901	Not a POAQC – Hot Spot Analysis Not Required

RTIP ID# *(required)* RIV131202

TCWG Consideration Date January 25, 2022

Project Description *(clearly describe project)*
The City of Riverside, in cooperation with the California Department of Transportation (Caltrans) and the County of Riverside, is proposing to reconfigure the State Route 91 (SR-91)/Adams Street interchange from post mile (PM) 15.1 to PM 16.2. The project alternatives include an offset intersection configuration (Build Alternative 3) and a hook ramp configuration (Build Alternative 7), along with the No-Build Alternative. The project improvements, lane restriping, and construction signage would extend along Adams Street from approximately 544 feet south of Magnolia Avenue to 990 feet south of Auto Center Drive as well as along SR-91 from PM 14.2 to PM 17.1 in the City of Riverside, Riverside County.

No Build Alternative. The No-Build Alternative would have this section of SR-91 remain in its present condition. No improvements to the existing SR-91/Adams Street interchange would be considered, and the existing conditions would remain. This alternative would not address traffic congestion issues or accommodate future demand within the project limits.

Build Alternative 3. Build Alternative 3 proposes an offset intersection configuration for the SR-91/Adams Street interchange. It would place the eastbound ramp intersection with Adams Street on the north side of SR-91 by constructing the eastbound on- and off-ramps over SR-91, creating a single offset intersection with the westbound ramps.

The intersection with the existing eastbound ramps at Adams Street would be eliminated. The off-ramp terminals in both directions would be widened from two lanes to three lanes. Both the eastbound and westbound off-ramp would consist of a dedicated left-turn lane, a through/left/right lane, and a dedicated right-turn lane. Both the eastbound and westbound on-ramps would consist of two lanes that would taper to one lane before joining SR-91.

Under Build Alternative 3, the existing Adams Street bridge would be replaced. In the northbound direction, the structure would consist of two through lanes, two dedicated left-turn lanes, a dedicated right-turn lane, a bike lane, and a six-foot-wide sidewalk. In the southbound direction, the structure would consist of one through lane, a through/right-turn lane, two dedicated left-turn lanes, a bike lane, and a six-foot-wide sidewalk.

Built Alternative 7. Build Alternative 7 proposes a hook ramp configuration for the SR-91/Adams Street interchange. It would eliminate the intersection between the eastbound ramps and Adams Street. The eastbound ramps would be moved to create a hook ramp that would intersect Indiana Avenue east of the Adams Street overcrossing. The off-ramp terminals in both directions would be widened from two lanes to three lanes. The eastbound off-ramp would consist of a dedicated left-turn lane, and two dedicated right-turn lanes. The westbound off-ramp would consist of a dedicated left-turn lane, a through/left/right-turn lane, and dedicated right-turn lane. The westbound on-ramp would consist of three lanes that would taper to one lane before joining SR-91. The eastbound on-ramp would consist of two lanes that would taper to one lane before joining SR-91. The portion of Indiana Avenue between the eastbound ramps and Adams Street would be widened from two lanes to three lanes in each direction. Indiana Avenue would be widened to provide dedicated turn lanes to the hook ramps.

Under Build Alternative 7, the existing Adams Street bridge would be replaced. In the northbound direction, the structure would consist of two through lanes, two dedicated left-turn lanes, a bike lane, and a six-foot-wide sidewalk. In the southbound direction the structure would consist of two through lanes, two dedicated left-turn lanes, a bike lane, and a six-foot-wide sidewalk.

Type of Project *(use Table 1 on instruction sheet)*
Change to existing regionally significant street

County	**Narrative Location/Route & Postmiles** 08-RIV-91-15.1/16.2
Riverside	**Caltrans Projects – EA#** 1H180

Lead Agency: City of Riverside

Contact Person	**Phone#**	**Fax#**	**Email**
Michael B. Makary	909-501-1258	N/A	michael.makary@dot.ca.gov

Hot Spot Pollutant of Concern *(check one or both)* **PM2.5 x** **PM10 x**

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

Categorical Exclusion (NEPA)	x **EA or Draft EIS**	**FONSI or Final EIS**	**PS&E or Construction**	**Other**

Scheduled Date of Federal Action: February 2023

NEPA Assignment – Project Type *(check appropriate box)*

Exempt	**Section 326 –Categorical Exemption**	X **Section 327 – Non-Categorical Exemption**

Current Programming Dates *(as appropriate)*

	PE/Environmental	**ENG**	**ROW**	**CON**
Start	2019	2019	2021	2023
End	2022	2022	2023	2024

Project Purpose and Need (Summary): *(attach additional sheets as necessary)*
The proposed project is needed to improve traffic flow along the freeway as well as circulation on local streets surrounding the interchange. The SR-91 at Adams Street interchange is one of the busiest entrance/exit points in the City of Riverside. Because of high traffic demands and close intersection spacing along Adams Street in the vicinity of the interchange, severe congestion occurs throughout the interchange area and on surrounding city streets when storage lanes overflow during peak periods. Furthermore, travel demand in the project area is expected to continue to increase. Project improvements will increase operational efficiency and help the Adams Street intersection at SR-91 meet existing and projected access demands.

Surrounding Land Use/Traffic Generators *(especially effect on diesel traffic)*
The land uses within the project area include single-family and multi-family residences, an auto center, a university, and commercial uses.

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

SR-91

2027 No Build: ADT=175,500; Truck ADT=11,320 (6.45%); LOS=D

2027 Alternative 3: ADT=175,500; Truck ADT=11,320 (6.45%); LOS=D

2027 Alternative 7: ADT=175,500; Truck ADT=11,320 (6.45%); LOS=D

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

SR-91

2047 No Build: ADT=190,900; Truck ADT=12,310 (6.45%); LOS=D

2047 Alternative 3: ADT=190,900; Truck ADT=12,310 (6.45%); LOS=D

2047 Alternative 7: ADT=190,900; Truck ADT=12,310 (6.45%); LOS=D

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

Adams Street

2027 No Build: ADT=31,340; Truck ADT=1,191 (3.8%); LOS=E

2027 Alternative 3: ADT=31,340; Truck ADT=1,191 (3.8%); LOS=D

2027 Alternative 7: ADT=31,340; Truck ADT=1,191 (3.8%); LOS=C

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

Adams Street

2047 No Build: ADT=37,470; Truck ADT=1,424 (3.8%); LOS=F

2047 Alternative 3: ADT=37,470; Truck ADT=1,424 (3.8%); LOS=F

2047 Alternative 7: ADT=36,360; Truck ADT=1,382 (3.8%); LOS=D

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

See attached analysis

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

See attached analysis

$PM_{2.5}$/PM_{10} Hot-Spot Analysis

The SR-91/Adams Street Interchange Project is located within a nonattainment area for federal $PM_{2.5}$ standards and within an attainment/maintenance area for the federal PM_{10} standards. Therefore, per 40 CFR Part 93 hot-spot analyses are required for conformity purposes. However, the EPA does not require hot-spot analyses, qualitative or quantitative, for projects that are not listed in section 93.123(b)(1) as an air quality concern.

According to 40 CFR Part 93.123(b)(1), the following are Projects of Air Quality Concern (POAQC):

i. New highway projects have a significant number of diesel vehicles, and expanded highway projects that have a significant increase in the number of diesel vehicles;
ii. Projects affecting intersections that are at a Level of Service D, E, or F with a significant number of diesel vehicles, or those that will change to Level of Service D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project;
iii. New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location;
iv. Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location; and
v. Projects in or affecting locations, areas or categories of sites which are identified in the $PM_{2.5}$ and PM_{10} applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

The project does not qualify as a POAQC because of the following reasons:

i) The proposed Project is not a new or expanded highway project. The proposed Project reconstructs the existing SR-91/Adams Street interchange without increasing capacity. Tables A and B summarize the traffic volumes along SR-91 and Adams Street in the project area. As shown, the traffic volumes along SR-91 would not change with either build alternative. In addition, Alternative 7 would redistribute traffic along Adams Street without increasing the total traffic volumes. Therefore, the project alternatives would not result in a significant increase in the number of diesel vehicles.
ii) As discussed above, the proposed Project would not significantly increase the number of diesel vehicles operating within the project study area. Therefore, the proposed Project would not affect intersections that are at a Level of Service D, E, or F with a significant number of diesel vehicles.
iii) The proposed build alternatives do not include the construction of a new bus or rail terminal.
iv) The proposed build alternatives do not expand an existing bus or rail terminal.
v) The proposed build alternatives are not in or affecting locations, areas, or categories of sites that are identified in the $PM_{2.5}$ and PM_{10} applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

Therefore, the proposed SR-91/Adams Street Interchange Project meets the CAA requirements and 40 CFR 93.116 without any explicit hot-spot analysis and would not create a new, or worsen an existing, $PM_{2.5}$ and PM_{10} violation.

Table A. 2027 Traffic Volumes

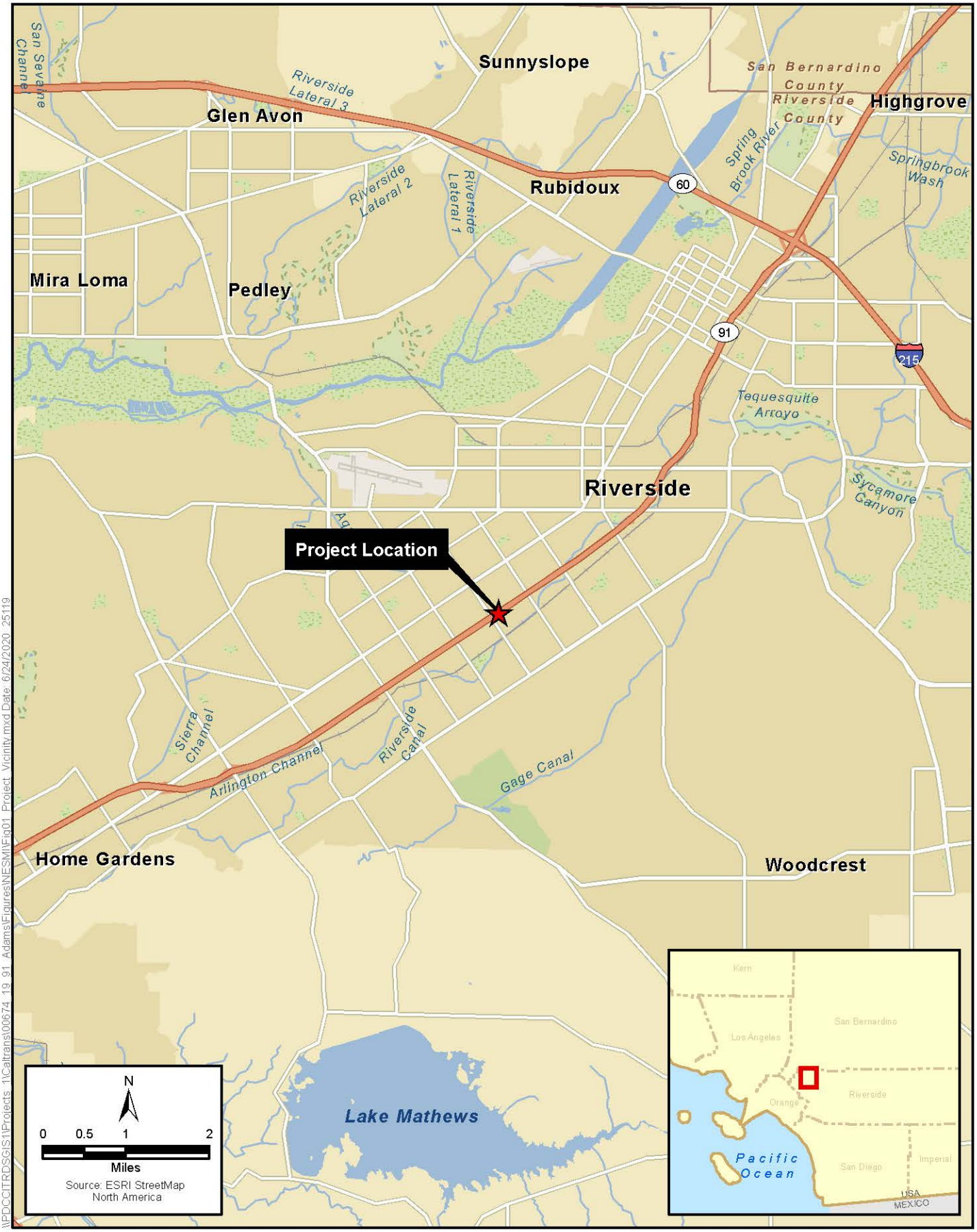
Roadway Segment	No Build			Alternative 3			Alternative 7		
	ADT	Truck ADT	Truck %	ADT	Truck ADT	Truck %	ADT	Truck ADT	Truck %
SR-91									
West of Van Buren	179,045	11,548	6.45	179,045	11,548	6.45	179,045	11,548	6.45
Between Van Buren and Adams	174,217	11,237	6.45	174,217	11,237	6.45	174,217	11,237	6.45
Between Adams and Madison	175,500	11,320	6.45	175,500	11,320	6.45	175,500	11,320	6.45
East of Madison	177,973	11,479	6.45	177,973	11,479	6.45	177,973	11,479	6.45
Adams Street									
North of SR-91	31,340	1,191	3.8	31,340	1,191	3.8	31,340	1,191	3.8
South of SR-91	28,130	1,069	3.8	28,130	1,069	3.8	28,550	1,085	3.8

ADT = average daily traffic; SR = State Route

Table B. 2047 Traffic Volumes

I-15 Freeway Segment	No Build			Alternative 3			Alternative 7		
	ADT	Truck ADT	Truck %	ADT	Truck ADT	Truck %	ADT	Truck ADT	Truck %
SR-91									
West of Van Buren	188,808	12,178	6.45	188,808	12,178	6.45	188,808	12,178	6.45
Between Van Buren and Adams	190,752	12,304	6.45	190,752	12,304	6.45	190,752	12,304	6.45
Between Adams and Madison	190,886	12,312	6.45	190,886	12,312	6.45	190,886	12,312	6.45
East of Madison	195,782	12,628	6.45	195,782	12,628	6.45	195,782	12,628	6.45
Adams Street									
North of SR-91	35,660	1,355	3.8	35,660	1,355	3.8	35,660	1,355	3.8
South of SR-91	37,470	1,424	3.8	37,470	1,424	3.8	36,360	1,382	3.8

ADT = average daily traffic; SR = State Route



\\PDCCITRDSGIS1\Projects_1\Caltrans\00674_19_91_Adams\Figures\NES\MI\Fig01_Project_Vicinity.mxd Date: 6/24/2020 25119

Project Vicinity
SR-91/Adams Street Interchange Project

iteris®

City of Riverside
SR-91/Adams Street Interchange Reconfiguration PA/ED
Traffic Operations Analysis Report

Figure 2
Build Alternative 3 Design

iteris®

City of Riverside
SR-91/Adams Street Interchange Reconfiguration PA/ED
Traffic Operations Analysis Report

Figure 3
Build Alternative 7 Design

DEPARTMENT OF TRANSPORTATION
DISTRICT 8
ENVIRONMENTAL PLANNING (MS 825)
464 W. FOURTH STREET, 6TH FLOOR
SAN BERNARDINO, CA 92401-1400
PHONE: (909) 383-6933

Make Conservation a California Way of Life

December 15, 2021

Julianne Polanco
State Historic Preservation Officer
1725 23rd Street Suite 100
Sacramento, CA 95816-1700

PROJECT: SR-91/Adams Street Interchange Project
1H180 / 0816000170

RE: DETERMINATION OF ELIGIBILITY FOR THE SR-91/ADAMS STREET INTERCHANGE PROJECT, RIVERSIDE COUNTY, CALIFORNIA

Attention: Lucinda Woodward

The California Department of Transportation (Caltrans) is initiating consultation with the SHPO regarding the proposed SR-91/Adams Street Interchange Project in Riverside County. This consultation is undertaken in accordance with procedures outlined in the January 1, 2014 *First Amended Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation* (Section 106 PA).

