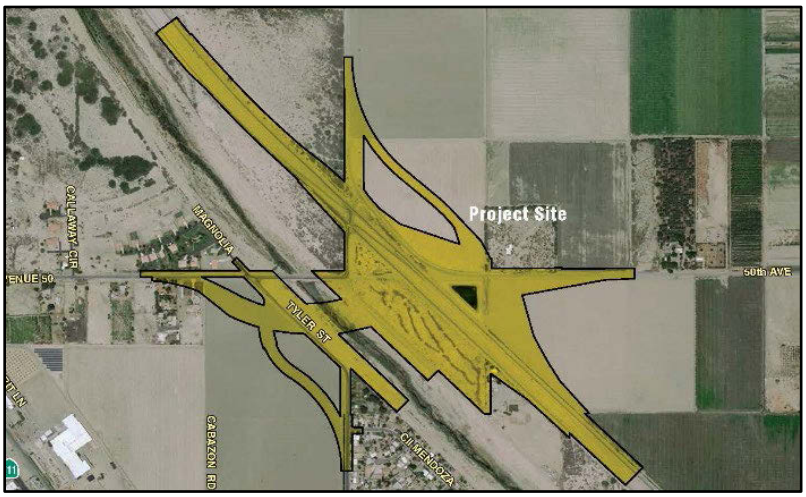
State Route 86/Avenue 50 New Interchange Project

CITY OF COACHELLA, RIVERSIDE COUNTY, CALIFORNIA
DISTRICT 8 – RIV – 86 (PM R19.2/R21.6)
EA 08-0C9700 PN 0814000144

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



Prepared by the
State of California, Department of Transportation

and the City of Coachella

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

May 2019

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General Information About This Document

What's in this document:

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), had this Initial Study/Environmental Assessment (IS/EA) prepared, which examines the potential environmental impacts of the alternatives being considered for the proposed project located in the City of Coachella, Riverside County, California. Caltrans is the lead agency under the Natural Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The 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. The Initial Study/Draft Environmental Assessment circulated to the public for 32 days between December 6, 2018 and January 7, 2019. Comments received during this period are included in Chapter 4. Elsewhere throughout this document, a vertical line in the margin indicates a change made since the draft document circulation. Minor editorial changes and clarifications have not been so indicated. Additional copies of this document and the related technical studies are available for review at The City of Coachella, City Hall, 1515 Sixth Street, Coachella, CA 92236; and the Coachella Library, 1500 Sixth Street, Coachella, CA 92236. This document may be downloaded at the following website: https://www.coachella.org/residents/avenue-50.

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 alternate formats, please call or write to Jonathan Hoy, City Engineer, City of Coachella, Engineering Department, 1515 Sixth Street, Coachella, CA 92236; (760) 398-5744 (Voice), or use the California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2922 (Voice) or 711.

SCH #2018121012
08-RIV-86 PM R19.2/R21.6
08-0C9700
PN 0814000144

Construction of a new interchange at State Route 86 and Avenue 50 from Post Mile (PM) R19.2 to R21.6 and realign and widen Avenue 50, realign Tyler Street, and construct a new bridge spanning over the Coachella Valley Stormwater Channel (CVSC) that will replace the existing one-lane in each direction a portion of Avenue 50 that crosses the CVSC in the City of Coachella, Riverside County, California

INITIAL STUDY WITH MITIGATED NEGATIVE DECLARATION/ENVIRONMENTAL ASSESSMENT WITH FINDING OF NO SIGNIFICANT IMPACT

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2)(c), 49 USC 303, and/or 23 USC 138

THE STATE OF CALIFORNIA
Department of Transportation
and
The City of Coachella

5/7/19
Date of Approval

David Bricker
Deputy District Director
District 8 Division of Environmental Planning
California Department of Transportation
CEQA and NEPA Lead Agency

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

(State Route 86/Avenue 50 New Interchange Project)

FOR

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

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

5/7/19
Date

David Bricker
Deputy District Director
District 8 Division of Environmental Planning
California Department of Transportation

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Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The City of Coachella (City), in cooperation with the California Department of Transportation (Caltrans), proposes the construction of a new interchange at State Route 86 (SR-86) (PM R19.2/R21.6) and Avenue 50, approximately 1.1 miles north of the existing Avenue 52 intersection and 1.95 miles south of the existing Dillon Road interchange. The project would convert a portion of SR-86 from an at-grade signalized intersection into a grade-separated full interchange with a new overcrossing bridge and access ramps. A new Avenue 50 overcrossing would be constructed with associated on- and off-ramps and signalized intersections. The project would also construct a new Avenue 50 bridge structure over the Whitewater River/Coachella Valley Stormwater Channel (CVSC). This new bridge structure over the CVSC would replace the existing at-grade paved low water crossing and would include the following associated improvements: realignment and widening of a portion of Avenue 50, realignment of portions of Tyler Street on both the west and east sides of SR-86, respectively, and, the existing 1-lane in each direction road that is located within the limits of the CVSC would become a CVSC maintenance road. The purpose of the project is to improve mobility to and from eastern parts of the City of Coachella by providing direct and dependable access over the CVSC, improve operational efficiency by replacing the existing SR-86/Avenue 50 intersection with a new interchange, improve expressway access for the City and the Coachella Valley Region, implement improvements consistent with the City's circulation plan, and improve traffic operations and accommodate planned growth by enhancing levels of service at local street intersections and adjacent interchanges. The existing SR-86/Avenue 50 interchange cannot accommodate anticipated planned growth for the area and does not provide adequate mobility, operational efficiency, and dependable access through the project area or connections for the future CV Link project.

Determination

Caltrans has prepared an Initial Study for this project, and following public review, has determined from this study that the project would not have a significant effect on the environment for the following reasons: The SR-86/Avenue 50 New Interchange project would have no effect on the following resources: Mineral Resources, Land Use and Planning, and Tribal Cultural Resources.

In addition, the SR-86/Avenue 50 New Interchange project would have less than significant effects to: Aesthetics, Agriculture and Forest Resources, Air Quality, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Population and Housing, Public Services, Recreation, Transportation/Traffic, and Utilities and Service Systems.

With mitigation measures incorporated, the project would have less than significant effects to Biological and Paleontological Resources:

WET-1 Permanent and temporary impacts to jurisdictional waters will be mitigated at a minimum 1:1 ratio at an approved mitigation bank, applicant-sponsored mitigation area, or on-site. The project will include a restoration plan that will provide requirements for site selection, implementation, monitoring, long-term maintenance, and performance standards, in consultation with the resource agencies.

PAL-2 A Paleontological Mitigation Plan (PMP) that follows Caltrans guidelines and the recommendations of the Society of Vertebrate Paleontology (SVP) will be

prepared. The PMP is anticipated to include, but not be limited to, the following mitigation measures:

a) A Paleontological Mitigation Plan (PMP) will be prepared and implemented for the project. The PMP will be conducted by a qualified professional paleontologist prior to the commencement of ground-disturbing activities.

b) If a paleontological resource is discovered, the paleontological monitor and the Resident Engineer may divert the construction equipment around the find temporarily.

c) The paleontological find will be assessed for scientific significance and collected.

PAL-3b At the conclusion of laboratory work and museum curation, a final Paleontological Mitigation Report shall be prepared describing the results of the paleontological mitigation monitoring efforts associated with the project. The report will include a summary of the field and laboratory methods, an overview of the project area geology and paleontology, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. If the monitoring efforts produced fossils, then a copy of the report shall also be submitted to the Western Science Center in the City of Hemet, Riverside County, California.

David Bricker
Deputy District Director
District 8 Division of Environmental Planning
California Department of Transportation

5/7/19
Date of Approval

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Chapter 1 Proposed Project

NEPA Assignment

California participated in the "Surface Transportation Project Delivery Pilot Program" (Pilot Program) pursuant to 23 United States Code (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 California Department of Transportation (Caltrans) entered into a Memorandum of Understanding pursuant to 23 USC 327 (National Environmental Policy Act [NEPA] Assignment Memorandum of Understanding [MOU]) with the Federal Highway Administration (FHWA). The NEPA Assignment MOU became effective October 1, 2012, and was renewed on December 23, 2016 for a term of five years. In summary, Caltrans continues to assume FHWA responsibilities under NEPA and other federal environmental laws in the same manner as was assigned under the Pilot Program, with minor changes. With NEPA Assignment, FHWA assigned and Caltrans assumed all of the United States Department of Transportation (USDOT) Secretary's responsibilities under NEPA. This assignment includes projects on the State Highway System and Local Assistance Projects off of the State Highway System within the State of California, except for certain categorical exclusions that FHWA assigned to Caltrans under the 23 USC 326 CE Assignment MOU, projects excluded by definition, and specific project exclusions.

1.1 Introduction

The California Department of Transportation (Caltrans) is the lead agency pursuant to the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA). The City of Coachella (City), in cooperation with Caltrans, proposes to realign and widen a portion of Avenue 50, realign a portion of Tyler Street, and construct a new bridge spanning the Coachella Valley Storm Water Channel (CVSC) to replace the existing Avenue 50 at-grade crossing of the CVSC, and to construct a new interchange at State Route 86 (SR-86) and Avenue 50, replacing the existing SR-86/Avenue 50 signalized intersection. The existing SR-86/Avenue 50 intersection is located approximately 1.1 miles north of the existing Avenue 52 intersection and 1.95 miles south of the existing Dillon Road interchange; refer to Figure 1-1, Regional Vicinity and Figure 1-2, Site Vicinity. SR-86 is a north-south State highway facility serving Imperial and Riverside Counties. It begins at State Route 111 (SR-111) near the U.S./Mexico International Border in Imperial County, and extends approximately 91 miles northward (roughly parallel to SR-111) along the western shore of the Salton Sea, terminating at an interchange with Interstate 10 (I-10) in the City of Indio. SR-86 is a principal route used for distribution of agricultural products as well as local circulation for many of the surrounding areas.

The portion of SR-86 within the project limits was constructed in July 1993, and runs parallel and easterly to the old SR-86. The facility is a four-lane divided expressway that covers approximately 20.0 miles between Avenue 82 and I-10. SR-86 and Avenue 50 is currently an at-grade signalized intersection with a dedicated left-turn lane and right-turn lane in the northbound and southbound directions along SR-86.

SR-86 consists of two 12-foot-wide, mixed-flow lanes in each direction with 5-foot-wide inside and 10-foot-wide outside shoulders. The median width is 92 feet wide, which includes inside shoulders and unpaved area. The existing right-of-way (ROW) width is 224 feet with access control on either side.

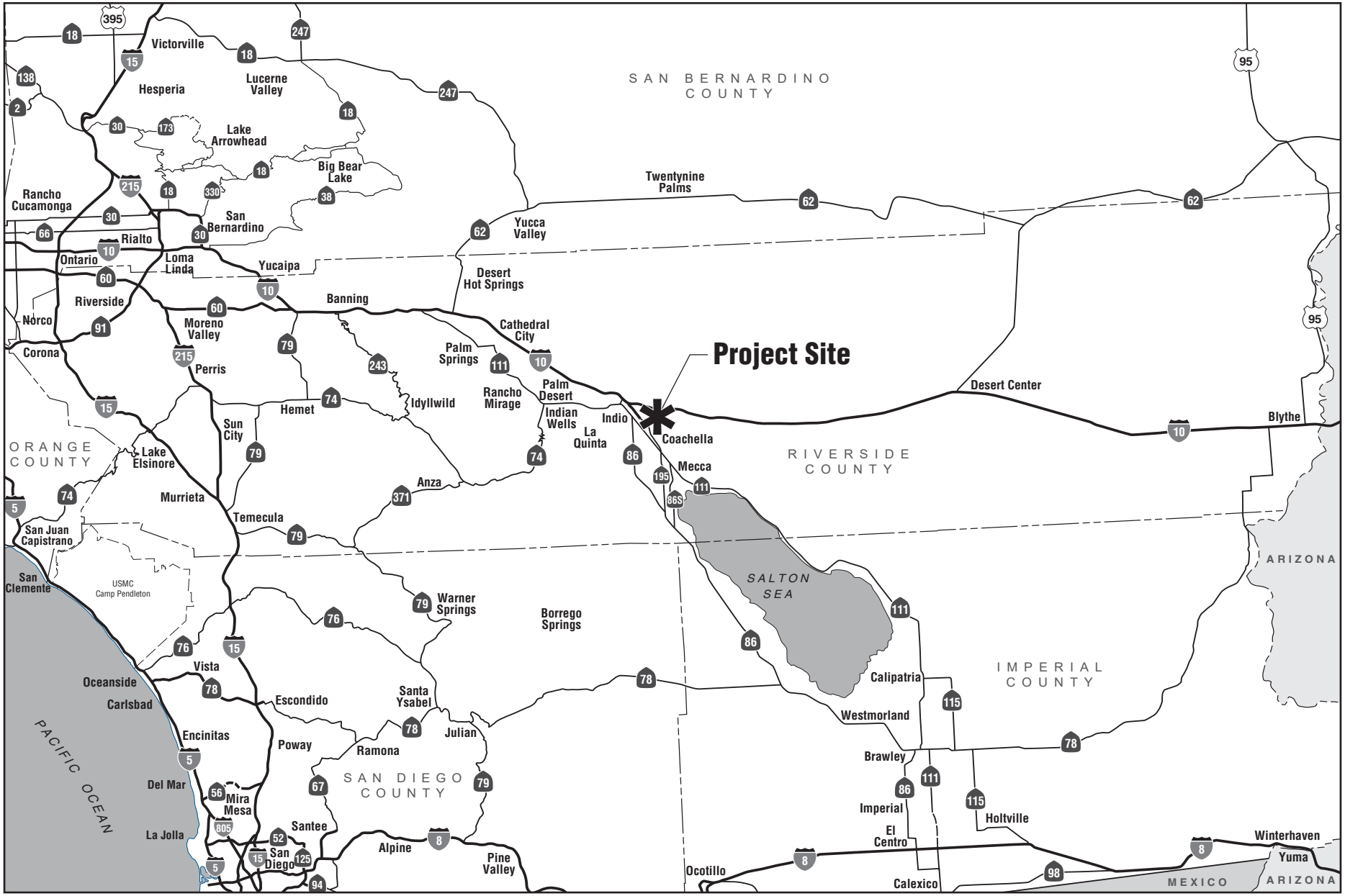
Avenue 50 is a major east/west thoroughfare that begins at the Eisenhower Drive intersection in the City of La Quinta, which then travels easterly through Indio and currently ends at the All American Canal in Coachella; however, in conjunction with the La Entrada development, Avenue 50 will be extended to Interstate 10. Work in this regard is expected to begin within the next 12 months. Avenue 50 is defined in the General Plan Mobility Element as a "Major Arterial with Bicycle Facility." Currently, Avenue 50 is a paved two-lane roadway, one-lane in each direction, through the project limits. Built in 1970, the existing Avenue 50 low water crossing begins immediately east of the Tyler Street intersection, which is stop-sign controlled. The crossing (over the Coachella Valley Stormwater Channel [CVSC]) is approximately 700 feet long and consists of two 72-inch diameter corrugated steel pipe culverts beneath the roadbed to convey ordinary low flow waters (approximately 600 cubic feet per second) from north to south. The capacity of these culverts is often exceeded, resulting in roadway flooding during heavy storm events. On the east side of the CVSC, Avenue 50 curves to the north and forms a four-leg signalized intersection with SR-86. Within the project limits, the existing Avenue 50 travel lanes are 12 feet wide with unpaved outside shoulders.

Tyler Street is defined in the General Plan Mobility Element as a "collector street with bicycle facility" road type, and is a two-lane north/south roadway that is segmented (or not continuous) within the project limits. The southern segment of Tyler Street terminates at Avenue 50, west of SR-86. The northern segment of Tyler Street begins at Avenue 50, east of SR-86. Currently, Avenue 50 and Tyler Street within the project limits do not include any signage or striping for bicyclists. Within the project limits, a sidewalk exists along the east side of Tyler Street, adjacent to existing residences and Sierra Vista Park. An aerial view of the project site and surroundings is provided on Figure 1-3, Project Site.

The entire length of SR-86 is included in the State Interregional Road System, the National Highway System and the California Freeway and Expressway System. According to the Transportation Concept Report (TCR), dated June 2017, the SR-86 corridor is also designated as a High Emphasis Route, a Focus Route, and a Goods Movement Route. The National Network for Surface Transportation Assistance Act (STAA) identifies SR-86 as a "National Network" route for STAA trucks. The SR-86 corridor is also designated as a Terminal Access Route, in which STAA trucks are allowed to travel. The segment within the project limits is currently designated as urbanized and is functionally classified as a Rural Principal Arterial.

The SR-86 TCR shows that four lanes (which includes both directions) are needed on SR-86 from Airport Boulevard to Dillon Road to attain a Level of Service (LOS) "D" rating. The project is consistent with the identified goals of the TCR and is recognized as one of the strategies to achieve the corridor concept.

It is planned for this project to be constructed in two separate phases. The first phase will focus on construction of the bridge over CVSC and will include realignments of Avenue 50 and Tyler Street on the west side of SR-86. The second phase will focus on construction of the new SR-86/Avenue 50 interchange and will also include realignment of Tyler Street on the east side of SR-86. Proposed funding for the project is anticipated to be from a combination of City, CVAG, and Federal Highway Bridge Program (HBP) and Demonstration ("DEMO") funds. The project is included in the Southern California Association of Governments (SCAG)'s 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy Final Amendment No. 3 (RTP/SCS) [Project ID RIV061159], as well as the 2019 Federal Transportation Improvement Program (FTIP) [Project ID RIV061159/RIV110825].