The City of Riverside (City), in cooperation with California Department of Transportation (Caltrans) and Riverside County, proposes to reconfigure the SR-91/Adams Street Interchange to improve traffic flow along the freeway and circulation within local streets surrounding the interchange (Project). The interchange is located between two other freeway interchanges on SR-91: Van Buren Boulevard, approximately 1.5 miles to the west, and Madison Avenue, approximately one mile to the east. At present, the interchange has a tight diamond configuration, with the SR-91 freeway running east–west and Adams Street running north–south and intersecting the freeway. Anticipated project alternatives include an offset intersection configuration and a hook ramp configuration.

Enclosed please find a Historic Properties Survey Report (HPSR), Archaeological Survey Report (ASR), and Historic Resources Evaluation Report (HRER) for the project. The HRER identified evaluates eight (8) cultural resources with the APE that required evaluation as follows:

The following properties were determined NRHP Eligible:

Name	Address/Location	Community	OHP Status Code	State Owned	Map Reference Number
Rose Garden Village	3668 Adams Street	Riverside	3S	No	3
Helgeson Buick Showroom	8001 Auto Drive	Riverside	3S	No	8

The following properties were determined to be ineligible for the NRHP:

Name	Address/Location	Community	OHP Status Code	State Owned	Map Reference Number
Royal Rose Apartments	3720 Adams Street	Riverside	6Y	No	1
Big Ben Clock Tower	Courtyard within 3720 Adams Street	Riverside	6Y	No	2
Sinclair House	3691 Adams Street	Riverside	6Y	No	4
Peterson House	3641 Adams Street	Riverside	6Y	No	5
Church of Christ	3601 Adams Street	Riverside	6Y	No	6
Riverside Auto Center	Auto Drive between Adams and Jefferson Streets	Riverside	6Y	No	7

Caltrans seeks SHPOs concurrence on the above determinations under PA Stipulation VIII.C.6. Pursuant to Stipulation IX.A of the Section 106 PA, Caltrans is proposing that a finding of No Historic Properties Affected is appropriate for the Undertaking.

We look forward to receiving your written response within 30 days of your receipt of this transmittal in accordance with Stipulation VIII.C.6 of the Section 106 PA. If you have any questions, please contact me (phone: 909-260-5178; email: Andrew.walters@dot.ca.gov). Thank you for your assistance with this undertaking.

Sincerely,

Andrew M. Walters

Andrew Walters
Branch Chief
Environmental Support/Cultural Studies
Caltrans District 8

c. David Price, Section 106 Coordinator, Division of Environmental Analysis, HQ

Enclosure: Historic Property Survey Report (HPSR) for the SR-91/Adams Street Interchange Project

From: Walters, Andrew M@DOT
To: OHP, CALSHPO@Parks
Cc: Lindquist, Natalie@Parks; Perez, Alicia@Parks; Woodward, Lucinda@Parks; Price, David@DOT
Subject: RE: Caltrans SR-91/Adams Street Interchange Project Section 106 DOE to SHPO
Date: Wednesday, February 16, 2022 10:38:00 AM
Attachments: 1H180 SR-91 Adams Street Interchange Project SHPO Transmittal.pdf

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Good morning OHP,

Caltrans District 8 initiated consultation with the SHPO by letter December 15 2021 regarding determinations of eligibility for the above-referenced Undertaking (letter attached).

In accordance with Stipulation VIII.C.6(a) of the Section 106 PA, since it has been more than 60 days since initiation of consultation regarding determinations of eligibility without response from your office, Caltrans intends to proceed to the next step prescribed by the Section 106 PA based on Caltrans' determinations of NRHP eligibility made in the December 2021 HPSR and HRER prepared for the Undertaking and outlined in the attached letter.

Pursuant to Stipulation IX.A of the Section 106 PA, Caltrans is proposing that a finding of No Historic Properties Affected is appropriate for the Undertaking.

If you have any questions, please contact me. Thank you for your assistance with this undertaking.

Andrew Walters
Senior Environmental Planner – Branch Chief
Environmental Support/Cultural Studies
(909) 383-2647 office
(909) 260-5178

From: Walters, Andrew M@DOT
Sent: Wednesday, December 15, 2021 11:51 AM
To: OHP, CALSHPO@Parks <CALSHPO.OHP@parks.ca.gov>
Cc: Lindquist, Natalie@Parks <Natalie.Lindquist@parks.ca.gov>; Perez, Alicia@Parks <Alicia.Perez@parks.ca.gov>; Woodward, Lucinda@Parks <Lucinda.Woodward@parks.ca.gov>; Price, David@DOT <David.Price@dot.ca.gov>
Subject: Caltrans SR-91/Adams Street Interchange Project Section 106 DOE to SHPO

Good Morning OHP,

Caltrans District 8 has approved the Historic Properties Survey Report (HPSR), Archaeological Survey Report (ASR), and Historic Resources Evaluation Report (HRER) for the proposed SR-91/Adams Street Interchange Project in Riverside County.

Caltrans has determined that there were eight (8) built environment resources within the Undertaking's APE that required evaluation and is requesting SHPO concurrence on these determinations pursuant to PA Stipulation VIII.C.6. Pursuant to Stipulation IX.A of the Section 106 PA, Caltrans is proposing that a finding of No Historic Properties Affected is appropriate for the Undertaking.

The transmittal letter for the undertaking is attached. The HPSR and attachments will be transmitted separately via Filr.

Please let me know if you need anything else.

Thanks

Andrew Walters
Senior Environmental Planner – Branch Chief
Environmental Support/Cultural Studies
(909) 383-2647 office
(909) 260-5178

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
Phone: (760) 431-9440 Fax: (760) 431-5901

In Reply Refer To:
Project Code: 2023-0025417
Project Name: SR-91/Adams Street Interchange Project

July 09, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A biological assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a biological assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a biological assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found at the Fish and Wildlife Service's Endangered Species Consultation website at:

https://www.fws.gov/endangered/what-we-do/faq.html

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

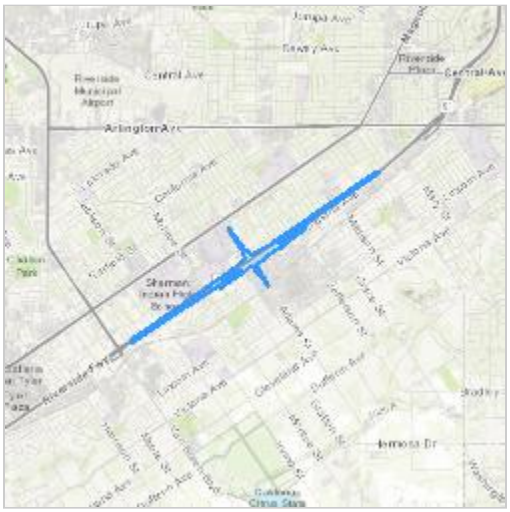
Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
(760) 431-9440

PROJECT SUMMARY

Project Code: 2023-0025417
Project Name: SR-91/Adams Street Interchange Project
Project Type: Road/Hwy - Maintenance/Modification
Project Description: The SR−91/Adams Street Interchange is located entirely within the City of Riverside in Riverside County. The existing interchange is a tight diamond configuration. The SR−91 freeway runs east−west and Adams Street intersects the freeway running north−south. The SR−91/Adams Street interchange lies between two other freeway interchanges on SR−91: Van Buren Boulevard, approximately 1.5 miles to the west and Madison Avenue, approximately 1 mile to the east. Currently, it is anticipated that the PA/ED project alternatives would include an offset intersection configuration and a hook ramp configuration. The purpose of the project is to improve operational efficiency along Adams Street at the SR-91 intersection.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@33.92788393941835,-117.4189098940963,14z



Counties: Riverside County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 8 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Stephens' Kangaroo Rat *Dipodomys stephensi (incl. D. cascus)* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3495	Threatened

BIRDS

NAME	STATUS
Coastal California Gnatcatcher *Polioptila californica californica* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8178	Threatened
Least Bell's Vireo *Vireo bellii pusillus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered
Southwestern Willow Flycatcher *Empidonax traillii extimus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered

FISHES

NAME | STATUS

Santa Ana Sucker *Catostomus santaanae* — Threatened
- Population: 3 CA river basins
- There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
- Species profile: https://ecos.fws.gov/ecp/species/3785

INSECTS

NAME | STATUS

Monarch Butterfly *Danaus plexippus* — Candidate
- No critical habitat has been designated for this species.
- Species profile: https://ecos.fws.gov/ecp/species/9743

FLOWERING PLANTS

NAME | STATUS

Nevin's Barberry *Berberis nevinii* — Endangered
- There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
- Species profile: https://ecos.fws.gov/ecp/species/8025

San Diego Ambrosia *Ambrosia pumila* — Endangered
- There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
- Species profile: https://ecos.fws.gov/ecp/species/8287

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: ICF
Name: Colleen Martin
Address: 49 Discovery
Address Line 2: Suite 250
City: Irvine
State: CA
Zip: 92618
Email colleen.martin@icf.com
Phone: 5303545369

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Department of Transportation

Chapter 5 List of Preparers

The following persons were principally responsible for review and preparation of this IS/EA.

5.1 California Department of Transportation

Shawn Oriaz	Senior Environmental Planner
Vivian Ho	Associate Environmental Planner
Maggi Elgeziry	Associate Environmental Planner/Biological Studies
Nancy Frost	Senior Environmental Planner/Biological Resources
Tri Tran	Senior Transportation Engineer/Water Quality
Michael Lemke	Senior Transportation Engineer/Water Quality
Andrew Walters	District Environmental Branch Chief/Cultural Studies
Mary K. Smith	Principal Architectural Historian (PQS)/Cultural Studies
Gary Jones	Principal Investigator, Prehistoric and Historical Archaeology (PQS)/Cultural Studies
Bahram Karimi	Associate Environmental Planner/Paleontological Studies
Donald Cheng	Transportation Engineer/Hazardous Waste
Almabeth Anderson	Landscape Associate/Landscape Architecture
Olufemi Odufalu, P.E.	Office Chief/Environmental Engineering
Farhana Islam	Transportation Engineer/Noise

5.2 City of Riverside

Thuy Nguyen	Principal Engineer

5.3 Consultants

Brian Calvert	Project Director, ICF
Court Morgan	Senior Environmental Planner, ICF
Sarah Baker	Senior Environmental Planner, ICF
Noah Stoop	Environmental Planner, ICF
Peter Hardie, INCE	Senior Noise Specialist, ICF
Nina Franklin	Environmental Planner, ICF
Colleen Martin	Senior Biologist, ICF
Greg Hoisington	Biological Resources Manager, ICF
Keith Lay	Senior Air Quality Specialist, ICF

Colleen Davis	Cultural Resources – Architectural History, ICF
Rachael Droessler	Cultural Resources – Archaeology, ICF
Ken Cherry	Editor, ICF
Jenelle Mountain-Castro	Publications Specialist, ICF
Karen Chapman, P.E.	Project Manager, T.Y. Lin
Christina Diaz, P.E.	Senior Transportation Engineer, T.Y. Lin
Brett A. Paulson, SR/WA, RAC, NAC	Relocation Impacts, Interwest
W. Kent Jorgensen, SR/WA	Relocation Impacts, Interwest
Sally Drinkard, PG, CHG	Principal Environmental Scientist, Laurel Civil & Environmental Consultants
Todd Holmes	Visual Resources Analyst, David Evans and Associates, Inc.

Chapter 6 Distribution List

The IS/EA and/or Notice of Availability for this draft IS/EA was distributed to the federal, state, regional, and local agencies, elected officials, and interested groups, organizations and individuals, and utilities and service providers in the project area. In addition, all property owners and residents/occupants located within 500 feet of the proposed project were provided with a copy of the Notice of Availability.