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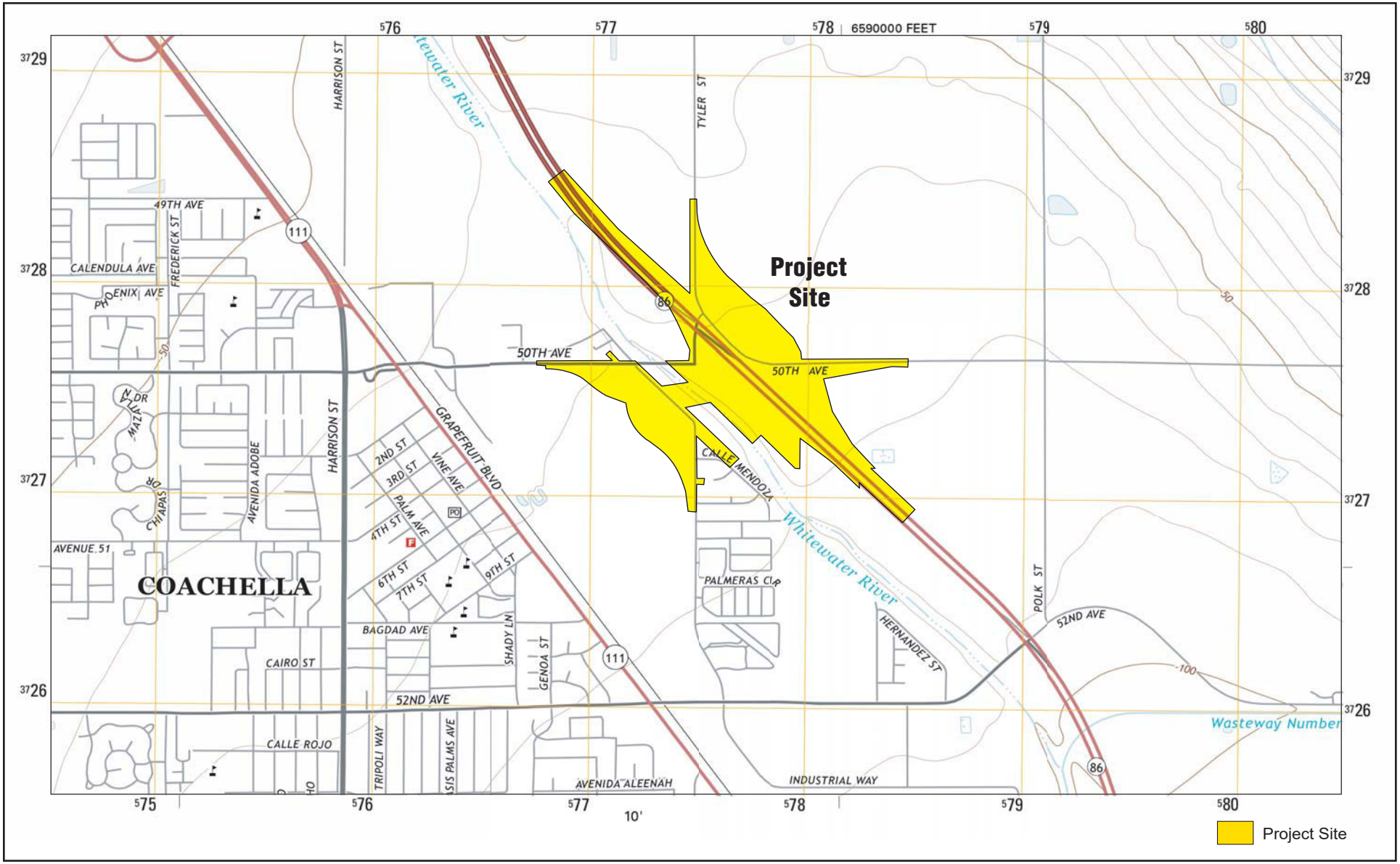
INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Regional Vicinity

Figure 1-1



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INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Site Vicinity

Figure 1-2

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INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Project Site

Figure 1-3

The project entry in the 2019 FTIP identifies the following scope of work for RIV110825: "In the City of Coachella, Avenue 50 over Coachella Stormwater Channel: (Phase 1) Replacement of a 2-lane low water crossing (Bridge No. 00L0055) with a 6-lane (3 lanes in each direction) bridge on new roadway alignment from approximately 300-ft west of Apache Trail to SR-86 south intersection. Including bike lanes, sidewalks, reconstruct traffic signal/driveways, channel scour protection, and retaining existing low water crossing and culverts." The project entry in the 2019 FTIP identifies the following scope of work for RIV061159: At SR-86/Avenue 50: (Phase 2) Widen and construct new 6-through lane interchange from east of Coachella Stormwater Channel Bridge to east of Tyler Street. Improvements include: extended ramp acceleration/deceleration lanes, relocate/realign Avenue 50 and Tyler Street, bike lanes, sidewalks, and reconstruct traffic signals (SAFETEA LU 1702, CA583, #2543) (EA: 0C970)."

Other improvements include bike lanes/trails, sidewalks, reconstruct traffic signal/driveways, channel scour protection, and removal of low water crossing and culverts. The project is also included in CVAG's 2016 Transportation Project Prioritization Study (TPPS); the project was ranked #20.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of the project is to:

- Improve mobility to and from eastern parts of the City of Coachella by providing direct and dependable access over the CVSC.
- Improve operational efficiency by replacing the existing SR-86/Avenue 50 intersection with a new interchange.
- Improve expressway access for the City and the Coachella Valley Region.
- Implement improvements consistent with the City's circulation plan.
- Improve traffic operations and accommodate planned growth by enhancing levels of service at local street intersections and adjacent interchanges.

1.2.2 Need

During severe winter and summer storms, the existing Avenue 50 low water crossing is frequently inundated and damaged due to debris flows within the CVSC. The flooding and the resulting road closure have a direct impact on the public's health and safety. In addition, the frequent flood damage results in substantial cost to the City for road repairs; and increases the response time of emergency vehicles.

Avenue 50 within the project limits is anticipated to operate at an unsatisfactory LOS as a result of planned development and associated traffic projections. The City's Land Use Plan Element of the General Plan identifies ongoing and planned development in the eastern part of Coachella that is expected to increase the local population and local/regional traffic demands.

1.2.3 Forecast Traffic Volumes

This section describes the existing and forecast traffic data for intersection, roadway segment, and expressway traffic operational conditions, and accident review. Traffic forecasts were developed for study facilities as part of the Memorandum of Traffic Methodology and Volumes for State Route 86/Avenue 50 New Interchange Project (see Appendix C of the Traffic Operations Report [Traffic Report] for the project, dated November 2017). The study area consists of study intersections along Avenue 50 (between Harrison Street and SR-86), the SR-86 mainline segment between Dillon Road and Avenue 52, and SR-86 ramp intersections at Dillon Road and Avenue 52; refer to Figure 2.1.6-1, Traffic Study Area. The study facilities are identified below and were evaluated during the weekday AM (7:00 AM to 9:00 AM) and PM (4:00 PM to 6:00 PM) peak hours at study intersections and mainline/ramp locations and on a weekday basis for study arterial roadway segments.

Study Intersections

1. Avenue 50/Harrison Street
2. Avenue 50/Leoco Lane
3. Avenue 50/Peter Rabbit Lane
4. Avenue 50/Tyler Street
5. Avenue 50/Southbound SR-86 Ramps
6. Avenue 50/Northbound SR-86 Ramps
7. Dillon Road/Southbound SR-86 Ramps
8. Dillon Road/Northbound SR-86 Ramps
9. Avenue 52/Southbound SR-86 Ramps
10. Avenue 52/Northbound SR-86 Ramps/Tyler Street
11. Tyler Street/Calle Mendoza

SR-86 Mainline Segments

1. Northbound and Southbound SR-86: between Dillon Road and Avenue 50
2. Northbound and Southbound SR-86: between Avenue 50 and Avenue 52

SR-86 Ramp Junctions

1. Northbound SR-86 Off-ramp to Avenue 50 (future)
2. Northbound SR-86 On-ramp from Avenue 50 (future)
3. Southbound SR-86 Off-ramp to Avenue 50 (future)
4. Southbound SR-86 On-ramp from Avenue 50 (future)

Study Roadway Segments

1. Avenue 50 Bridge: between Tyler Street and SR-86
2. Avenue 50: between Leoco Lane and Peter Rabbit Lane
3. Avenue 50: west of Harrison Street

Intersection Operations

Analysis Methodology

The Highway Capacity Manual (HCM) 2010 methodology for signalized intersections estimates the average control delay for vehicles at the intersection while the methodology for unsignalized intersections estimates the worst-case movement control delay for two-way stop-controlled intersections and the average control delay for all-way stop controlled intersections. After the quantitative delay estimates are complete, the methodology assigns a qualitative letter grade that represents the operations of the intersection. These grades range from level of service (LOS) A (minimal delay) to LOS F (congested conditions). LOS E represents at-capacity operations. Descriptions of the LOS letter grades for both signalized and unsignalized intersections are provided in Table 1-1, Intersection LOS.

Table 1-1: Intersection LOS

Level of Service	Description	Signalized Intersections (Average Stopped Delay per Vehicle [seconds per vehicle])	Unsignalized Intersections (Average Control Delay [seconds per vehicle])
A	Very low delay occurs due to little or no conflicting traffic.	<10.0	<10.0
B	Low delay occurs although conflicting traffic becomes noticeable.	>10.0 to 20.0	>10.0 to 15.0
C	Average delays result from increased conflicting traffic.	>20.0 to 35.0	>15.0 to 25.0
D	Longer delays occur due to a reduction in available gaps. At signals, individual cycle failures are noticeable.	>35.0 to 55.0	>25.0 to 35.0
E	High delays and extensive queues occur. This value indicates volume-to-capacity ratios. This is considered to be the limit of acceptable delay.	>55.0 to 80.0	>35.0 to 50.0
F	Delays are unacceptable to most drivers due to oversaturation.	>80.0	>50.0

Source: Transportation Research Board, *Highway Capacity Manual*, 2010.