6.1 Federal Agencies

U.S. Environmental Protection Agency
Pacific Southwest, Region 9
Mike Stoker, Regional Administrator
75 Hawthorne Street
San Francisco, CA 94105

U.S. Department of Agriculture
Natural Resources Conservation Service
Robert Hewitt, District Conservationist
950 N. Ramona Boulevard, Suite 6
San Jacinto, CA 92582-2571

U.S. Department of Agriculture
Forest Service
Amy L. Reid, Palomar District Ranger
1634 Black Canyon Road
Ramona, CA 92065

U.S. Department of the Interior
Office of Environmental Policy and Compliance, Region IX
Janet Whitlock
333 Bush Street, Suite 515
San Francisco, CA 94104

U.S. Army Corps of Engineers
L.A. District – Regulatory Division
Luis Betancourt-Massanet, Project Manager
915 Wilshire Boulevard, Suite 980
Los Angeles, CA 90053-2325

U.S. Department of Water Resources
Southwest Region
Mark Sogge, Regional Director
Placer Hall
6000 J Street, Suite 5000
Sacramento, CA 95819

U.S. Fish and Wildlife Service
Palm Springs Fish and Wildlife Office
Karin Cleary-Rose
Chief, San Bernardino and Riverside Counties
777 E. Tahquitz Canyon Way, Suite 208
Palm Springs, CA 92262

U.S. Department of the Interior
Bureau of Land Management
California State Office
Joe Stout, Acting State Director
2800 Cottage Way, Suite W1623
Sacramento, CA 95825

U.S. Bureau of Land Management
California Desert District Office
Andrew Archuleta, District Manager
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

6.2 State Agencies

California Department of Transportation
Division of Environmental Analysis
Dan McKell, EPA Assignment Program Manager
1120 N Street
Sacramento, CA 95814

California Air Resources Board
Richard Corey, Executive Officer
1001 I Street
P.O. Box 2815
Sacramento, CA 95812

California Department of Conservation
David Bunn, Director
801 K Street, MS 24-01
Sacramento, CA 95814

California Department of Education
Ynez Canela, Southern California Liaison
4339 State University Drive
Los Angeles, CA 90013

Native American Heritage Commission
James Ramos, Chairperson
1550 Harbor Boulevard, Suite 100
West Sacramento, CA 95691

California Public Utilities Commission
Elizabeth Echols, Director
505 Van Ness Avenue
San Francisco, CA 94102

California Department of Toxic Substances Control
Meredith Williams, Acting Director
P.O. Box 806
Sacramento, CA 95812-0806

California Department of Water Resources
Karla Nemeth, Director
P.O. Box 942836, Room 1115-1
Sacramento, CA 94236

State Water Resources Control Board
Eileen Sobeck, Executive Director
P.O. Box 100
Sacramento, CA 95812-0100

California State Lands Commission
Kenneth Foster
200 East Ocean Boulevard
Long Beach, CA 95825

California Highway Patrol
8118 Lincoln Avenue
Riverside, CA 92504

California Natural Resources Agency
Wade Crowfoot, Secretary
1416 Ninth Street, Suite 1311
Sacramento, CA 95814

California Department of Fish and Wildlife
3602 Inland Empire Blvd., Suite C-220
Ontario, CA 91764

Regional Water Quality Control Board
3737 Main Street, Suite 500
Riverside, CA 92501-3348

California Department of Health Services
Sonia Angell, Director
P.O. Box 997377, MS 0500
Sacramento, CA 95899-7377

California Office of Historic Preservation
Julianne Polanco
State Historic Preservation Officer
1725 23rd Street, Suite 100
Sacramento, CA 95816

California Department of Forestry and Fire Protection
Southern Region Operations
2524 Mulberry Street
Riverside, CA 92501

California Conversation Corps
Inland Empire
1824 S. Commercenter Circle
San Bernardino, CA 92408

California State Clearinghouse
1400 Tenth Street
Sacramento, CA 95814

6.3 Local Agencies and Elected Officials

County of Riverside
Brooke Federico, Public Information Officer
4080 Lemon Street, 4th Floor
Riverside, CA 92501

County of Riverside, Third District
Chuck Washington, Supervisor
4080 Lemon Street
Riverside, CA 92501

County of Riverside Transportation and Land Management Agency
Patricia Romo, Director of Transportation
4080 Lemon Street
Riverside, CA 92501

County of Riverside Transportation Department
Juan C. Perez, Director
4080 Lemon Street
Riverside, CA 92501

Riverside County Planning Department
Charissa Leach, Assistant Director of TLMA
4080 Lemon Street, 12th Floor
Riverside, CA 92502-1629

Southern California Association of Governments
Kome Ajise, Executive Director
900 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90017

South Coast Air Quality Management District, Riverside County Cities
Nydia Ibarra, Regional Contact
21865 Copley Drive
Diamond Bar, CA 91765

Hon. Dianne Feinstein, U.S. Senator
11111 Santa Monica Boulevard, Suite 915
Los Angeles, CA 90025

Hon. Randy Voepel, Assembly Member
California State Assembly, District 71
8760 Cuyamaca Street, Suite 201
Santee, CA 92071

Hon. Ken Calvert, Congressman
House of Representatives, California District 42
400 S. Vicentia Avenue, Suite 125
Corona, CA 92882

Riverside County Fire Department
Office of the County Fire Marshall
2300 Market Street, Suite 150
Riverside, CA 92501

Parkview Community Hospital
3865 Jackson Street
Riverside, CA 92503

Southern California Edison
Pedro J. Pizarro, President
P.O. Box 800
Rosemead, CA 91770

Riverside County Flood Control and Water Conservation District – Zone 7
Teri Biancardi, Zone Commissioner
1995 Market Street
Riverside, CA 92501

Riverside County Transportation Commission
Anne Mayer, Executive Director
4080 Lemon Street, 3rd Floor
Riverside, CA 92501

Southern California Association of Governments
Cheryl Leising
3403 10th Street, Suite 805
Riverside, CA 92501

Western Riverside Council of Governments
Rick Bishop, Executive Director
3390 University Avenue, Suite 450
Riverside, CA 92501

Hon. Alex Padilla, U.S. Senator
255 E. Temple Street, Suite 1860
Los Angeles, CA 90012

City of Riverside Police Department
8181 Lincoln Avenue
Riverside, CA 92504

City of Riverside Fire Department
9450 Andrew Street
Riverside, CA 92503

Metropolitan Water District of Southern California
Office of the General Manager
P.O. Box 54153
Los Angeles, CA 90054-0153

Eastern Municipal Water District
Paul Jones II, General Manager
P.O. Box 8300
Perris, CA 92572-8300

Riverside Unified School District
3380 14th Street
Riverside, CA 92501

Chamber of Commerce
3985 University Avenue
Riverside, CA 92501

6.4 Native Americans and Tribes

Pechanga Band of Luiseño Indians
Ebru Ozdil, Cultural Analyst
P.O. Box 2183
Temecula, CA 92593

Rincon Band of Luiseño Indians
Jim McPherson, Tribal Historic Preservation Officer
One Government Center Lane
Valley Center, CA 92082

6.5 Property Owners, Residents, and Other Interested Parties

Raul and Martha Lomeli
8267 Diana Avenue
Riverside, CA 92504

Abad Espinoza Garcia Aguirre Belem
8257 Diana Avenue
Riverside, CA 92504

Oliveros Lopez Revocable Living Trust/
Lopez Franciso Javier Oliveros
1000 Chantel Drive
Corona, CA 92879

Alberty & Maria Mora
8237 Diana Avenue
Riverside, CA 92504

David V & Joyce B Marsteller
2031 Lyon Avenue
Riverside, CA 92503

Jose Refugio Perez and Antonia Villalba
8217 Diana Avenue
Riverside, CA 92504

Rosendo & Ramona Rodriguez
8207 Diana Avenue
Riverside, CA 92504

Dye Nicholas Hubert Living Trust
3474 Crowell Avenue
Riverside, CA 92504

Courtney Jackson
8228 Oakhurst Place
Riverside, CA 92504

Rosetta Fitzhugh
8238 Oakhurst Place
Riverside, CA 92504

Bernardino & Martha Muniz
8248 Oakhurst Place
Riverside, CA 92504

Jesse E Reyes
8258 Oakhurst Place
Riverside, CA 92504

Kevin and Darcia Flye
337 Valley View Circle
Riverside, CA 92508

Jeffrey & Tammy Headley
8288 Oakhurst Place
Riverside, CA 92504

California Baptist University
8432 Magnolia Avenue
Riverside, CA92504

Stig Co Living Trust
Warren D. Bower
49950 Jefferson St# 130-230
Indio, CA 92201

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Appendix A Title VI Policy Statement

California Department of Transportation

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September 2022

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures "*No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.*"

Caltrans will make every effort to ensure nondiscrimination in all of its services, programs and activities, whether they are federally funded or not, and that services and benefits are fairly distributed to all people, regardless of race, color, or national origin. In addition, Caltrans will facilitate meaningful participation in the transportation planning process in a non-discriminatory manner.

Related federal statutes, remedies, and state law further those protections to include sex, disability, religion, sexual orientation, and age.

For information or guidance on how to file a complaint, or obtain more information regarding Title VI, please contact the Title VI Branch Manager at (916) 639-6392 or visit the following web page: https://dot.ca.gov/programs/civil-rights/title-vi.

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Civil Rights, at PO Box 942874, MS-79, Sacramento, CA 94274-0001; (916) 879-6768 (TTY 711); or at Title.VI@dot.ca.gov.

TONY TAVARES
Director

Appendix B Summary of Relocation Benefits

California Department of Transportation Relocation Assistance Program

RELOCATION ASSISTANCE ADVISORY SERVICES

DECLARATION OF POLICY

"The purpose of this title is to establish a ***uniform policy for fair and equitable treatment*** of persons displaced as a result of federal and federally assisted programs in order that such persons ***shall not suffer disproportionate injuries*** as a result of programs designed for the benefit of the public as a whole."

The Fifth Amendment to the U.S. Constitution states, "No Person shall…be deprived of life, liberty, or property, without due process of law, nor shall private property be taken for public use without just compensation." The Uniform Act sets forth in statute the due process that must be followed in Real Property acquisitions involving federal funds. Supplementing the Uniform Act is the government-wide single rule for all agencies to follow, set forth in 49 Code of Federal Regulations (CFR) Part 24. Displaced individuals, families, businesses, farms, and nonprofit organizations may be eligible for relocation advisory services and financial benefits, as discussed below.

FAIR HOUSING

The Fair Housing Law (Title VIII of the Civil Rights Act of 1968) sets forth the policy of the United States to provide, within constitutional limitations, for fair housing. This act, and as amended, makes discriminatory practices in the purchase and rental of most residential units illegal. Whenever possible, minority persons shall be given reasonable opportunities to relocate to any available housing regardless of neighborhood, as long as the replacement dwellings are decent, safe, and sanitary and are within their financial means. This policy, however, does not require the Department to provide a person a larger payment than is necessary to enable a person to relocate to a comparable replacement dwelling.

Any persons to be displaced will be assigned to a relocation advisor, who will work closely with each displacee in order to see that all payments and benefits are fully utilized and that all regulations are observed, thereby avoiding the possibility of displacees jeopardizing or forfeiting any of their benefits or payments. At the time of the initiation of negotiations (usually the first written offer to purchase), owner-occupants are given a detailed explanation of the state's relocation services. Tenant occupants of properties to be acquired are contacted soon after the initiation of negotiations and also are given a detailed explanation of the Caltrans Relocation Assistance Program. To avoid loss of possible benefits, no individual, family, business, farm, or nonprofit organization should commit to purchase or rent a replacement property without first contacting a Department relocation advisor.

RELOCATION ASSISTANCE ADVISORY SERVICES

In accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, the Department will provide relocation advisory assistance to any person, business, farm, or nonprofit organization displaced as a result of the acquisition of real property for public use, so long as they are legally present in the United States. The Department will assist eligible displacees in obtaining comparable replacement housing by providing current and continuing information on the availability and prices of both houses for sale and rental units that are "decent, safe, and sanitary." Nonresidential displacees will receive information on comparable properties for lease or purchase (for business, farm, and nonprofit organization relocation services, see below).

Residential replacement dwellings will be in a location generally not less desirable than the displacement neighborhood at prices or rents within the financial ability of the individuals and

families displaced, and reasonably accessible to their places of employment. Before any displacement occurs, comparable replacement dwellings will be offered to displacees that are open to all persons regardless of race, color, religion, sex, national origin, and consistent with the requirements of Title VIII of the Civil Rights Act of 1968. This assistance will also include the supplying of information concerning federal and state assisted housing programs and any other known services being offered by public and private agencies in the area.

Persons who are eligible for relocation payments and who are legally occupying the property required for the project will not be asked to move without first being given at least 90 days written notice. Residential occupants eligible for relocation payment(s) will not be required to move unless at least one comparable "decent, safe, and sanitary" replacement dwelling, available on the market, is offered to them by the Department.

RESIDENTIAL RELOCATION FINANCIAL BENEFITS

The Relocation Assistance Program will help eligible residential occupants by paying certain costs and expenses. These costs are limited to those necessary for or incidental to the purchase or rental of a replacement dwelling and actual reasonable moving expenses to a new location within 50 miles of the displacement property. Any actual moving costs in excess of the 50 miles are the responsibility of the displacee. The Residential Relocation Assistance Program can be summarized as follows:

Moving Costs

Any displaced person, who lawfully occupied the acquired property, regardless of the length of occupancy in the property acquired, will be eligible for reimbursement of moving costs. Displacees will receive either the actual reasonable costs involved in moving themselves and personal property up to a maximum of 50 miles, or a fixed payment based on a fixed moving cost schedule. Lawful occupants who move into the displacement property after the initiation of negotiations must wait until the Department obtains control of the property in order to be eligible for relocation payments.

Purchase Differential

In addition to moving and related expense payments, fully eligible homeowners may be entitled to payments for increased costs of replacement housing.

Homeowners who have owned and occupied their property for 90 days or more prior to the date of the initiation of negotiations (usually the first written offer to purchase the property), may qualify to receive a price differential payment and may qualify to receive reimbursement for certain nonrecurring costs incidental to the purchase of the replacement property. An interest differential payment is also available if the interest rate for the loan on the replacement dwelling is higher than the loan rate on the displacement dwelling, subject to certain limitations on reimbursement based upon the replacement property interest rate.