Intersection Analysis

Table 1-2, Intersection LOS Summary Results – No-Build, summarizes the LOS for study area intersections without the project for existing (2015) and forecast 2021/2025 and 2045. All the roadway segments currently operate at acceptable LOS D or better conditions, with the exception of the intersection of Avenue 50/Tyler Street and the intersection of Avenue 50 at the northbound and southbound ramp intersections (operating at an unacceptable LOS F). By 2021/2025 and 2045, the intersection of Avenue 50/Tyler Street and the intersection of Avenue 50 at the northbound and southbound ramp intersections continue to deteriorate.

Table 1-2: Intersection LOS Summary Results – No-Build

Intersection	Control	Existing (2015)				2021 (2025)				2045			
		AM		PM		AM		PM		AM		PM	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Avenue 50/ Leoco Lane	Signal	7.1	A	8.3	A	8.8 (--)	A (--)	10.7 (--)	B (--)	14.0	B	30.9	C
Avenue 50/ Peter Rabbit Lane	Signal	6.4	A	8.4	A	7.6 (--)	A (--)	9.5 (--)	A (--)	8.9	A	8.7	A
Avenue 50/ Tyler Street	Side-street Stop	**127.1**	**F**	**176.1**	**F**	**621.4** (--)	**F** (--)	**653.4** (--)	**F** (--)	**1,817.2**	**F**	**877.2**	**F**
Avenue 50/ Southbound SR-86 Ramps	Signal	36.8	D	32.0	C	**79.8 (162.2)**	**E (F)**	**80.6 (182.2)**	**F (F)**	**450.8**	**F**	**431.7**	**F**
Avenue 50/ Northbound SR-86 Ramps													
Dillon Road/ Southbound SR-86 Ramps	Signal	9.9	A	10.5	B	-- (12.1)	-- (B)	-- (26.8)	-- (C)	12.4	B	32.1	C
Dillon Road/ Northbound SR-86 Ramps	Signal	19.9	B	12.3	B	-- (16.8)	-- (B)	-- (13.1)	-- (B)	31.2	C	18.2	B
Avenue 52/ Southbound SR-86 Ramps	Signal	16.3	B	19.3	B	-- (12.6)	-- (B)	-- (9.7)	-- (A)	11.3	B	10.3	B
Avenue 52/ Northbound SR-86 Ramps						-- (13.5)	-- (B)	-- (13.2)	-- (B)	10.1	B	9.0	A
Tyler Street/ Calle Mendoza	Side-street Stop	12.9	B	12.9	B	15.3 (--)	C (--)	14.9 (--)	B (--)	20.4	C	18.8	C

Source: Fehr & Peers, *SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report*, November 2017.

As shown in Table 1-3, Intersection LOS Summary Results – Build Alternatives Opening Year, all study area expressway locations along SR-86 would operate at acceptable LOS C or better under both Build Alternatives. As shown in Table 1-3, the two ramp terminal intersections at SR-86 and Avenue 50 would improve from LOS F without the project to an acceptable LOS C or better during both AM and PM peak hours under both Build Alternatives. All other study area intersections would operate at acceptable LOS B conditions under both of the Build Alternatives.

As mentioned above, the first phase of the project (Phase 1) includes the Avenue 50 bridge, which is anticipated to complete construction and be open to traffic by year 2021. The second phase of the project (Phase 2) includes the new interchange at SR-86/Avenue 50, which is anticipated to complete construction and be open to traffic by year 2025. The indication of year 2021 in Table 1-3 refers to Phase 1 improvements, and the indication of year 2025 in parentheses refers to Phase 2 improvements. It should be noted that 2045 is the design horizon year in conjunction with both phases being fully constructed.

As shown in Table 1-4, Intersection LOS Summary Results – Build Alternatives Buildout Year, both the Avenue 50/Tyler Street and SR-86/Avenue 50 intersections would improve from LOS F without the project to an acceptable LOS C or better during both AM and PM peak hours under both Build Alternatives. However, the intersection of Avenue 50 and Harrison Street would operate at an unacceptable LOS E under both Build Alternatives due to the anticipated traffic demand increase along Avenue 50. The decline in LOS at this intersection will be addressed by improvements that will be implemented as part of another project.

Table 1-3: Intersection LOS Summary Results – Build Alternatives Opening Year

Intersection	Control	Build Alternative 7 – 2021 (2025)*				Build Alternative 8 – 2021 (2025)*			
		AM		PM		AM		PM	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Avenue 50/ Leoco Lane	Signal	8.8 (--)	A (--)	10.4 (--)	B (--)	8.8 (--)	A (--)	10.4 (--)	A (--)
Avenue 50/ Peter Rabbit Lane	Signal	9.1 (--)	A (--)	12.0 (--)	B (--)	9.1 (--)	A (--)	12.0 (--)	B (--)
Avenue 50/ Tyler Street	Side-street Stop	28.2 (--)	C (--)	23.0 (--)	C (--)	28.2 (--)	C (--)	23.0 (--)	C (--)
Avenue 50/ Southbound SR-86 Ramps	Signal	**95.5** (16.1)	**F** (B)	**96.8** (22.8)	**F** (C)	**95.5** **(15.5)**	**F** **(B)**	**96.8** **(19.9)**	**F** **(B)**
Avenue 50/ Northbound SR-86 Ramps	Signal	**95.5** (11.9)	**F** (B)	**86.8** (16.0)	**F** (B)	**95.5** (11.9)	**F** (B)	**96.8** (16.2)	**F** (B)
Dillon Road/ Southbound SR-86 Ramps	Signal	-- (11.9)	-- (B)	-- (19.6)	-- (B)	-- (11.9)	-- (B)	-- (19.6)	-- (B)
Dillon Road/ Northbound SR-86 Ramps	Signal	-- (15.9)	-- (B)	-- (17.0)	-- (B)	-- (15.9)	-- (B)	-- (17.0)	-- (B)
Avenue 52/ Southbound SR-86 Ramps	Signal	-- (13.6)	-- (B)	-- (13.2)	-- (B)	-- (13.6)	-- (B)	-- (13.2)	-- (B)
Avenue 52/ Northbound SR-86 Ramps	Signal	-- (13.9)	-- (B)	-- (12.8)	-- (B)	-- (13.9)	-- (B)	-- (12.8)	-- (B)
Tyler Street/ Calle Mendoza	Side-street Stop	16.2 (--)	C (--)	16.0 (--)	C (--)	16.2 (--)	C (--)	16.0 (--)	C (--)

Source: Fehr & Peers, *SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report*, November 2017.
* Year 2021 data is applicable to Phase 1 of the project and year 2025 data in parentheses is applicable to Phase 2 of the project.

Table 1-4: Intersection LOS Summary Results – Build Alternatives Buildout Year

Intersection	Control	Build Alternative 7 2045				Build Alternative 8 2045			
		AM		PM		AM		PM	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Avenue 50/ Harrison Street	Signal	49.7	D	**79.7**	**E**	49.7	D	**79.7**	**E**
Avenue 50/ Leoco Lane	Signal	19.0	B	50.0	D	19.0	B	50.0	D
Avenue 50/ Peter Rabbit Lane	Signal	10.4	B	12.6	B	10.4	B	12.6	B
Avenue 50/ Tyler Street	Signal	34.0	C	33.0	C	34.0	C	33.0	C
Avenue 50/ Southbound SR-86 Ramps	Signal	13.9	B	31.6	C	13.7	B	20.8	B
Avenue 50/ Northbound SR-86 Ramps	Signal	8.2	A	15.9	B	10.9	B	16.5	B
Dillon Road/ Southbound SR-86 Ramps	Signal	12.8	B	25.9	C	12.8	B	25.9	C
Dillon Road/ Northbound SR-86 Ramps	Signal	24.6	C	29.3	C	24.6	C	29.3	C
Avenue 52/ Southbound SR-86 Ramps	Signal	12.4	B	22.0	C	12.4	B	22.0	C
Avenue 52/ Northbound SR-86 Ramps	Signal	10.0	B	14.4	B	10.0	B	14.4	B
Tyler Street/ Calle Mendoza	Side-street Stop	18.5	C	24.0	C	18.5	C	24.0	C

Notes: **Bold** text indicates unacceptable level of service. For signalized intersections, delay shows whole intersection weighted average control delay using methods (HCM 2010).
Source: Fehr & Peers, *SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report*, November 2017.

Roadway Segment Operations

Roadway Segment Methodology

Roadway segment operations were evaluated by comparing the daily traffic volumes to the roadway classification capacity identified in the City's General Plan Circulation Element. The roadway capacity by classification is shown in Table 1-5, Roadway Segment AADT Capacity. The volume to capacity (v/c) ratio is calculated for study roadway segments along Avenue 50. Any roadway segments with the v/c ratio equal to or greater than 1.0 is considered as LOS F conditions.

Table 1-5: Roadway Segment AADT Capacity

Roadway Classification	Number of Lanes	AADT Capacity
Major Arterial	6 – Divided	56,000
Primary Arterial	4 – Divided	37,400
Secondary Arterial	4 – Divided	28,900
Major Collector	4 – Undivided	20,000
Minor Collector	2 – Undivided	12,000
Local Street	2 – Undivided	10,400

Source: City of Coachella, City of Coachella General Plan Update, Circulation Element, May 2014.