Rent Differential

Tenants and certain owner-occupants (based on length of ownership) who have occupied the property to be acquired by the Department prior to the date of the initiation of negotiations may qualify to receive a rent differential payment. This payment is made when the Department determines that the cost to rent a comparable "decent, safe, and sanitary" replacement dwelling will be more than the present rent of the displacement dwelling. As an alternative, the tenant may qualify for a down payment benefit designed to assist in the purchase of a replacement property and the payment of certain costs incidental to the purchase, subject to certain limitations noted under the *Down Payment* section below. To receive any relocation benefits, the displaced person must buy or rent and occupy a "decent, safe and sanitary" replacement dwelling within

one year from the date the Department takes legal possession of the property, or from the date the displacee vacates the displacement property, whichever is later.

Down Payment
The down payment option has been designed to aid owner-occupants of less than 90 days and tenants in legal occupancy prior to the Department's initiation of negotiations. The one-year eligibility period in which to purchase and occupy a "decent, safe and sanitary" replacement dwelling will apply.

Last Resort Housing
Federal regulations (49 CFR 24) contain the policy and procedure for implementing the Last Resort Housing Program on Federal-aid projects. Last Resort Housing benefits are, except for the amounts of payments and the methods in making them, the same as those benefits for standard residential relocation as explained above. Last Resort Housing has been designed primarily to cover situations where a displacee cannot be relocated because of lack of available comparable replacement housing, or when the anticipated replacement housing payments exceed the limits of the standard relocation procedure, because either the displacee lacks the financial ability or other valid circumstances.

After the initiation of negotiations, the Department will within a reasonable length of time, personally contact the displacees to gather important information, including the following:

- Number of people to be displaced.
- Specific arrangements needed to accommodate any family member(s) with special needs.
- Financial ability to relocate into comparable replacement dwelling which will adequately house all members of the family.
- Preferences in area of relocation.
- Location of employment or school.

NONRESIDENTIAL RELOCATION ASSISTANCE

The Nonresidential Relocation Assistance Program provides assistance to businesses, farms and nonprofit organizations in locating suitable replacement property, and reimbursement for certain costs involved in relocation. The Relocation Advisory Assistance Program will provide current lists of properties offered for sale or rent, suitable for a particular business's specific relocation needs. The types of payments available to eligible businesses, farms, and nonprofit organizations are: searching and moving expenses, and possibly reestablishment expenses; or a fixed in lieu payment instead of any moving, searching and reestablishment expenses. The payment types can be summarized as follows:

Moving Expenses
Moving expenses may include the following actual, reasonable costs:

- The moving of inventory, machinery, equipment and similar business-related property, including: dismantling, disconnecting, crating, packing, loading, insuring, transporting, unloading, unpacking, and reconnecting of personal property. Items identified as real property may not be moved under the Relocation Assistance Program. If the displacee buys an Item Pertaining to the Realty back at salvage value, the cost to move that item is borne by the displacee.
- Loss of tangible personal property provides payment for actual, direct loss of personal property that the owner is permitted not to move.

- Expenses related to searching for a new business site, up to $2,500, for reasonable expenses actually incurred.

Reestablishment Expenses
Reestablishment expenses related to the operation of the business at the new location, up to $25,000 for reasonable expenses actually incurred.

Fixed In Lieu Payment
A fixed payment in lieu of moving, searching, and reestablishment payments may be available to businesses that meet certain eligibility requirements. This payment is an amount equal to half the average annual net earnings for the last two taxable years prior to the relocation and may not be less than $1,000 nor more than $40,000.

ADDITIONAL INFORMATION

Reimbursement for moving costs and replacement housing payments are not considered income for the purpose of the Internal Revenue Code of 1954, or for the purpose of determining the extent of eligibility of a displacee for assistance under the Social Security Act, or any other law, ***except*** for any federal law providing local "Section 8" Housing Programs.

Any person, business, farm or nonprofit organization that has been refused a relocation payment by the Department relocation advisor or believes that the payment(s) offered by the agency are inadequate may appeal for a special hearing of the complaint. No legal assistance is required. Information about the appeal procedure is available from the relocation advisor.

California law allows for the payment for lost goodwill that arises from the displacement for a public project. A list of ineligible expenses can be obtained from the Department's Division of Right of Way and Land Surveys. California's law and the federal regulations covering relocation assistance provide that no payment shall be duplicated by other payments being made by the displacing agency.

For more information regarding the Department's relocation assistance policies and programs, please visit the Division of Right of Way's Relocation Assistance Program at:

https://dot.ca.gov/programs/right-of-way/relocation-assistance-program

Appendix C Environmental Commitments Record

Environmental Commitments Record (ECR)

DIST-CO-RTE: 8-RIV-91 **PM/PM:** 15.1/16.2 **EA/Project ID.:** 08-1H180/0816000170
Project Description: Caltrans proposes to reconfigure the State Route 91/Adams Street Interchange to improve traffic flow along the freeway and circulation within local streets surrounding the interchange between post miles 15.1 and 16.2 in the city of Riverside in Riverside County, California. The project would eliminate the existing intersection between the eastbound ramps and Adams Street and create a hook ramp that would intersect Indiana Avenue east of the Adams Street overcrossing.
Date (Last modification): November 2023
Environmental Planner: Shawn Oriaz **Phone No.:** (909) 501-5743
Construction Liaison: **Phone No.:**
Resident Engineer: **Phone No.:**

PERMITS

Permit	Agency	Application Submitted	Permit Received	Permit Expiration	Permit Requirement Completed by:	Permit Requirement Completed on:	Comments
National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities	California Water Resources Board						

ENVIRONMENTAL COMMITMENTS

PS&E/BEFORE RTL

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA?
Community Impact Assessment	**COM-1**: CBU Coordination. Caltrans will coordinate closely with CBU officials through project design and construction in order to communicate construction-related delays and identify additional workarounds that could reduce temporary impacts on those trying to access the CBU campus.	IS/EA	Yes	Resident Engineer/Contractor						No
Community Impact Assessment	**COM-2:** Provide advisory assistance services, such as bilingual and ethnic aides, to effectively communicate the relocation claims process to minority-owned businesses, in accordance with Section 10.01.09.01 (Advisory Assistance) and Section 10.01.09.02 (Specific Advisory Assistance) of the Caltrans Right of Way Manual (Caltrans 2021). In accordance with Section 10.05.02.00 (Relocation Planning), to assist in relocation planning, each business will be interviewed by the Relocation Assistance Program agent prior to the initiation of negotiations to determine the relocation needs and preferences of each entity to be displaced, to explain the relocation assistance program, to resolve issues, and to estimate the time and difficulty in locating replacement property. Caltrans would require a longer timeline to vacate properties in order to give a business time to secure a replacement property or convert vacant properties in accordance with Section 10.02.05.06 (Relocation Compliance with Uniform Act) of the Caltrans Right of Way Manual (Caltrans 2021). In accordance with 49 CFR Part 24.205, advance payments to facilitate	IS/EA	Yes	Resident Engineer/Contractor						No

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA?
	relocation of businesses for hardship situations on pre-approval and professional moving services would also be provided.									
Other	**TRAF-1**: Implement Traffic Management Plan. A traffic staging plan, as part of the traffic management plan (TMP), will be implemented during project construction. The TMP will be prepared to minimize direct and cumulative construction impacts on the community. On completion, the final TMP will be available to the public and obtained by request from Caltrans. The TMP must be submitted with the construction plan to the police and fire departments of affected cities prior to commencement of construction activities. The TMP will include, but not be limited to, the following features: • Public Information: Provide updates to affected residents, businesses, the general public, schools, and public transportation agencies through brochures and mailers, community meetings, websites, radio and newspaper advertisements, and social media. • Motorist Information: Provide information using changeable message signs and ground-mounted signs. • Incident Management: Implement a Construction Zone Enhanced Enforcement Program, freeway service patrol, and California Highway Patrol traffic handling. • Traffic Management During Construction: Provide a traffic lane closure chart, detour route, pedestrian routes, residential and commercial access routes, and temporary traffic signals during construction. • Parking Management during Construction: The City will coordinate with local businesses, as needed, to secure additional parking areas during the construction period.	IS/EA	Yes	Resident Engineer/Contractor						No
Paleontology	• **PAL-1**:Prior to construction, a Paleontological Mitigation Plan (PMP) should be prepared. It should provide detailed recommended monitoring locations; a description of a worker training program; detailed procedures for monitoring, fossil recovery, laboratory analysis, and museum curation; and notification procedures in the event of a fossil discovery by a paleontological monitor or other project personnel. A curation agreement with Western Science Center (WSC) or another accredited repository should also be obtained. Construction excavations that disturb Pleistocene-age older alluvial fan deposits (Qoa) (high sensitivity) should be monitored by a professional paleontologist in order to reduce potential adverse impacts on scientifically important paleontological resources to a less-than-significant level. Because the results of the field survey could not be used to determine the depth at which sensitive Pleistocene-age sediments occur within the project alignment, ground-disturbing activities should be spot checked when excavations are expected to exceed the depth of artificial fill and encounter native in situ sediments. If it is determined that only artificial fill or previously	IS/EA	Yes	Qualified Principal Paleontologist/ City Engineer/Contractor						Yes

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA?
	disturbed sediments (low sensitivity) are impacted, the monitoring program should be reduced or suspended. Any subsurface bones or potential fossils that are unearthed during construction should be evaluated by a professional paleontologist as described in the PMP.									
Other	**CC-1**: Adjust the pavement binder and mix design specifications to better match expected future environmental conditions. Move to stiffer asphalt grades and use slower aging binders as needed to address increased temperatures and projected temperature change.	IS/EA	Yes	Resident Engineer/ Contractor						No
Other	**CC-2**: Adjust the pavement structural design to account for temperature and climatic changes. Incorporate design elements, like shorter joint spacing and others, to reduce damage from high temperatures. For concrete pavements, robust designs that limit moisture damage and shrinkage are a good alternative. Stabilized subbases and base materials may be a good alternative to unbound bases especially in areas where the groundwater table may rise or where precipitation is increasing.	IS/EA	Yes	Resident Engineer/ Contractor						No
Visual Resources	**VIS-2**: Aesthetic Features. Incorporation of structural aesthetic features that are consistent with other sections of the roadway within the City. SR-91 is a Classified Landscaped Freeway (CLF) from PM 12.4 to PM 21.7. This includes the Adams Street Interchange, and CLF guidelines will be followed to maintain and preserve CLF status. Aesthetic features will include decorative formwork for cast-in-place concrete and decorative railings and fences. Retaining walls adjacent to the new and reconfigured ramps will also offer opportunities for aesthetic enhancements.	IS/EA	Yes	Contractor/District Landscape Architect						No

PRE-CONSTRUCTION

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA?
Hazardous Waste	**HAZ-1**: A follow-up site investigation and Phase 2 environmental site assessment of Recognized Environmental Conditions (RECs) identified in Table 2.3.5-1 and Figure 2.3.5-1 will be performed prior to construction.	IS/EA	Yes	Resident Engineer/ Contractor						No
Biology	**BIO-2:** Prior to the start of project construction, a daytime assessment will be conducted by a qualified bat biologist to re-examine areas that are suitable for bat use, including maternity roosts. If bat sign is observed at that time, then nighttime bat surveys will be conducted to confirm whether the areas with suitable habitat identified during the daytime assessment are utilized by bats for day roosting and/or night roosting, ascertain the level of bat foraging and roosting activity at each of these locations, and perform exit counts to visually determine the approximate number of bats utilizing the roosts. Acoustic monitoring will also be used during these surveys to identify the bat species present and index relative bat activity for the site on that specific evening. The qualified bat biologist, in coordination with Caltrans and CDFW, may use the results of these surveys	IS/EA	Yes	Project Biologist/Contractor						No

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA?
	to inform development and implementation of additional avoidance and minimization measures, including exclusion.									
Biology	**BIO-3**: Prior to tree removal or trimming, large trees and snags should be examined by a qualified bat biologist to ensure that no roosting bats are present. Palm frond trimming, if necessary, should be conducted outside the maternity season (i.e., April 1–August 31) to avoid potential mortality to flightless young and outside the bat hibernation season (November–February).	IS/EA	Yes	Project Biologist/Contractor						No
Biology	**BIO-4**: If maternity sites are identified during the preconstruction bat habitat suitability assessment, construction activities at that location will not be allowed during the maternity season (i.e., April 1–August 31), unless a qualified bat biologist has determined that the young have been weaned. If maternity sites are present, and it is anticipated that construction activities cannot be completed outside the maternity season, then bat eviction and exclusion at maternity roost sites will be completed under the direction of CDFW and the qualified bat biologist as soon as possible after the young have been weaned or outside the maternity season, or as otherwise approved by the qualified bat biologist in coordination with CDFW.	IS/EA	Yes	Project Biologist/Contractor						No
Biology	**BIO-6**: A weed abatement plan will be developed to minimize the spread and importation of non-native plant material during and after construction, in compliance with Executive Order 13112. The plan will include the following: • Soil and vegetation disturbance will be minimized to the greatest extent feasible; • The construction contractor will inspect and clean construction equipment prior to transporting equipment from one project location to another; • Fill material will be obtained from weed-free sources; • Only certified weed-free straw, mulch, and/or fiber rolls will be used for erosion control; • Following construction, all revegetated areas will avoid the use of species listed in Cal-IPC's California Invasive Plant Inventory; and • Eradication procedures (e.g., spraying and/or hand weeding) will be included in the plan. If invasive plants are established, then the use of herbicides will be prohibited within and adjacent to native vegetation, except as specifically authorized by the Caltrans District Biologist.	IS/EA	Yes	Resident Engineer/ Contractor						No
Biology	**BIO-7**: In the event that vegetation clearing is necessary during the breeding bird season (i.e., February 1–September 30), a qualified biologist will conduct a preconstruction survey of construction areas and an appropriate buffer no more than 3 days prior to construction to identify the locations of avian nests. Should nests be found, an appropriate buffer will be established around each nest site, based on the professional judgment of a qualified biologist. Buffers will be delineated by temporary flagging or other means and remain in effect as long as construction is occurring or until the nest is no longer active. To the extent feasible, no construction will take place within the buffer until the young have fledged and left the nest. In the	IS/EA	Yes	Project Biologist/Contractor						No