Roadway Segment Analysis

Roadway segments were evaluated by comparing the daily existing and forecast without project volumes to the capacity thresholds utilized as part of the Traffic Report, and the results are shown in Table 1-6, Existing and Forecast Roadway Segment Volumes - No-Build. All the roadway segments currently operate at acceptable LOS D or better conditions. However, by 2021, forecast volumes, without the project, along Avenue 50 bridge between Tyler Street and SR-86, operations would deteriorate to a LOS F, and would continue to operate at an unacceptable LOS F by 2045.

Table 1-6: Existing and Forecast Roadway Segment Volumes - No-Build

Segment	Classification[1]	Existing (2015)				2021				2045			
		ADT	Capacity[2]	V/C	LOS[3]	ADT	Capacity[2]	V/C	LOS[3]	ADT	Capacity[2]	V/C	LOS[3]
Avenue 50: Bridge between Tyler Street and SR-86	Major Arterial	10,473	13,000[4]	0.81	D	14,500	13,000[4]	1.12	**F**	30,570	13,000[4]	2.35	**F**
Avenue 50: Between Leoco Lane and Peter Rabbit Lane	Primary Arterial	16,203	37,400	0.43	A	18,220	37,400	0.49	A	26,270	37,400	0.70	C
Avenue 50: West of Harrison	Major Arterial	10,144	13,000[4]	0.78	C	11,200	13,000[4]	0.86	D	15,370	56,000	0.27	A

Notes:
1 Classification reflects future build-out of roadway segment from City of Coachella General Plan (2015)
2 Capacity from City of Coachella General Plan EIR Appendix 11.4 (2013), unless otherwise indicated.
3 LOS E represents at capacity operations.
4 Capacity is based on existing roadway condition and Riverside County Integrated Project General Plan's capacity thresholds for 2-lane Collector.

Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report, November 2017.

Under both of the Build Alternatives, a portion of SR-86, between Avenue 52 and Dillon Road, would be converted from an at-grade signalized intersection into a grade-separated full interchange, which would eliminate cross traffic. It is acknowledged that Avenue 50 roadway segments were not included as study locations under Opening Year 2025, and therefore, no roadway segments were analyzed under 2025 conditions. As shown in Table 1-7, Existing and Forecast Roadway Segment Volumes – Build Alternatives, all study area roadway segments along Avenue 50 would operate at acceptable LOS D or better conditions under both of the Build Alternatives. With the increased capacity proposed by the project, Avenue 50 would expect an increase in traffic demand. However, the study area roadway segments would accommodate the traffic demand increase and still operate at LOS D or better under both Build Alternatives.

Table 1-7: Existing and Forecast Roadway Segment Volumes - Build Alternatives

Segment	Classification[1]	Opening Year (2021)				Opening Year (2025)				Design Year (2045)			
		ADT	Capacity[2]	V/C	LOS[3]	ADT	Capacity[2]	V/C	LOS[3]	ADT	Capacity[2]	V/C	LOS[3]
Avenue 50: Bridge between Tyler Street and SR-86	Major Arterial	16,480	56,000	0.29	A	--	--	--	--	32,350	56,000	0.58	A
Avenue 50: Between Leoco Lane and Peter Rabbit Lane	Primary Arterial	18,960	37,400	0.51	A	--	--	--	--	31,240	37,400	0.84	D
Avenue 50: West of Harrison	Major Arterial	11,260	13,000[4]	0.87	D	--	--	--	--	16,930	56,000	0.30	A

Notes:
1 Classification reflects future build-out of roadway segment from City of Coachella General Plan (2015).
2 Capacity from City of Coachella General Plan EIR Appendix 11.4 (2013), unless otherwise indicated.
3 LOS E represents at capacity operations.
4 Capacity is based on existing roadway condition and Riverside County Integrated Project General Plan's capacity thresholds for 2-lane Collector.

Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report, November 2017, Tables 10 and 18.

Freeway Mainline Analysis

Methodology

Freeway mainline and ramps were evaluated using a HCS equivalent tool which applies methodologies contained in the Highway Capacity Manual (HCM 2010) (Transportation Research Board, 2010). The LOS was calculated for each study facility based on density in number of vehicles per hour per lane. Table 1-8, Freeway LOS Threshold, describes the LOS thresholds for freeway sections identified in the HCM 2010.

Table 1-8: Freeway LOS Threshold

Level of Service	Description	Density (vplpm)[1]	
		Mainline (Basic)	Ramp/Weave
A	Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.	≤11	≤10
B	Free-flow speeds are maintained. The ability to maneuver with the traffic stream is only slightly restricted.	>11 to 18	>10 to 20
C	Flow with speeds at or near free-flow speeds. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver.	>18 to 26	>20 to 28
D	Speeds decline slightly with increasing flows. Freedom to maneuver with the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort.	>26 to 35	>28 to 35
E	Operation at capacity. There are virtually no usable gaps within the traffic stream, leaving little room to maneuver. Any disruption can be expected to produce a breakdown with queuing.	>35 to 45	>35 to 45[2]
F	Represents a breakdown in flow.	>45	>45[2]

Notes:
1. Density is reported in vehicles per lane per mile (vplpm).
2. The maximum density for ramp junctions and weaving sections under LOS E is not defined in the HCM. The maximum density for basic segments of 45 vplpm was assumed to apply to ramp junctions and weaving sections.

Source: Transportation Research Board, Highway Capacity Manual, 2010.

Freeway Mainline Analysis

Under the Build Alternatives, a portion of SR-86, between Avenue 52 and Dillon Road, would be converted from an at-grade signalized intersection into a grade-separated full interchange which would eliminating cross traffic. As shown in Table 1-9, Opening Year 2025 Freeway Analysis Summary – Build Alternatives, all study area expressway locations along SR-86 would operate at acceptable LOS C or better under both Build Alternatives. As shown in Table 1-6 and Table 1-7 above, the two ramp terminal intersections at SR-86 and Avenue 50 would improve from LOS F without the project to an acceptable LOS C or better during both AM and PM peak hours under both Build Alternatives. All other study area intersections would operate at acceptable LOS B conditions under the Build Alternatives.

As shown in Table 1-10, Buildout Year 2045 Freeway Analysis Summary – Build Alternatives, all study area locations along SR-86 would operate at an acceptable LOS D or better for the Buildout Year 2045 under both Build Alternatives.

Table 1-9: Opening Year 2025 Freeway Analysis Summary – Build Alternatives

Segment	Type	Build Alternative 7				Build Alternative 8			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Density[1]	LOS	Density[1]	LOS	Density[1]	LOS	Density[1]	LOS
Northbound SR-86									
NB Mainline south of Avenue 50	Basic	10.5	A	11.1	B	10.5	A	11.1	B
Avenue 50 Off-ramp	Diverge	15.5	B	16.2	B	15.5	B	16.2	B
Avenue 50 Loop On-ramp	Merge	16.8	B	15.6	B	16.8	B	15.6	B
Avenue 50 Slip On-ramp	Merge	18.8	B	16.0	B	18.8	B	16.0	B
Mainline (Avenue 50 to Dillon Road)	Basic	15.8	B	13.1	B	15.8	B	13.1	B
Dillon Road Off-ramp	Diverge	21.3	C	18.1	B	21.3	C	18.1	B
Southbound SR-86									
Dillon Road On-ramp	Merge	16.0	B	18.5	B	16.0	B	18.5	B
Mainline (Dillon Road to Avenue 50)	Basic	13.2	B	15.8	B	13.2	B	15.8	B
Avenue 50 Off-ramp	Diverge	18.8	B	22.0	C	18.8	B	22.0	C
Avenue 50 Slip On-ramp	Merge	11.9	B	12.7	B	11.9	B	12.7	B
Mainline north of Avenue 50	Basic	9.4	A	10.2	A	9.4	A	10.2	A

Bold text indicates unacceptable operations

Note:

1 - Density was reported in number of vehicles per lane per mile.

Source: Fehr & Peers, *SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report* (November 2017), Page 38.

Table 1-10: Buildout Year 2045 Freeway Analysis Summary – Build Alternatives

Segment	Type	Build Alternative 7				Build Alternative 8			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Density[1]	LOS	Density[1]	LOS	Density[1]	LOS	Density[1]	LOS
Northbound SR-86									
NB Mainline south of Avenue 50	Basic	13.5	B	16.8	B	13.5	B	16.8	B
Avenue 50 Off-ramp	Diverge	19.2	B	23.1	C	19.2	B	23.1	C
Avenue 50 Loop On-ramp	Merge	22.2	C	22.5	C	22.2	C	22.5	C
Avenue 50 Slip On-ramp	Merge	25.2	C	23.5	C	25.2	C	23.5	C
Mainline (Avenue 50 to Dillon Road)	Basic	22.2	C	20.1	C	22.2	C	20.1	C
Dillon Road Off-ramp	Diverge	28.5	D	26.3	C	28.5	D	26.3	C
Southbound SR-86									
Dillon Road On-ramp	Merge	21.6	C	24.3	C	21.6	C	24.3	C
Mainline (Dillon Road to Avenue 50)	Basic	18.5	C	21.3	C	18.5	C	21.3	C
Avenue 50 Off-ramp	Diverge	25.1	C	28.2	D	25.1	C	28.2	D
Avenue 50 Slip On-ramp	Merge	17.6	B	18.0	B	17.6	B	18.0	B
Mainline north of Avenue 50	Basic	14.6	B	15.0	B	14.6	B	15.0	B

Note:

1 - Density was reported in number of vehicles per lane per mile.

Source: Fehr & Peers, *SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report* (November 2017), Page 51.

Freeway Mainline Collision Analysis

Traffic Accident Surveillance and Analysis System (TASAS) – Transportation System Network (TSN) data was provided by Caltrans District 8, which includes accidents that occurred between July 1, 2012 and June 30, 2015 on the SR-86 expressway from post mile (PM) R19.5 to R21.5 for a period of three years. The TASAS run was generated on February 6, 2017. Accident data for Avenue 50 was not obtained because it is a local facility and is not included in the TASAS database.

There were 29 accidents, with 13 injury accidents and one fatality accident. As shown in Table 1-11, Accident Rates, the actual accident rate for the SR-86 segment was 0.56 per million vehicle miles (pmvm), which is higher than the statewide average of 0.46 pmvm for similar facilities. The actual fatal accident rate of 0.019 pmvm was higher than the statewide average of 0.008, and also the actual fatal plus injury rate of 0.27 was higher than the statewide average of 0.16.

Table 1-11: Accident Rates

Location	ADT	Actual (pmvm for mainline, per million vehicles for ramp)			Average (pmvm for mainline, per million vehicles for ramp)		
		Fatal	Fatal Plus Injury	Total	Fatal	Fatal Plus Injury	Total
Mainline SR-86 (PM R 19.5 – R 21.5)	23.5	0.019	0.27	0.56	0.008	0.16	0.46

Notes: ADT = average daily trips; pmvm = per million vehicle miles; PM = post mile
Source: Draft Project Report, dated June 2018.

The primary collision factor was speeding (58.6 percent). Other factors involved in the collisions were improper turn (13.8 percent), influence of alcohol (13.8 percent), and other violation(s) (13.8 percent).

The types of collision were as follows: rear end (65.5 percent), hit object (13.8 percent), sideswipe (10.3 percent), head-on (3.4 percent), overturn (3.4 percent), and the remainder were not disclosed (3.4 percent).

The current Avenue 50 and SR-86 is an at-grade signalized intersection with a dedicated left-turn lane and right-turn lane in the northbound and southbound direction along SR-86. Avenue 50 carries a substantial volume of trucks and other slow-moving farming vehicles that cross or enter the high-speed traffic of SR-86. The high number of accidents related to speeding and rear end type collisions suggest that speed differentials between crossing traffic and mainline, poor intersection skew angle, and operational conflicts generated with the existing wide median area of SR-86 are the primary causes.

The project is expected to provide capacity and operational benefits over the existing conditions, thereby reducing potential for accidents.

1.2.4 Roadway Deficiencies

The existing Avenue 50/Tyler Street/Magnolia intersection is currently stop-controlled and operates at an unacceptable LOS F during both AM and PM peak hours. Roadway deficiencies that occur on the existing intersection include a steep roadway profile grade of approximately 9.1 percent, resulting in a sloping towards CVSC, combined with a short vertical curve on

Avenue 50. There is a limited sight distance as a result of an existing non-standard intersection skew angle of 44-degrees. The project alignment would continue routing across SR-86 at an approximate 57-degree skew angle, which is an improvement, and would tie back into the existing centerline approximately 1300-feet east of the SR-86 intersection. Based on the Caltrans Highway Design Manual (HDM) 6th edition (July 2, 2018), Index 402.2 (2), the existing intersection has the following deficient geometric features:

- Intersection angle < 75 degrees;
- Inadequate approach sight distance;
- Inadequate corner sight distance.

The project will eliminate these existing operational deficiencies by constructing a new Avenue 50/Tyler Street/Magnolia signal-controlled intersection, reducing the roadway profile grade, and eliminating the short vertical curve, as per the most recent design standards.

1.2.5 Social Demands or Economic Development

The eastern portion of the City of Coachella currently consists of undeveloped land. The City's General Plan Update 2035 land use designation for the portion of this area north of I-10 is Resort District, whereas land use located south of I-10 within the eastern portion of the City is governed by the La Entrada Specific Plan. The La Entrada Specific Plan designates land within the project area south of I-10 as Mixed Use and High Density Residential. Future development of this portion of the City is expected to result in direct and indirect population increases in the City.

1.2.6 Modal Interrelationships and System Linkages

As discussed above, the entire length of SR-86 is included in the State Interregional Road System, the National Highway System, and the California Freeway and Expressway System. According to the TCR, the SR-86 corridor is also designated as a High Emphasis Route, a Focus Route, and a Goods Movement Route. The National Network for Surface Transportation Assistance Act (STAA) identifies SR-86 as a "National Network" route for STAA trucks. The segment within the project limits is currently designated as urbanized and is functionally classified as a Rural Principal Arterial.

The project would also include facilities intended to promote connectivity for system linkages related to pedestrian and bicycle movement. The project includes bicycle lanes and sidewalks along Avenue 50 through the interchange, where no such facilities currently exist. In addition, the project site also includes a future alignment of the planned Coachella Valley (CV) Link project. CV Link is a 50-mile multi-modal transportation pathway proposed by CVAG that would extend from the City of Palm Springs on the west to the City of Coachella on the east. The route is generally proposed along the levees of the CVSC and on local streets. CV Link is designed to accommodate the widest possible range of users, including pedestrians, bicyclists, low-speed electric vehicles (LSEVs), and mobility device users (wheelchairs and electric scooters). LSEVs include golf carts and neighborhood electric vehicles (NEVs). The project would accommodate a segment of the CV Link project along the south levee of the CVSC within the project limits. The project would provide approximately 1,700 linear feet of 20-foot-wide paved access ramps, which would travel under the new Avenue 50 overcrossing, which is intended to accommodate the future planned CV Link facility, and avoid major reconstruction of the bridge in the future. The paved access ramps beneath the bridge would also serve as channel slope protection, immediately upstream and downstream of the bridge abutments, and accommodate Coachella Valley Water District (CVWD) maintenance vehicles. Access points to

the planned future CV Link from Avenue 50 and Sierra Vista Park are proposed to be consistent with the access point locations identified in the CV Link Conceptual Master Plan.

1.2.7 Air Quality Improvements

The project would provide new bicycle facilities on Avenue 50, as described in Section 1.4 below. Refer to subsection Bike/LSEV Lane, on page 1-36.

1.2.8 Independent Utility and Logical Termini

FHWA regulations (23 Code of Federal Regulations [CFR] 771.111 [f]) require that the action evaluated:

1. Connect logical termini and be of sufficient length to address environmental matters on a broad scope.

2. Have independent utility or independent significance (be usable and require a reasonable expenditure even if no additional transportation improvements in the area are made).

3. Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

The project's termini allow for an evaluation of potential environmental effects for a project large enough to address the defined operational enhancements specifically related to the interchange area as discussed above. No subsequent transportation improvements in the area would be needed to optimize the operation of the new SR-86/Avenue 50 interchange, consistent with applicable Caltrans design standards. Accordingly, the project is considered to have independent utility.

Further, the project would not restrict consideration of alternatives for other reasonably foreseeable local transportation improvements adjacent and/or in proximity to the SR-86/Avenue 50 interchange.

1.3 Project Description

The project would convert a portion of SR-86 from an at-grade signalized intersection into a grade-separated full interchange with a new overcrossing bridge and access ramps. The new interchange would be a Modified Type L-9 Partial Cloverleaf interchange at SR-86 and Avenue 50. A new Avenue 50 overcrossing would be constructed with associated on- and off-ramps and signalized intersections. This new overcrossing would be up to approximately 326 feet long and 122 feet wide. It would be a 2-span structure to accommodate 3 through lanes in each direction and two left-turn pockets for the eastbound and westbound directions of Avenue 50. A northbound loop on-ramp will accommodate the anticipated predominant eastbound-to-northbound movement of morning commute traffic. The project includes an auxiliary lane north of the northbound on-ramp convergence point to improve traffic operations. Retaining walls would be constructed where required.

The project would also construct a new Avenue 50 bridge structure over the Whitewater River/Coachella Valley Stormwater Channel (CVSC). This new bridge would be approximately 605 feet long and 120 feet wide. It would be a 5-span structure to accommodate 3 through lanes in each direction and a 14-foot-wide median on Avenue 50. This new bridge structure over the CVSC would replace the existing at-grade paved low water crossing and would include

the following associated improvements; realignment and widening of a portion of Avenue 50 from the existing two-lane roadway to a six-lane major arterial, realignment of portions of Tyler Street on both the west and east sides of SR-86, respectively, and, the existing 1-lane in each direction road that is located within the limits of the CVSC would become a CVSC maintenance road.

The purpose of the project is to improve mobility to and from eastern parts of the City of Coachella by providing direct and dependable access over the CVSC, improve operational efficiency by replacing the existing SR-86 / Avenue 50 intersection with a new interchange, improve expressway access for the City and the Coachella Valley Region, implement improvements consistent with the City's circulation plan, and improve traffic operations and accommodate planned growth by enhancing levels of service at local street intersections and adjacent interchanges.

The project will be constructed in two separate phases, due to funding considerations. The first phase will focus on construction of the new bridge structure over the CVSC and will include the associated realignment of Avenue 50 and Tyler Street west of SR-86. Table 1-12, Project Phasing, below, identifies how the two phases of the project are described as well as the federal project number that has been assigned to each of the phases.