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA?
	event that construction must occur within the buffer, the biological monitor will take steps to ensure that construction activities will not disturb or disrupt nesting activities. If the biological monitor determines that construction activities are disturbing or disrupting nesting activities, the biologist will have the authority to halt construction to reduce noise and/or disturbance at the nests, as appropriate.									
Biology	**BIO-8**: Any bridges with swallow nesting habitat will be cleared of all swallow nests prior to any work conducted between February 1 and September 30. Swallow nests will be removed under the guidance of a qualified biologist prior to February 1, before swallows return to the nesting site. Prior to the removal of nests, the qualified biologist will ensure that no bats are roosting in the nests. Removal of swallow nests that are under construction must be repeated as frequently as necessary to prevent nest completion or until a nest exclusion device is installed, such as netting or a similar mechanism that keeps swallows from building nests. Nest removal and exclusion device installation will be monitored by a qualified biologist. Such exclusion efforts must be continued to keep the structures free of swallows, as well as swifts utilizing bridge holes, until September 30 or completion of construction	IS/EA	Yes	Project Biologist/Contractor						No
Biology	**BIO-9**: To avoid direct impacts on monarch butterfly and its host plant (milkweed), pre-construction surveys will be performed prior to the start of project activities to identify areas where milkweed is present within the project limits of disturbance. Any individual milkweed that is found will be flagged and demarcated as an environmentally sensitive area (ESA) to be avoided to the maximum extent feasible. Any milkweed plants that are located within the project work area and cannot be avoided will be relocated to the edge of the right-of-way outside the project impact area. To the maximum extent feasible, relocation should occur between November and January to avoid the monarch butterfly breeding season, following completion of the blooming period for milkweed and prior to the start of new milkweed growth. If relocation during this time period cannot be avoided, then all milkweed plants will be closely inspected by a qualified biologist for the presence of immature stages of monarch butterfly (e.g., eggs, larvae, pupae, caterpillars). If any immature monarch butterfly are found, then consultation with USFWS will need to be initiated.	IS/EA	Yes	Project Biologist/Contractor						No
Other	**UT-1**: Utility relocation plans will be prepared in consultation with the affected utility provider for overhead power lines that will need to be relocated. Caltrans will focus on relocating utilities within the state right-of-way or other existing public rights-of-way or easements. If relocation outside of existing or additional public rights-of-way or easements required for the project is necessary, such relocation will be prioritized.	IS/EA	Yes	Resident Engineer/ Contractor						No
Water Quality	**WQ-2:** The contractor will be required to develop a SWPPP, as required by the NPDES Construction Stormwater General Permit, to manage stormwater during construction activities. The SWPPP shall contain BMPs that have demonstrated effectiveness at reducing stormwater pollution and runoff. The SWPPP shall address all construction-related activities,	IS/EA	Yes	Resident Engineer/Contractor						No

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA?
	equipment, and materials that have the potential to affect water quality. All construction site best management practices would follow the latest edition of the Stormwater Quality Handbooks, Construction Site BMPs Manual to control and minimize the impacts of construction-related pollutants. The SWPPP shall include BMPs to control pollutants, sediment from erosion, stormwater runoff, and other construction-related impacts. In addition, the SWPPP shall include implementation of specific stormwater effluent monitoring requirements based on the project's risk level to ensure that the implemented BMPs are effective in preventing the exceedance of any water quality standards.									

CONSTRUCTION

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA?
Visual Resources	**VIS-1:** Installation of Plant Material. Installation of new plant material to replace existing plant material that will be removed as part of the project. The irrigated landscape areas will be carefully integrated into the project site to maximize visibility from the travel way and from the surrounding area. The location of the plant material will take into consideration sight lines to commercial signage on the south side of the project.	IS/EA	Yes	Contractor/District Landscape Architect						No
Cultural Resources	**CR-1**: If cultural resources are discovered during construction, all work within 60 feet of the discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.	IS/EA	Yes	Resident Engineer/ Contractor/Qualified Archaeologist						No
Cultural Resources	**CR-2**: If human remains are discovered, State Health and Safety Code Section 7050.5 states that ALL work stop within 60 feet of the discovery and the county coroner contacted. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission (NAHC) who will then notify the Most Likely Descendant (MLD). At this time, the person who discovered the remains will contact the District 8 Native American Coordinator Gary Jones at (909) 261-8157 and District Environmental Branch Chief Ashley Bowman at (909) 472-7730 so that they would potentially work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.	IS/EA	Yes	Resident Engineer/ Contractor/Qualified Archaeologist						No
Hazardous Waste	**HAZ-2**: The City of Riverside will conduct soil sampling and analysis for ADL during the PS&E phase. If soil is determined to contain lead concentrations exceeding the regulated threshold level, it will be managed during construction in accordance with the criteria in the Soil Management for Aerially Deposited Lead-Soils Agreement (California Environmental Protection Agency, Department of Toxic Substances Control, Docket No. ESPO-SMA 15/ 16-001, June 29, 2016) [ADL Agreement]).	IS/EA	Yes	Resident Engineer/ Contractor						No

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA?
Hazardous Waste	**HAZ-3**: The City of Riverside will conduct LBP and ACM surveys during the PS&E phase for all bridge structures that will be disturbed in the proposed project. Due to the possible presence of elevated levels of lead concentrations within the yellow thermoplastic and yellow-painted traffic stripes along the existing highway, the Contractor will be required during construction to properly manage removed stripe and pavement markings as hazardous waste, in accordance with Section 14-11.12 of Caltrans' Standard Specifications. If asbestos minerals are identified in the materials sampled during surveys and should the materials be disturbed during demolition, renovation, and/or construction, any generated ACM wastes will be disposed as hazardous asbestos waste; and an ACM abatement is required by a licensed ACM abatement contractor prior to renovation, refurbishing, or demolition activities.	IS/EA	Yes	Resident Engineer/ Contractor						No
Air Quality	**AQ-1**: During clearing, grading, earthmoving, or excavation operations, fugitive dust emissions will be controlled by regular watering or other dust preventive measures using the following procedures, as specified in SCAQMD Rule 403. All material excavated or graded will be sufficiently watered to prevent excessive amounts of dust. Watering will occur at least twice daily with complete coverage, preferably in the late morning and after work is done for the day. All material transported on site or off site will be either sufficiently watered or securely covered to prevent excessive amounts of dust. The areas disturbed by clearing, grading, earthmoving, or excavation operations will be minimized so as to prevent excessive amounts of dust. These control techniques will be indicated in project specifications. Visible dust beyond the property line emanating from the project will be prevented to the maximum extent feasible.	IS/EA	Yes	Resident Engineer/ Contractor						No
Air Quality	**AQ-2**:Project grading plans will show the duration of construction. Ozone precursor emissions from construction equipment vehicles will be controlled by maintaining equipment engines in good condition and in proper tune per manufacturers' specifications.	IS/EA	Yes	Resident Engineer/ Contractor						No
Air Quality	**AQ-3**: All trucks that are to haul excavated or graded material on site will comply with State Vehicle Code Section 23114, with special attention to Sections 23114(b)(F), (e)(2), and (e)(4), as amended, regarding the prevention of such material spilling onto public streets and roads.	IS/EA	Yes	Resident Engineer/ Contractor						No
Air Quality	**AQ-4**: The contractor will adhere to Caltrans Standard Specifications for Construction (Section 14-9.02).	IS/EA	Yes	Resident Engineer/ Contractor						No
Biology	**BIO-1**: Trash will be stored in closed containers so that it is not readily accessible to wildlife and will be removed from the construction site on a regular basis so as to avoid attracting wildlife to the project site.	IS/EA	Yes	Resident Engineer/ Contractor						No
Biology	**BIO-5**: Should nighttime construction activities occur, shields to direct lighting away from suitable bat roosting habitat within and adjacent to the project footprint will be installed to minimize potential impacts on bat activities and behavior from nighttime lighting.	IS/EA	Yes	Resident Engineer/ Contractor						No

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA?
GHG	**GHG-1**: The following strategies will be implemented to reduce GHG emissions and potential climate change impacts from the project:	IS/EA	Yes	Resident Engineer/ Contractor						No
GHG	**GHG-1A**. Use alternative fuels, such as renewable diesel, in construction equipment.	IS/EA	Yes	Resident Engineer/Contractor						No
GHG	**GHG-1B**. Limit idling to 5 minutes for delivery and. dump trucks as well as other diesel-powered equipment.	IS/EA	Yes	Resident Engineer/Contractor						No
GHG	**GHG-1C**. Schedule truck trips outside of peak morning and evening commute hours.	IS/EA	Yes	Resident Engineer/Contractor						No
GHG	**GHG-1D**. Reduce construction waste and maximize the use of recycled materials (reduces consumption of raw materials, reduces landfill waste, and encourages cost savings).	IS/EA	Yes	Resident Engineer/Contractor						No
GHG	**GHG-1E**. Incorporate measures to reduce the consumption of potable water.	IS/EA	Yes	Resident Engineer/Contractor						No
GHG	**GHG-1F**. Supplement existing training with information regarding methods to reduce GHG emissions related to construction.	IS/EA	Yes	Resident Engineer/Contractor						No
GHG	**GHG-1G**. Maximize use of recycled materials (e.g., tire rubber).	IS/EA	Yes	Resident Engineer/Contractor						No
GHG	**GHG-1H**. Salvage large removed trees for lumber or similar on-site beneficial uses, other than standard wood-chipping (e.g., for use in roadside landscape projects or green infrastructure components).	IS/EA	Yes	Resident Engineer/Contractor						No
GHG	**GHG-1I**. Recycle onsite project features as practicable (e.g., metal-beam guardrails, light standards, sub-base granular material, or native material that meets Caltrans specifications for incorporation into new work).	IS/EA	Yes	Resident Engineer/Contractor						No
GHG	**GHG-1J**. Reduce the need for the transport of earthen materials by balancing cut-and-fill quantities.	IS/EA	Yes	Resident Engineer/Contractor						No
Noise	**NOI-1**: To minimize potential construction noise effects, the construction Contractor will adhere to best management practices (BMPs) to minimize construction noise levels, including the following: • All equipment will have sound-control devices no less effective than those provided on the original equipment. Each internal combustion engine used for any purpose on the job or related to the job will be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine should	IS/EA	Yes	Resident Engineer/ Contractor						No

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA?
	be operated on the job site without an appropriate muffler. • Construction methods or equipment that will provide the lowest level of noise impact should be used to the greatest possible extent (e.g., avoid impact pile driving near residences and consider alternative methods that are also suitable for the soil condition). • Idling equipment will be turned off. • Truck loading, unloading, and hauling operations will be restricted so that noise and vibration are kept to a minimum through residential neighborhoods to the greatest extent possible. • Temporary noise barriers will be used and relocated as needed, to protect sensitive receivers against excessive noise from construction activities involving large equipment and by small items such as compressors, generators, pneumatic tools, and jackhammers. Noise barriers can be made of heavy plywood, moveable insulated sound blankets, or other best available control techniques. • Newer equipment with improved noise muffling will be used, and all equipment items will have the manufacturer-recommended noise-abatement measures (e.g., mufflers, engine covers, and engine vibration isolators) intact and operational. Newer equipment will generally be quieter in operation than older equipment. All construction equipment will be inspected at periodic intervals to ensure proper maintenance and presence of noise-control devices (e.g., mufflers and shrouding). • Construction activities will be minimized in residential areas during evening, nighttime, weekend, and holiday periods. Noise impacts are typically minimized when construction activities are performed during daytime hours, however, nighttime construction may be desirable (e.g., in commercial areas where businesses may be disrupted during the daytime hours) or necessary to avoid major traffic disruptions. Coordination with the City of Riverside will occur before construction can be performed in noise-sensitive areas.									
Noise	**NOI-2**: It is possible that certain construction activities could cause intermittent localized concern from vibration. Processes such as earth moving with bulldozers, the use of vibratory compaction rollers, impact pile driving, demolitions, or pavement braking may cause construction-related vibration impacts such as human annoyance or, in some cases, building damage. There are cases where it may be necessary to use this type of equipment in proximity to residential buildings. The following are some procedures that will be used to minimize the potential impacts from construction vibration: • Restrict the hours of vibration-intensive equipment or activities such as vibratory rollers so that impacts on residents are minimized (e.g., weekdays during	IS/EA	Yes	Resident Engineer/ Contractor						No

Category	Task and Brief Description	Source	Included in PS&E package	Responsible Branch/Staff	Action to Comply	Due Date	Task Completed by	Task Completed on	Remarks	Mitigation for significant impacts under CEQA?
	daytime hours only when as many residents are possible are away from home). • For a building within 50 feet of a construction vibration source where damage to that structure due to vibration is possible, provide the owner with a preconstruction building inspection to document the preconstruction condition of that structure. • Conduct vibration monitoring during vibration-intensive activities.									
Noise	**NOI-3**: The project will comply with sound control provisions as included in Section 14-8.02 “Noise Control” of the Caltrans Standard Specifications and Special Provisions. The Contractor will not exceed 86 dBA at 50 feet from the project site from 9:00 p.m. to 6:00 a.m.	IS/EA	Yes	Resident Engineer/ Contractor						No
Water Quality	**WQ-1**: The project is required to conform to the requirements of the Caltrans Statewide National Pollutant Discharge Elimination System Stormwater Permit, Order No. 2022-0033-DWQ, NPDES No. CAS000003, and any subsequent permit in effect at the time of construction. In addition, the project is required to comply with the requirements of NPDES Construction Stormwater General Permit, Order No. 2022-0057-DWQ, NPES No. CAS000002, as well as implementation of the BMPs specified in Department’s Stormwater Management Plan.	IS/EA	Yes	Resident Engineer/Contractor						No
Water Quality	**WQ-3**: For work conducted outside the State right of way, the project shall implement the requirements pursuant to the RWQCB Santa Ana Region’s Municipal Separate Storm Sewer System (MS4) permit. The Riverside County MS4 Permit, Order No. R8-2010-0033, NPDES Permit No. CAS618033 is currently in effect. However, the Santa Ana RWQCB is developing a draft Regional MS4 Permit to replace the Riverside County permit.	IS/EA	Yes	Resident Engineer/Contractor						No

Appendix D List of Technical Studies

Appendix D List of Technical Studies

The technical studies listed below were used as supporting documentation in the preparation of this Initial Study/Environmental Assessment. All of the technical studies listed were prepared specifically for the proposed SR-91/Adams Street Interchange Project.