Table 1-12: Project Phasing

Phase	Description	Federal Project ID No.
Phase 1 (local, off-State Highway System)	Avenue 50 Bridge over Coachella Valley Stormwater Channel (CVSC)	BR-NBIL (536)
Phase 2 (on State Highway System)	SR-86/Avenue 50 New Interchange	HPLULN - 5294(011)

Even though Phase 1 is to be constructed in advance, it has independent utility and usability without Phase 2. Phase 1 would implement a new bridge over CVSC that would eliminate flooding hazards along Avenue 50, and could be implemented and be fully operational without any additional transportation improvements in the area occurring (including Phase 2 of the project). Phase 2 would be constructed when funding is available in the future to further improve operational efficiency and expressway access through implementation of a new interchange at SR-86.

1.4 Alternatives

1.4.1 Project Alternatives

This section describes the project alternatives that were developed to meet the identified purpose and need of the project. The criteria used for alternative evaluation included operational benefits, provisions for bicycle and pedestrian mobility, direct and dependable access over the CVSC, and environmental impacts. Two Build Alternatives and a No-Build Alternative were studied for the SR-86/Avenue 50 New Interchange Project.

- Build Alternative 7 (Modified Type L-9 Partial Cloverleaf with One Loop Ramp): Refer to Figure 1-4a, Build Alternative 7 Key Map, and Figures 1-4b through 1-4d, Build Alternative 7;

- Build Alternative 8 (Modified Type L-9 Partial Cloverleaf with Two Loop Ramps): Refer to Figure 1-5a, Build Alternative 8 Key Map, and Figures 1-5b through 1-5d, Build Alternative 8; and

- Alternative 1 (No-Build Alternative): Refer to Figure 1-3.

Both Build Alternatives would require detours during both construction phases. Figure 2.1.4-4, in Section 2.1.4 of this IS/EA, Phase 1 Detour Map, shows the location of closures and detour routes for Phase 1 of the project.

There are no alternatives to impacts on wetlands for this project. Please see discussion in Section 2.3.2.3.2, in this regard.

Figure 2.1.4-5, in Section 2.1.4 of this IS/EA, Phase 2 Detour Map, shows the location of closures and detour routes for Phase 2 of the project. Construction-related detours will be finalized during the final design phase; however, construction of the improvements have been examined relative to the existing transportation system and it has been determined that no long-term lane closures would be necessary.

1.4.2 Common Design Features of the Build Alternatives

Avenue 50

The project would realign and widen Avenue 50 from the existing two-lane roadway to a six-lane major arterial, consistent with the City's General Plan designation as a major arterial with enhanced bicycle facilities. A 98-foot curb-to-curb roadway section with a 118-foot ROW width and three through lanes in each direction with a raised and paved median and outside shoulders would be constructed, as well as a 10-foot-wide sidewalk for a distance of approximately 2,800 feet. The realignment starts curving southerly approximately 1,000 feet west of the existing CVSC levee at the Tyler Street intersection. It continues traversing across the CVSC at approximately 440 feet south of the existing Avenue 50 centerline. Two driveways are introduced to provide access to the existing Cabazon Band of Mission Indians tribal land to the north and properties to the south to avoid landlocked situations. The alignment continues routing across SR-86 and ties back into the existing centerline approximately 1,300 feet east of the existing SR-86 intersection.

Tyler Street

Within the project limits, Tyler Street will be designed as a collector with enhanced bicycle facilities, a 70-foot curb-to-curb roadway section with a 90-foot ROW width, and 2 through lanes in each direction with a paved median and outside shoulders. A 10-foot-wide sidewalk will be constructed for a distance of 200 feet on Tyler Street (north), and 200 feet on Tyler Street (south). The project includes realignment of Tyler Street on both the east and west sides of SR-86.

On the west side of the CVSC, the Tyler Street realignment starts south of the Calle Mendoza intersection shifting westerly and bisects an agricultural parcel owned by the Peter Rabbit Farms (APN 778-170-011). It connects to the realigned Avenue 50 with a new intersection. The project would maintain access to Sierra Vista Park by utilizing the existing Tyler Street pavement. A cul-de-sac would be created north of Calle Mendoza, with diagonal parking along the eastern side and parallel parking along both sides of the cul-de-sac street. A paved connection to CV Link will be constructed at the northerly terminus of the cul-de-sac.

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LEGEND:

- PROPOSED ACCESS CONTROL / STATE RIGHT OF WAY
- EXISTING ACCESS CONTROL / STATE RIGHT OF WAY
- EXISTING ACCESS CONTROL / STATE RIGHT OF WAY TO BE RELINQUISHED
- PROPOSED RIGHT OF WAY
- Exist RIGHT OF WAY
- PROPOSED RETAINING WALL
- PROPOSED STRIPED MEDIAN
- PROPOSED RAISED MEDIAN
- PROPOSED SIDEWALK
- NO PUBLIC ACCESS (MAINTENANCE ACCESS THRU LOCKED GATES ONLY)

NOT TO SCALE

11/18 | JN 159814

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Build Alternative 7 Key Map

Figure 1-4a

Back of 11x17 figure.

NOT TO SCALE

11/18 | JN 159814

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Build Alternative 7 – Sheet 1

Figure 1-4b

Back of 11x17 figure.

NOT TO SCALE

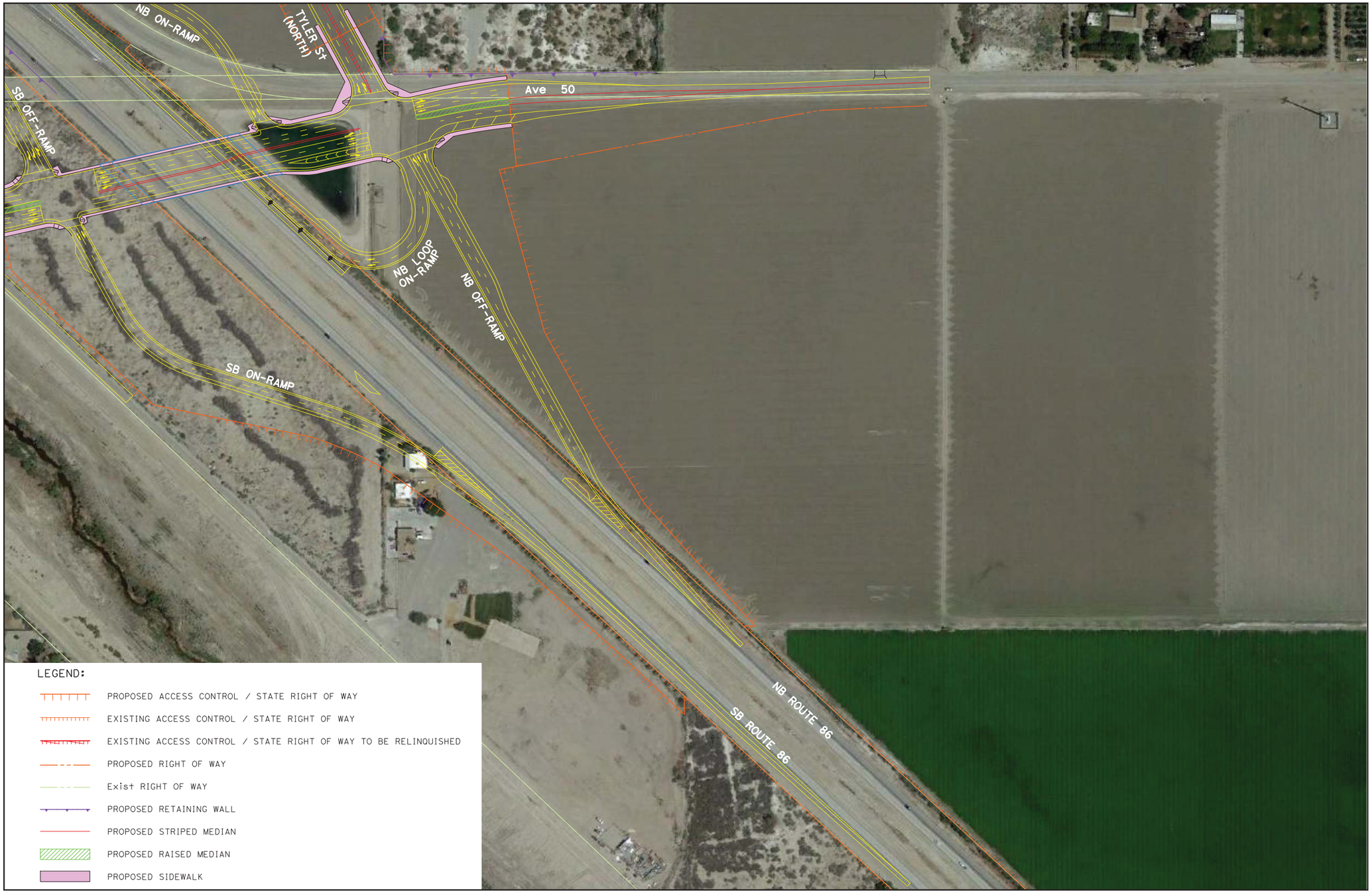
11/18 | JN 159814

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Build Alternative 7 – Sheet 2

Figure 1-4c

Back of 11x17 figure.