- SR-91/Adams Street Interchange Project Air Quality Report (June 2022)
- SR-91/Adams Street Interchange Project District Preliminary Geotechnical Design Report (September 2020)
- SR-91/Adams Street Interchange Project Archaeological Survey Report (November 2021)
- SR-91/Adams Street Interchange Project Historic Property Survey Report (November 2021)
- SR-91/Adams Street Interchange Project Historic Resources Evaluation Report (November 2021)
- SR-91/Adams Street Interchange Project Natural Environment Study/Minimal Impact (April 2021)
- SR-91/Adams Street Interchange Project Natural Environment Study/Minimal Impact Addendum (January 2023)
- SR-91/Adams Street Interchange Project Noise Study Report (July 2023)
- SR-91/Adams Street Interchange Project Noise Abatement Decision Report (July 2023)
- SR-91/Adams Street Interchange Project Phase I Initial Site Assessment Report (September 2020)
- SR-91/Adams Street Interchange Project Combined Paleontological Identification Report and Paleontological Evaluation Report (PIR/PER) (October 2020)
- SR-91/Adams Street Interchange Project Traffic Analysis Operations Report (August 2021)
- SR-91/Adams Street Interchange Project Visual Impact Assessment (October 2021)
- SR-91/Adams Street Interchange Draft Relocation Impact Statement (August 2020)
- SR-91/Adams Street Interchange Project Scoping Questionnaire for Water Quality Issues (February 2021)
- SR-91/Adams Street Interchange Project Draft Drainage Impact Study (October 2020)
- SR-91/Adams Street Interchange Project Value Analysis Study (November 2019)
- SR-91 Adams Street Interchange Project Stormwater Data Report (June 2022)
- SR-91/Adams Street Interchange Community Impact Assessment (October 2023)
- SR-91/Adams Street Interchange Initial Site Assessment Update (October 2023)
- SR-91/Adams Street Interchange Project Draft Project Report (December 2023)

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Appendix E Project Approved VMT Analysis Screening Form

VMT Analysis Screening Form

Dist./Co./RTE.	08-RIV-91
PM/PM	15.1 / 16.2
E.A.	08-1H180
Project Sponsor	City of Riverside
Project Title	State Route 91 / Adams Street Interchange Improvement Project
Project Description	Interchange Improvements

Project Milestones

☒ Project was initiated on or after December 28,2018. Project Initiation Date: 5/10/2018

☒ Project has/will achieve Caltrans Milestone 020 "Begin Environmental" before September 15, 2020. Milestone 020 Date: 9/2/2019

Justification for why the project does not require an induced travel analysis (continue on page 2)

Project Description

Reconfigure the State Route 91 (SR-91) / Adams Street Interchange in the city of Riverside, Riverside County, California

- Replace the Adams Street bridge over SR-91
- Reconfigure the on/off ramps at Adams Street
- Reconfigure the intersections of Adams Street/Diana Avenue and Adams Street/Indiana Avenue

Purpose & Need

Reduce congestion and improve traffic circulation

To address issues related to current and future operational performance. Due to high traffic demands and close intersection spacing along Adams Street in the vicinity of the interchange, severe congestion occurs throughout the interchange area and on surrounding city streets when the storage lanes overflow during peak periods.

Existing Tight Diamond Interchange (Figure 1)	Offset Interchange Configuration (Figure 2)	Hook Ramps (East) Configurations (Figure 3)
Adams Street Overcrossing Bridge: • Two northbound lanes • One northbound left turn lane to westbound SR 91 onramp • Two southbound lanes • One southbound left turn lane to eastbound SR 91 onramp. • Sidewalks in each direction	*Adams Street Overcrossing Bridge:* • Two northbound lanes • Two northbound left turn lanes to westbound SR 91 onramp • one northbound right turn lane to eastbound SR 91 onramp. • One southbound lane • one southbound lane/right turn lane • two southbound left turn lanes. • sidewalks in each direction • Class II bicycle lane in each direction.	*Adams Street Overcrossing Bridge:* • Two northbound lanes • Two northbound left turn lanes to westbound SR 91 onramp. • Two southbound lanes • Two southbound left turn lanes to eastbound Indiana Avenue • One southbound right turn lane • sidewalks in each direction • Class II bicycle lane in each direction

Adams Street north of the bridge: • one southbound lane • one southbound lane/right turn lane. • one southbound left-turn lane • one southbound right-turn lane • two northbound lanes • sidewalks in each direction	*Adams Street north of the bridge:* • two southbound lanes • two southbound left turn lanes • one southbound right-turn lane • two northbound lanes • sidewalks in each direction • Class II bicycle lane in each direction	*Adams Street north of the bridge:* • two northbound lanes • one northbound left turn pocket • two southbound lanes • one southbound right-turn lane • sidewalks in each direction • Class II bicycle lane in each direction
Indiana Avenue: • One westbound lane • One westbound lane/right turn lane • One westbound right turn pocket to southbound Adams Street. • One eastbound lane • One eastbound lane/right turn lane • Two eastbound left turn pockets to northbound Adams Street. • Sidewalks in each direction	*Indiana Avenue:* • One westbound lane • One westbound lane/right turn lane • One westbound right turn pocket to southbound Adams Street. • One eastbound lane • One eastbound lane/right turn lane • Two eastbound left turn pockets to northbound Adams Street • Sidewalks in each direction	*Indiana Avenue:* *East of new intersection with SR 91 on/offramps* • Two westbound lanes • One westbound right turn lane • Two eastbound lanes • sidewalks in each direction • Class II bicycle lane in each direction *West of new intersection with SR 91 on/offramps to Adams Street intersection* • Three westbound lanes that taper to two lanes • One westbound right turn pocket • Two westbound left turn pockets • Three eastbound lanes • Two eastbound right turn pockets • sidewalks in each direction • Class II bicycle lane in each direction
Adams Street south of Indiana Avenue: • Two northbound lanes • One northbound right turn pocket • Two southbound lanes • Sidewalks in each direction	*Adams Street south of Indiana Avenue:* • Two northbound lanes • One northbound left turn pocket • Two southbound lanes • Sidewalks in each direction • Class II bicycle lane in each direction	*Adams Street south of Indiana Avenue*: • two southbound lanes • two northbound lanes • one northbound left turn pocket • one northbound right-turn pocket • sidewalks in each direction

		• Class II bicycle lane each direction
Diana Avenue: *West of Adams Street:* • One eastbound lane that converts to left turn lane • One westbound lane *East of Adams Street:* • One eastbound lane • One westbound lane that converts to right turn lane	*Diana Avenue:* *West of Adams Street:* • a cul-de-sac would be constructed at the terminus of Diana Avenue. *East of Adams Street:* • a cul-de-sac would be constructed at the terminus of Diana Avenue*:*	*Diana Avenue:* *West of Adams Street:* • a cul-de-sac would be constructed at the terminus of Diana Avenue. *East of Adams Street:* • a cul-de-sac would be constructed at the terminus of Diana Avenue*:*
Eastbound SR 91 onramp: • Two lanes that taper to one lane	*Eastbound SR 91 onramp:* • Two lanes that taper to one lane	*Eastbound SR 91 onramp:* • Three lanes that taper to one lane
Eastbound SR 91 offramp: • One through/right lane • One right turn lane	*Eastbound SR 91 offramp:* • One left turn lane • One through/left/right-turn lane • One right-turn lane.	*Eastbound SR 91 offramp:* • One left-turn lane • two right-turn lanes
Westbound SR 91 onramp: • Two lanes that taper to one lane	*Westbound SR 91 onramp:* • Two lanes • one HOV lane all taper to one lane	*Westbound SR 91 onramp:* • two lanes that taper to one lane
Westbound SR 91 offramp: • One right turn lane • One left/right turn lane	*Westbound SR 91 offramp:* • One left-turn lane • one through/left/right-turn lane, • one right-turn lane.	*Westbound SR 91 offramp:* • one left-turn lane • one through/left/right-turn lane • one right-turn lane.

Screened Out Reasoning

Project Type:

Governor's Office of Planning and Research Technical Advisory on Evaluating Transportation Impacts in CEQA includes projects types that are not likely to lead to substantial increase in vehicle miles travelled and don't typically need a VMT induced travel analysis include:

Installation, removal, or reconfiguration of traffic lanes that are not for through traffic, such as left, right, and U-turn pockets, two-way left turn lanes, or emergency breakdown lanes that are not utilized as through lanes

The proposed SR-91/Adams Street Interchange improvements include the addition of left and right turn lanes, which are not utilized as through lanes. These turn lanes will be added at the ramp terminal intersections and the Adams Street/Indiana Avenue intersection. There are no additional through lanes proposed on SR-91 or any local streets.

Timing of signals to optimize vehicle, bicycle, or pedestrian flow

The SR-91/Adams Street Interchange project includes the addition of signal interconnect between the ramp intersection(s) and the Adams Street/Indiana Street intersection to facilitate vehicle, bicycle, and pedestrian movements.

Addition of new or enhanced bike or pedestrian facilities on existing streets/highways or within existing public rights-of-way

The SR-91/Adams Street Interchange project includes the addition of Class II bike lanes on both Adams Street and Indiana Avenue. In addition, all sidewalks will be reconstructed to meet current ADA standards.

Based on the project information provided, I concur that the project will not require an induced travel analysis.

Caltrans Environmental Regional Coordinator concurrence July 10, 2020 (Date). E-mail concurrence attached.

Shawn Oriaz — Environmental Branch Chief

July 10, 2020 — Date

Figure 1: Existing Interchange

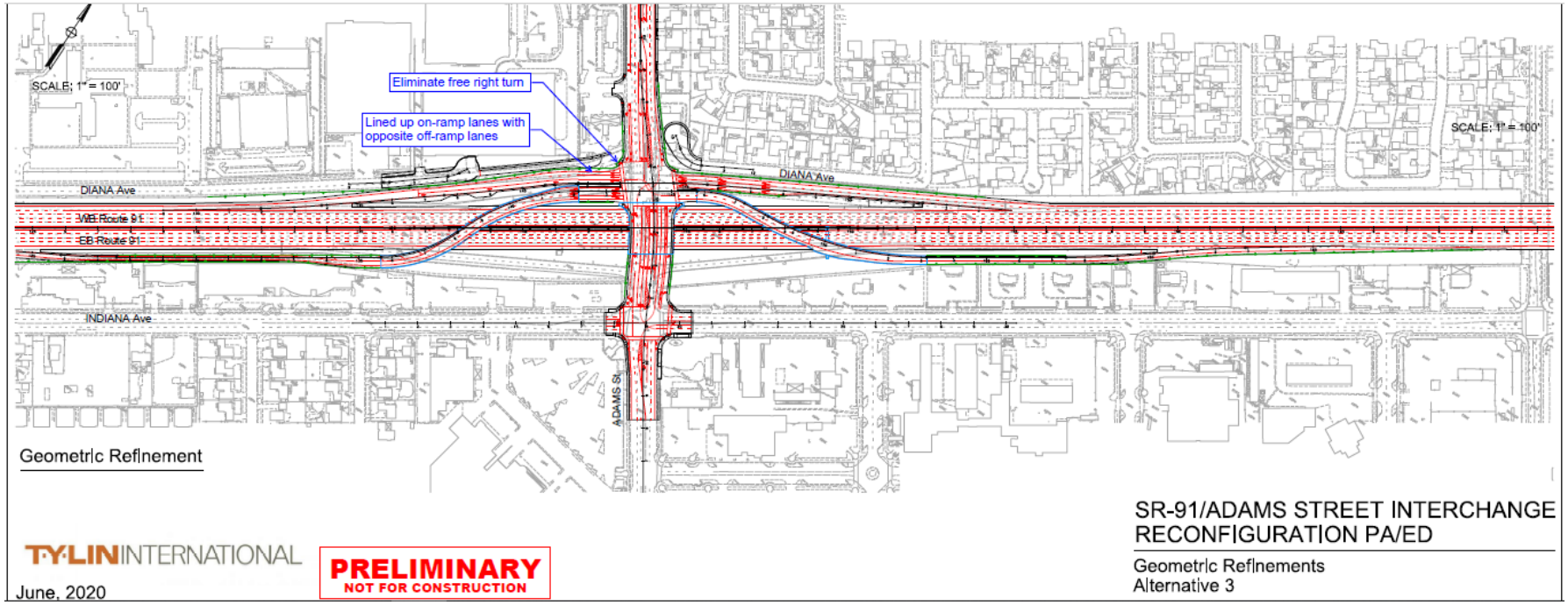

Figure 2: Offset Interchange

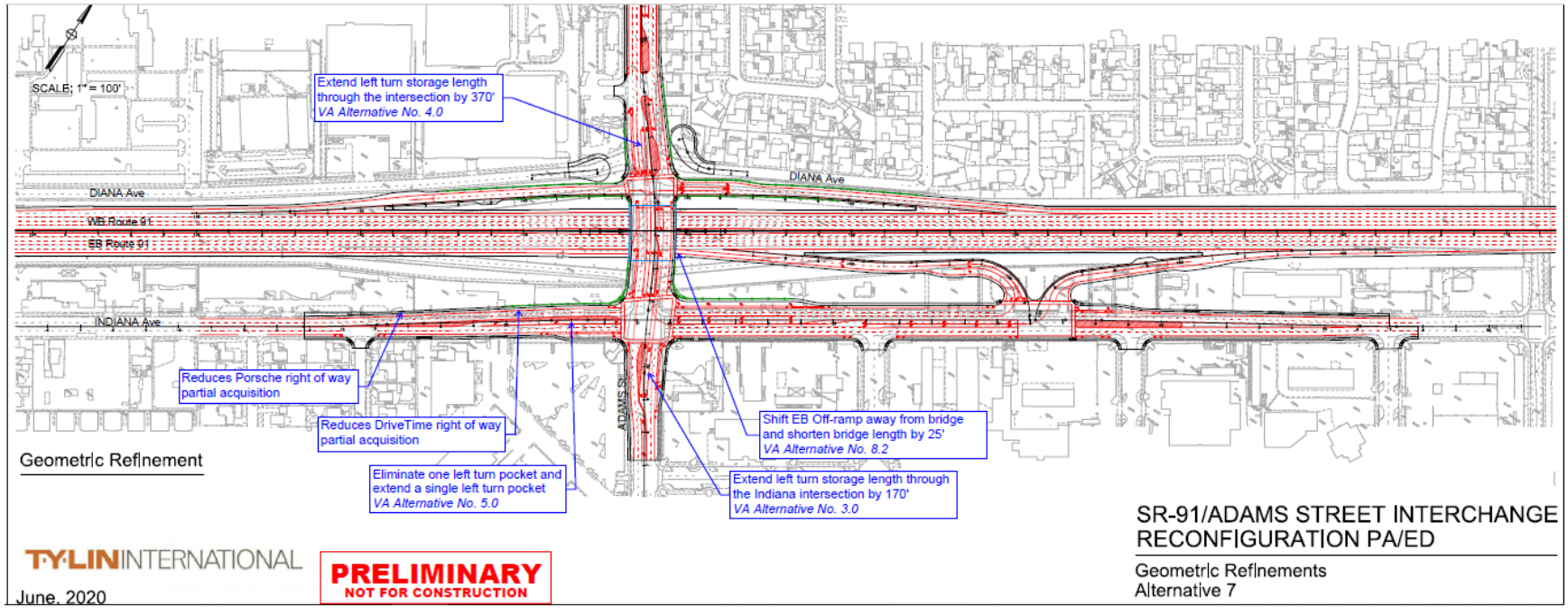

Figure 3: Hook Ramps East

From: Chisholm, John P@DOT
To: Oriaz, Shawn M@DOT
Cc: D"Aoust Roberts, Tracey@DOT; Lieng, Malisa@DOT; Bricker, David P@DOT
Subject: RE: 08-1H180 SR 91/Adams Street Interchange project VMT screening
Date: Friday, July 10, 2020 9:45:39 AM

Thanks for your background material on the project. I have reviewed the justification of the District's decision to forgo a VMT analysis for Adams St. Interchange Project. Your justification is consistent with the guidance contained in the "Timing Memo" regarding VMT CEQA significance dated 4-13-2020. The project is largely focused on relieving current traffic issues within the local community, and one purpose is to improve conditions for peds and bikes. I concur with your determination not to proceed with a VMT analysis on this project at this time. Please keep a copy of this email in your project file. If you have any questions or concerns, please contact me.
Thanks!

John Chisholm, Coordinator
619-726-0336
DEA: We Deliver So You Can Deliver
How did we do? Help us serve you better! Caltrans Environmental Analysis Customer Service Survey Link:
https://www.surveymonkey.com/r/CTEnvironmentalAnalysisSurvey

From: Oriaz, Shawn M@DOT <shawn.oriaz@dot.ca.gov>
Sent: Thursday, July 9, 2020 2:25 PM
To: Chisholm, John P@DOT <john.chisholm@dot.ca.gov>
Cc: D'Aoust Roberts, Tracey@DOT <Tracey.DAoust.Roberts@dot.ca.gov>; Lieng, Malisa@DOT <Malisa.Lieng@dot.ca.gov>
Subject: 08-1H180 SR 91/Adams Street Interchange project VMT screening

Hi John,

Attached is the VMT Analysis Screening Form for the SR 91/Adams Street Interchange Project (EA 08-1H180).

If you have any questions please give me a call or email.

Thank you,

Shawn Oriaz
Caltrans, District 8
Senior Environmental Planner
Work (909) 388-7034
Cell (909) 501-5743

Appendix F Resources Evaluated Relative to the Requirements of Section 4(f): No-Use Determination

Contents

F.1 Introduction

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 United States Code (USC) 303, declares that “it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.”

This report discusses parks, recreational facilities, wildlife refuges, and historic properties found within or next to the State Route 91/Adams Street Interchange Project (project)_ that do not trigger Section 4(f) protection because: (1) they are not publicly owned, (2) they are not open to the public, (3) they are not eligible historic properties, or (4) the project does not permanently use the property and does not hinder the preservation of the property.

F.2 Project Description

The California Department of Transportation (Caltrans or Department), as assigned by the Federal Highway Administration (FHWA), is the lead agency under the National Environmental Policy Act (NEPA); the Department is also the lead agency under the California Environmental Quality Act (CEQA). The City of Indio (City), in cooperation with the Department, proposes to reconstruct the existing State Route 91 (SR-91)/Adams Street interchange.

The proposed SR-91/Adams Street Interchange Project would reconfigure the existing SR-91/Adams Street interchange between post miles 15.1 and 16.2 in the City of Riverside in Riverside County, California. Refer to Figure 1 (Regional Vicinity) and Figure 2 (Project Location).

F.2.1 Project Purpose

The purpose of the project is to reduce congestion and improve traffic circulation to meet existing and projected access demands at the SR-91/Adams Street interchange.

F.2.2 Project Need

The existing tight diamond interchange includes closely spaced intersections and inadequate storage between intersections, resulting in significant delays at the interchange and leading up to the interchange. The proposed project is needed to improve traffic flow along the freeway as well as circulation on local streets surrounding the interchange. The SR-91/Adams Street interchange is one of the busiest entrance/exit points in the City of Riverside. Because of high traffic demands and close intersection spacing along Adams Street in the vicinity of the interchange, severe congestion occurs throughout the interchange area and on surrounding city streets when storage lanes overflow during peak periods. Furthermore, travel demand in the project area is expected to continue to increase.

F.3 Constructive Use

The FHWA must comply with 23 Code of Federal Regulations 774.15 to determine whether there is a constructive use of Section 4(f) property. Constructive use involves an indirect impact where no actual physical use of the Section 4(f) property, by the permanent incorporation of land or a temporary occupancy, occurs. A constructive use occurs when the proximity impacts of a project adjacent to, or nearby, a Section 4(f) property result in substantial impairment to the

property's activities, features, or attributes that qualify the property for protection under Section 4(f). As such, the value of the Section 4(f) resource is meaningfully reduced or lost. The indirect, proximity impacts on properties within 0.5 mile of the project limits were evaluated relative to the requirements of Section 4(f). The project does not substantially impair any of the Section 4(f) resources activities, features, or attributes that qualify them for protection under Section 4(f). Therefore, there is no constructive use of any Section 4(f) property.

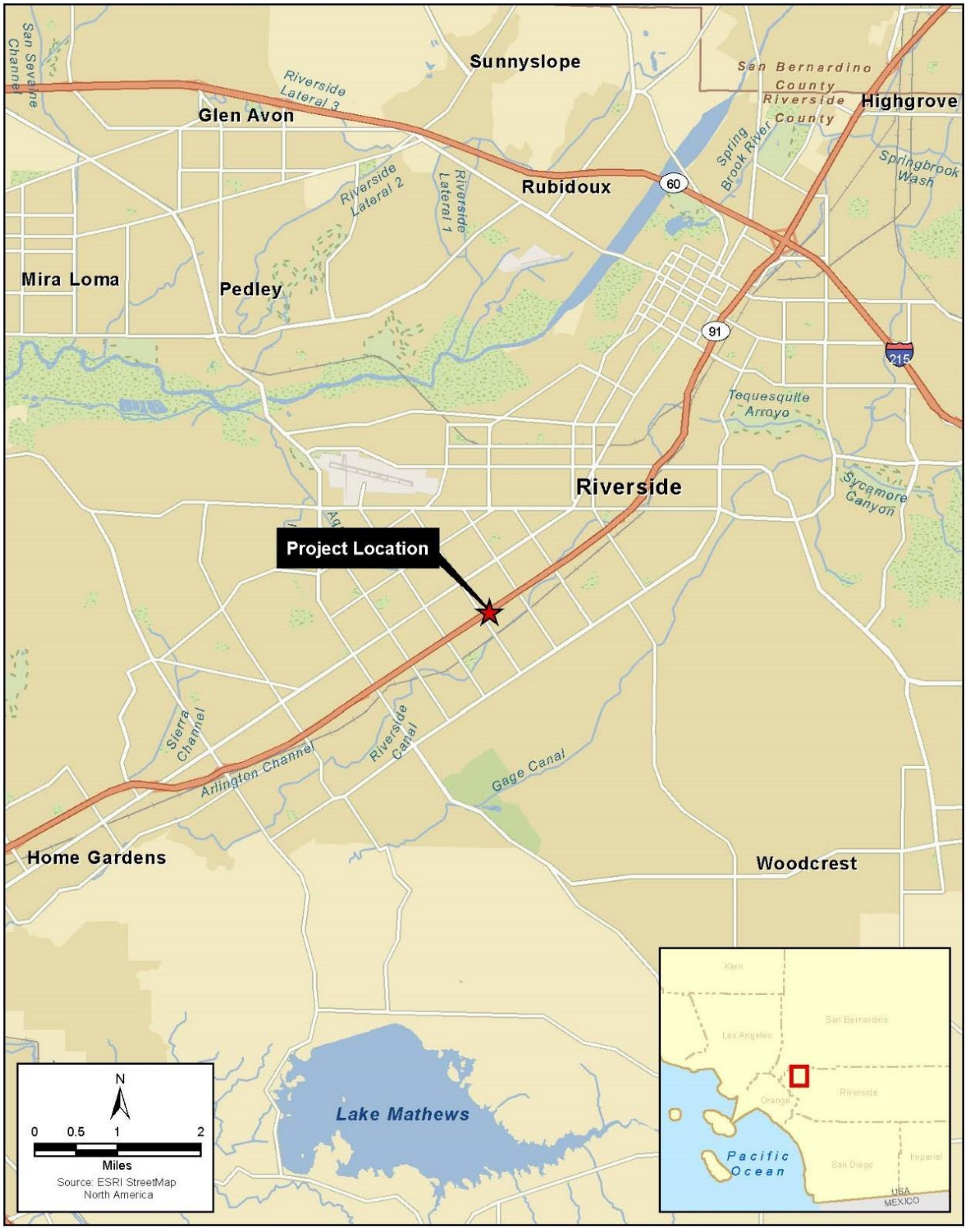

Figure 1. Regional Vicinity

Figure 2. Project Location

F.4 Section 4(f) Resources Evaluated

Section 4(f) applies to "… publicly owned land of a public park, recreation areas or wildlife and waterfowl refuge, or land of an historic site of national, state, or local significance." Publicly owned land is considered to be a park, recreation area, or wildlife and waterfowl refuge when the land has been officially designated as such or when the federal, State, or local officials having jurisdiction over the land determine that one of its major purposes or functions is for park, recreation, or refuge purposes. Any part of a publicly owned park, recreation area, refuge, or historic site is presumed to be significant unless there is a statement of insignificance relative to the whole park by the federal, State, or local official having jurisdiction over that property.

With respect to historic properties, for purposes of Section 4(f), a historic site is significant only if it is in or eligible for listing in the National Register of Historic Places (NRHP), unless the FHWA determines that the application of Section 4(f) is otherwise appropriate.

The following resources have been identified within the Section 4(f) project study area and were analyzed to determine whether these properties are protected Section 4(f) properties and whether the project would result in a "use" under Section 4(f). Refer to Figure 3, *Parks, Recreational, and Historic Resources.*

Table 1. Potential Section 4(f) Properties

Jurisdiction	Name	Location	Approximate Distance from the Project	Type	Amenities
City of Riverside	Don Derr Park	3003 Monroe Street	1,835 feet southeast of SR-91	Park	A 21-acre park owned by the City of Riverside with the following amenities: two lighted ball fields with two lighted sports field overlays, basketball courts, a playground, snack bar, picnic tables, barbeques, restrooms, and onsite parking
City of Riverside	Villegas Park	7240 Marguerita Avenue	1,675 feet southeast of SR-91	Park	Lighted ball fields, a lighted soccer field, basketball court, handball courts, a covered picnic area, community center with gym, playground, pool, picnic tables, barbeques, restrooms, and onsite parking
City of Riverside	Shamel Park	3650 Arlington Avenue	1,900 feet north of SR-91	Park	Lighted ball fields, lighted tennis courts, a covered picnic area, horseshoe courts, pool, picnic tables, a snack bar, barbeques, restrooms, and onsite parking
Riverside Unified School District	Madison Elementary School	3635 Madison Street	1,200 feet north of SR-91	Recreational facility (school)	Playground
Riverside Unified School District	Ramona High School	7675 Magnolia Avenue	3,000 feet north of SR-91	Recreational facility (school)	Ball fields, track, tennis, basketball courts
Riverside Unified School District	Chemawa Middle School	8830 Magnolia Avenue	1,600 feet north of SR-91	Recreational facility (school)	Track, basketball courts, field
Riverside Unified School District	Arlington High School	2951 Jackson Street	1,800 feet south of SR-91	Recreational facility (school)	Track, fields, tennis, basketball courts
NA	Rose Garden Village	3668 Adams Street	1,655 feet northwest of SR-91	Eligible for NRHP and CRHR at local level of significance	Retirement community
NA	Helgeson Buick Showroom	8001 Auto Center Drive	640 feet southeast of SR-91	Eligible for NRHP and CRHR at local level of significance	Vehicle showroom

Notes:

CRHR = California Register of Historical Resources; NA= not applicable; NRHP = National Register of Historic Places.

Figure 3. Parks, Recreational, and Historic Resources

F.5 No-Use Determination

This section describes the resources identified in Table 1. None of the resources would be directly or indirectly impacted in a manner that would adversely impact the features, activities, or attributes that qualify the resources for protection under Section 4(f). Although the resources mentioned are Section 4(f) properties, there would be no "use" of the properties. As such, the provisions of Section 4(f) do not apply.

F.5.1 Don Derr Park

Owned by the City of Riverside, Don Derr Park is located approximately 1,835 feet southeast of SR-91 and encompasses 21 acres. Amenities include two lighted ball fields with two lighted sports fields, basketball courts, a playground, snack bar, picnic tables, barbeques, restrooms, and onsite parking. The project would not require permanent or temporary roadway closures at Don Derr Park; as such, access to the park would not be affected by the project. Furthermore, the project would not result in permanent increases to traffic, noise, or air quality emissions that would adversely affect users of Don Derr Park. No direct use of the park property that could result in permanent incorporation or temporary occupancy would occur. Construction activities would result in temporary increases in noise and emissions from construction equipment and construction traffic. However, due to the distance of the park from the project, indirect traffic, noise, and air quality impacts as a result of construction activities are anticipated to be minor and temporary, and would not constitute a constructive use. As such, the property is a Section 4(f) property, but no "use" would occur. Therefore, the provisions of Section 4(f) do not apply.

F.5.2 Villegas Park

Owned by the City of Riverside, Villegas Park is located approximately 1,678 feet southeast SR-91 and consists of lighted ball fields, a lighted soccer field, basketball court, handball courts, a covered picnic area, community center with gym, playground, pool, picnic tables, barbeques, restrooms, and onsite parking. The project would not require permanent or temporary roadway closures at Villegas Park; as such, access to the park would not be affected by the project. Furthermore, the project would not result in permanent increases to traffic, noise, or air quality emissions that would adversely affect users of the park. No direct use of the park property that could result in permanent incorporation or temporary occupancy would occur. Construction activities would result in temporary increases in noise and emissions from construction equipment and construction traffic. However, due to the distance of the park from the project, indirect traffic, noise, and air quality impacts as a result of construction activities are anticipated to be minor and temporary, and would not constitute a constructive use. As such, the property is a Section 4(f) property, but no "use" would occur. Therefore, the provisions of Section 4(f) do not apply.

F.5.3 Shamel Park

Owned by the City of Riverside, Shamel Park is located approximately 1,900 feet north of SR-91 and consists of lighted ball fields, lighted tennis courts, a covered picnic area, horseshoe courts, pool, picnic tables, a snack bar, barbeques, bathrooms, and onsite parking. The project would not require permanent or temporary roadway closures at Shamel Park; as such, access to the park would not be affected by the project. Furthermore, the project would not result in permanent increases to traffic, noise, or air quality emissions that would adversely affect users

of the park. No direct use of the park property that could result in permanent incorporation or temporary occupancy would occur. Construction activities would result in temporary increases in noise and emissions from construction equipment and construction traffic. However, due to the distance of the park from the project, indirect traffic, noise, and air quality impacts as a result of construction activities are anticipated to be minor and temporary, and would not constitute a constructive use. As such, the property is a Section 4(f) property, but no "use" would occur. Therefore, the provisions of Section 4(f) do not apply.

F.5.4 Madison Elementary School

Madison Elementary School within the Riverside Unified School District, is located approximately 1,200 feet north of SR-91 and includes a small playground. The City of Riverside has a joint-use agreement with the Riverside Unified School District for resident use of recreational facilities. Other school facilities, such as classrooms, auditoriums, cafeteria, and pools, are available for public use for a fee. The project would not require permanent or temporary roadway closures at Madison Elementary School; as such, access to the school site would not be affected by the project. Furthermore, the project would not result in permanent increases to traffic, noise, or air quality emissions that would adversely affect users of the school site. No direct use of the school property that could result in permanent incorporation or temporary occupancy would occur. Construction activities would result in temporary increases in noise and emissions from construction equipment and construction traffic. However, due to the distance of the school from the project, indirect traffic, noise, and air quality impacts as a result of construction activities are anticipated to be minor and temporary, and would not constitute a constructive use. As such, the property is a Section 4(f) property, but no "use" would occur. Therefore, the provisions of Section 4(f) do not apply.

F.5.5 Ramona High School

Ramona High School is located approximately 3,000 feet north of SR-91 and includes ball fields, track, tennis and basketball courts. The City of Riverside has a joint-use agreement with the Riverside Unified School District for resident use of recreational facilities. Other school facilities, such as classrooms, auditoriums, cafeteria, and pools, are available for public use for a fee. The project would not require permanent or temporary roadway closures at Ramona High School; as such, access to the school site would not be affected by the project. Furthermore, the project would not result in permanent increases to traffic, noise, or air quality emissions that would adversely affect users of the school site. No direct use of the school property that could result in permanent incorporation or temporary occupancy would occur. Construction activities would result in temporary increases in noise and emissions from construction equipment and construction traffic. However, due to the distance of the school from the project, indirect traffic, noise, and air quality impacts as a result of construction activities are anticipated to be minor and temporary, and would not constitute a constructive use. As such, the property is a Section 4(f) property, but no "use" would occur. Therefore, the provisions of Section 4(f) do not apply.

F.5.6 Chemawa Middle School

Chemawa Middle School is located approximately 1,600 feet north of SR-91 and includes track, basketball courts, and field. The City of Riverside has a joint-use agreement with the Riverside Unified School District for resident use of recreational facilities. Other school facilities, such as classrooms, auditoriums, cafeteria, and pools, are available for public use for a fee. The project would not require permanent or temporary roadway closures at Chemawa Middle School; as

such, access to the school site would not be affected by the project. Furthermore, the project would not result in permanent increases to traffic, noise, or air quality emissions that would adversely affect users of the school site. No direct use of the school property that could result in permanent incorporation or temporary occupancy would occur. Construction activities would result in temporary increases in noise and emissions from construction equipment and construction traffic. However, due to the distance of the school from the project, indirect traffic, noise, and air quality impacts as a result of construction activities are anticipated to be minor and temporary, and would not constitute a constructive use. As such, the property is a Section 4(f) property, but no "use" would occur. Therefore, the provisions of Section 4(f) do not apply

F.5.7 Arlington High School

Arlington High School is located approximately 1,800 feet south of SR-91 and includes a track, ball fields, and tennis and basketball courts. The City of Riverside has a joint-use agreement with the Riverside Unified School District for resident use of recreational facilities. Other school facilities, such as classrooms, auditoriums, cafeteria, and pools, are available for public use for a fee. The project would not require permanent or temporary roadway closures at Arlington High School; as such, access to the school site would not be affected by the project. Furthermore, the project would not result in permanent increases to traffic, noise, or air quality emissions that would adversely affect users of the school site. No direct use of the school property that could result in permanent incorporation or temporary occupancy would occur. Construction activities would result in temporary increases in noise and emissions from construction equipment and construction traffic. However, due to the distance of the school from the project, indirect traffic, noise, and air quality impacts as a result of construction activities are anticipated to be minor and temporary, and would not constitute a constructive use. As such, the property is a Section 4(f) property, but no "use" would occur. Therefore, the provisions of Section 4(f) do not apply.

F.5.8 Rose Garden Village

The Rose Garden Village, located at 3668 Adams Street, is eligible for the NRHP under Criterion A for its importance as one of the first low-income retirement communities in the United States. Completed in 1961, this resource consists of single-story buildings with small landscaped courtyards to support independent living, and associated community buildings including a chapel and common dining and recreational facility. There would be no physical effects from the proposed project on the Rose Garden Village as its buildings are located approximately 625 feet away from the nearest portions of the project's Area of Potential Effects (APE) in which permanent impacts would occur. The property is, however, adjacent to a temporary construction easement (TCE) with no construction footprint or other anticipated disturbance. The TCE is entirely within the Adams Street right-of-way where activities could include posting of temporary construction signage, striping, material storage, equipment staging, and increased vehicle traffic due to construction. As such, any visual, auditory, or atmospheric effects on the adjacent historic property would be temporary and minor, and would not constitute a constructive use. Furthermore, no permanent impacts on architectural resources are anticipated as a result of the proposed project. Therefore, the provisions of Section 4(f) do not apply.

F.5.9 Helgeson Buick Showroom

The Helgeson Buick Showroom, located at 8001 Auto Center Drive, is eligible for the NRHP under Criterion C for its International Style and Mid-Century Modern architecture. Completed in

1966, the building features boxy massing, asymmetrical composition, glass curtain walls supported by steel posts, a flat roof with deeply overhanging eaves, and light-colored, stack-bond Roman brick and stack-bond concrete block materials. No physical effects would occur from implementation of the proposed project on the Helgeson Buick Showroom as the building is located approximately 250 feet from the nearest portions of the APE in which permanent impacts—consisting of sidewalk improvements—would occur. Visual effects from the sidewalk improvements would be negligible, and any auditory or atmospheric effects on the historic property during construction would be temporary and minor, and would not constitute a constructive use. Furthermore, no permanent impacts on architectural resources are anticipated as a result of the proposed project. Therefore, the provisions of Section 4(f) do not apply.

F.6 Avoidance, Minimization and/or Mitigation Measures

The following measures will be implemented to avoid and/or minimize project impacts on air quality during construction.

- **AQ-1** During clearing, grading, earthmoving, or excavation operations, fugitive dust emissions will be controlled by regular watering or other dust preventive measures using the following procedures, as specified in SCAQMD Rule 403. All material excavated or graded will be sufficiently watered to prevent excessive amounts of dust. Watering will occur at least twice daily with complete coverage, preferably in the late morning and after work is done for the day. All material transported on site or off site will be either sufficiently watered or securely covered to prevent excessive amounts of dust. The areas disturbed by clearing, grading, earthmoving, or excavation operations will be minimized so as to prevent excessive amounts of dust. These control techniques will be indicated in project specifications. Visible dust beyond the property line emanating from the project will be prevented to the maximum extent feasible.
- **AQ-2** Project grading plans will show the duration of construction. Ozone precursor emissions from construction equipment vehicles will be controlled by maintaining equipment engines in good condition and in proper tune per manufacturers' specifications.
- **AQ-3** All trucks that are to haul excavated or graded material on site will comply with State Vehicle Code Section 23114, with special attention to Sections 23114(b)(F), (e)(2), and (e)(4), as amended, regarding the prevention of such material spilling onto public streets and roads.
- **AQ-4** The contractor will adhere to Caltrans Standard Specifications for Construction (Section 14-9.02).

The following measures will be implemented to minimize project noise and vibration impacts during construction.

- **NOI-1** To minimize potential construction noise effects, the construction Contractor will adhere to best management practices (BMPs) to minimize construction noise levels, including the following:
    - All equipment will have sound-control devices no less effective than those provided on the original equipment. Each internal combustion engine used for any purpose on the job or related to the job will be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine should be operated on the job site without an appropriate muffler.

  - Construction methods or equipment that will provide the lowest level of noise impact should be used to the greatest possible extent (e.g., avoid impact pile driving near residences and consider alternative methods that are also suitable for the soil condition).
  - Idling equipment will be turned off.
  - Truck loading, unloading, and hauling operations will be restricted so that noise and vibration are kept to a minimum through residential neighborhoods to the greatest extent possible.
  - Temporary noise barriers will be used and relocated as needed, to protect sensitive receivers against excessive noise from construction activities involving large equipment and by small items such as compressors, generators, pneumatic tools, and jackhammers. Noise barriers can be made of heavy plywood, moveable insulated sound blankets, or other best available control techniques.
  - Newer equipment with improved noise muffling will be used, and all equipment items will have the manufacturer-recommended noise-abatement measures (e.g., mufflers, engine covers, and engine vibration isolators) intact and operational. Newer equipment will generally be quieter in operation than older equipment. All construction equipment will be inspected at periodic intervals to ensure proper maintenance and presence of noise-control devices (e.g., mufflers and shrouding).
  - Construction activities will be minimized in residential areas during evening, nighttime, weekend, and holiday periods. Noise impacts are typically minimized when construction activities are performed during daytime hours; however, nighttime construction may be desirable (e.g., in commercial areas where businesses may be disrupted during the daytime hours) or necessary to avoid major traffic disruptions. Coordination with the City of Riverside will occur before construction can be performed in noise-sensitive areas.

- **NOI-2** It is possible that certain construction activities could cause intermittent localized concern from vibration. Processes such as earth moving with bulldozers, the use of vibratory compaction rollers, impact pile driving, demolitions, or pavement breaking may cause construction-related vibration impacts such as human annoyance or, in some cases, building damage. There are cases where it may be necessary to use this type of equipment in proximity to residential buildings. The following are some procedures that will be used to minimize the potential impacts from construction vibration:
  - Restrict the hours of vibration-intensive equipment or activities such as vibratory rollers so that impacts on residents are minimized (e.g., weekdays during daytime hours only when as many residents are possible are away from home).
  - For a building within 50 feet of a construction vibration source where damage to that structure due to vibration is possible, provide the owner with a preconstruction building inspection to document the preconstruction condition of that structure.
  - Conduct vibration monitoring during vibration-intensive activities.
- **NOI-3** The project will comply with sound control provisions as included in Section 14-8.02 “Noise Control” of the Caltrans Standard Specifications and Special Provisions. The Contractor will not exceed 86 dBA at 50 feet from the project site from 9:00 p.m. to 6:00 a.m.

The following measures will be implemented to minimize traffic impacts during construction.

- **TRAF-1** Implement Traffic Management Plan. A traffic staging plan, as part of the traffic management plan (TMP), will be implemented during project construction. The TMP will be prepared to minimize direct and cumulative construction impacts on the community. On completion, the final TMP will be available to the public and obtained by request from

Caltrans. The TMP must be submitted with the construction plan to the police and fire departments of affected cities prior to commencement of construction activities. The TMP will include, but not be limited to, the following features.

- Public Information: Provide updates to affected residents, businesses, the general public, schools, and public transportation agencies through brochures and mailers, community meetings, websites, radio and newspaper advertisements, and social media.
- Motorist Information: Provide information using changeable message signs and ground-mounted signs.
- Incident Management: Implement a Construction Zone Enhanced Enforcement Program, freeway service patrol, and California Highway Patrol traffic handling.
- Traffic Management During Construction: Provide a traffic lane closure chart, detour route, pedestrian routes, residential and commercial access routes, and temporary traffic signals during construction.
- Parking Management during Construction: The City will coordinate with local businesses, as needed, to secure additional parking areas during the construction period.

F.7 Sources Consulted

California Department of Transportation (Caltrans). 2023. *State Route 91/Adams Street Interchange Project: Community Impact Assessment*.

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