NOT TO SCALE

11/18 | JN 159814

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Build Alternative 7 – Sheet 3

Figure 1-4d

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LEGEND:

- PROPOSED ACCESS CONTROL / STATE RIGHT OF WAY
- EXISTING ACCESS CONTROL / STATE RIGHT OF WAY
- EXISTING ACCESS CONTROL / STATE RIGHT OF WAY TO BE RELINQUISHED
- PROPOSED RIGHT OF WAY
- Exist RIGHT OF WAY
- PROPOSED RETAINING WALL
- PROPOSED STRIPED MEDIAN
- PROPOSED RAISED MEDIAN
- PROPOSED SIDEWALK
- NO PUBLIC ACCESS (MAINTENANCE ACCESS THRU LOCKED GATES ONLY)

NOT TO SCALE

11/18 | JN 159814

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Build Alternative 8 Key Map

Figure 1-5a

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NOT TO SCALE

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INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Build Alternative 8 – Sheet 1

Figure 1-5b

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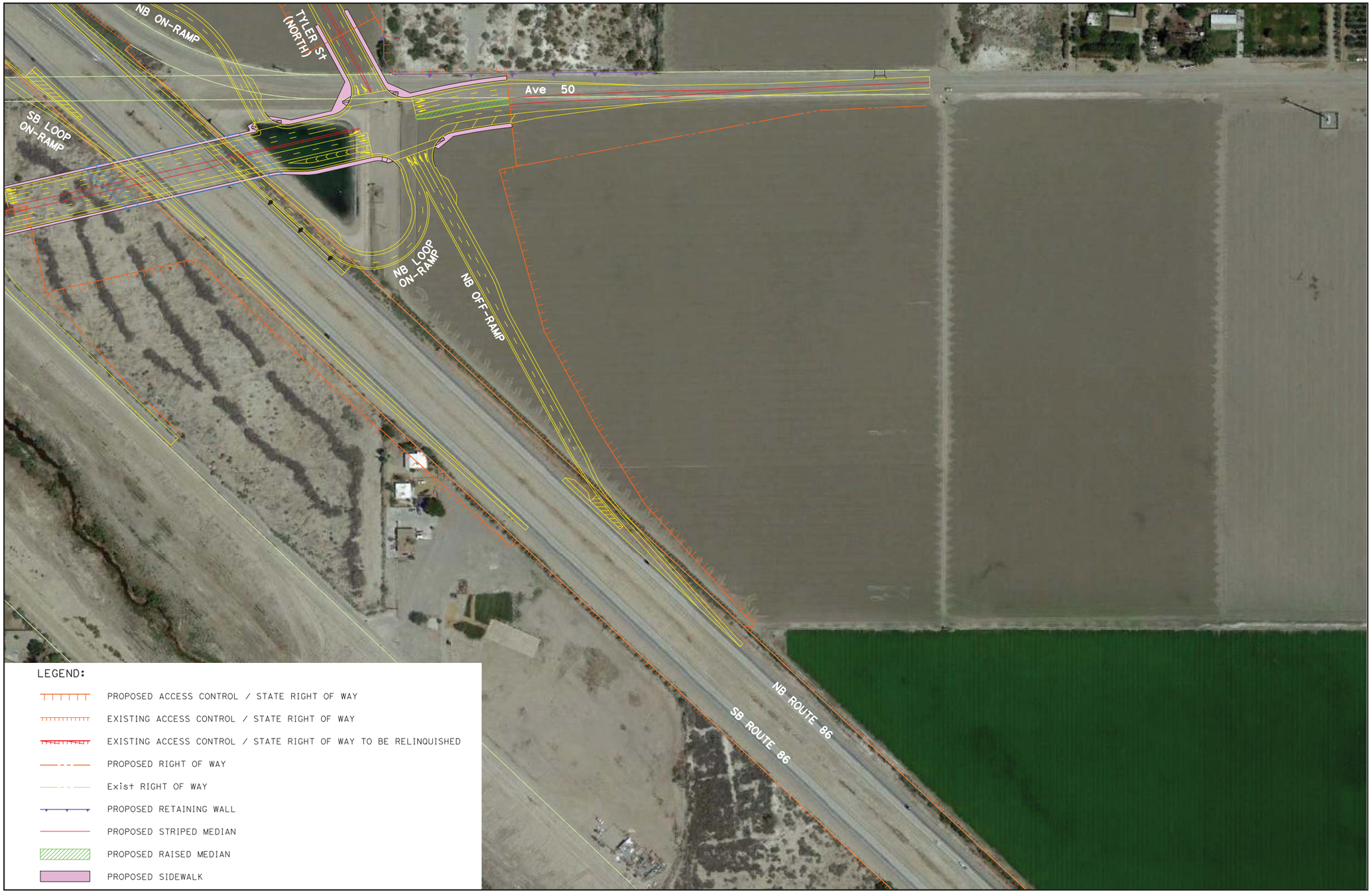
INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Build Alternative 8 – Sheet 2

Figure 1-5c

Back of 11x17 figure.



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INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Build Alternative 8 – Sheet 3

Figure 1-5d

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On the east side of SR-86, the Tyler Street realignment starts curving easterly approximately 1,400 feet north of the existing SR-86/Avenue 50 intersection. The realigned road then bisects an existing agricultural parcel owned by the Peter Rabbit Farms (APN 603-330-010) and aligns with the northbound ramps to form a standard four-legged intersection.

Northbound Off-Ramp

A new northbound off-ramp would be constructed. The new off-ramp would begin as a single exit lane that would widen to two lanes as it nears the intersection of Avenue 50, at which point the lane would terminate at a new traffic signal at Avenue 50. New expressway signage located at the northbound off-ramp divergence point would be installed to reflect the exit lane configuration. Expressway signage upstream of the ramp would also be constructed as needed to provide proper advance guidance.

Northbound Direct On-Ramp

A new northbound on-ramp would be constructed. This new two-lane direct on-ramp would be accessed from the westbound travel lane of Avenue 50. The two lanes would then merge prior to converging with the SR-86 northbound mainline. Expressway signage east of the new interchange would be constructed as needed to provide proper advance guidance.

Northbound Loop On-Ramp

A northbound loop on-ramp would be constructed to accommodate the anticipated predominant eastbound-to-northbound movement of morning commute traffic. The project includes an auxiliary lane north of the northbound on-ramp convergence point to improve traffic operations. Adding an auxiliary lane would reduce rear-end collisions. Retaining walls would be constructed where required. New expressway signage located at the northbound loop on-ramp divergence point would be installed to reflect the entrance lane configuration. Expressway signage west of the interchange would also be constructed as needed to provide proper advance guidance.

Nonmotorized, Pedestrian, and Low Speed Electric Vehicle (LSEV) Features

CV Link. As discussed above, the project would accommodate the planned CV Link facility, which would be constructed by CVAG as part of a separate project. The project would construct a 20-foot-wide concrete pathway, which would travel under the Avenue 50 bridge over the CVSC. Access ramps from Avenue 50 and Sierra Vista Park will be consistent with the access point locations identified in the CV Link Conceptual Master Plan.

Bike/LSEV Lane. As discussed above, the project would provide a bike/LSEV lane across the Avenue 50 interchange. The bike/LSEV lane design is consistent with the following design standards/requirements:

- Caltrans Highway Design Manual (HDM) Index 1000.
- Manual on Uniform Traffic Control Devices (MUTCD), Part 9.
- CVAG Neighborhood Electric Vehicle Transportation Plan.
- In addition to bike/LSEV lanes, the project would comply with AB1581. All State projects are required to conform to AB 1581 by installing and maintaining traffic-actuated signal or replacement of the loop detector of a traffic-actuated signals to the extent feasible and in conformance with professional traffic engineering practice.

A 10-foot wide shoulder marked as bike/LSEV lane and striped as a Class II facility with no parking signage would be provided on Avenue 50 east of Tyler Street for a distance of 2,400 feet, and west of Tyler Street for a distance of 400 feet. At the intersections, a 7-foot-wide bike/LSEV lane would be provided between the through lanes and right-turn-only lanes. An 8-foot-wide shoulder marked as bike/LSEV lane with no parking signage would be provided on Tyler Street (north) for a distance of 2,500 feet, and on Tyler Street (south) for a distance of 1,600 feet. These features would improve mobility through the interchange for bicyclists and LSEV drivers.

Pedestrian Facilities. The CV Link pathway and sidewalks along Avenue 50 are designed to comply with the requirements of the ADA and DIB 82-06. Pedestrian and nonmotorized safety features will also be constructed, including crosswalks, curb ramps, and signals.

Retaining Walls

One mechanically stabilized earth (MSE) wall will be constructed in the northeast quadrant of Avenue 50 and Tyler Street for both Build Alternatives (east of SR-86). This new retaining wall would be a fill wall, approximately 750 feet in length, with a minimum height of 2 feet and a maximum height of 15 feet.

Avenue 50 Bridge Structure Over the CVSC

The project would replace the existing two-lane Avenue 50 low water crossing at the CVSC with a bridge structure. Built in 1970, the existing low water crossing is functionally deficient and does not meet safety standards because of flooding during storm events; CVSC swells well above the roadway surface during periods of heavy rainfall. The replacement bridge would include six lanes (three lanes in each direction) on an alignment south of the existing low water crossing. The bridge structure will be a 5-span structure measuring 605 feet long and 120 feet, 4 inches wide. Associated bridge abutments would also be constructed.

As noted above, the project would provide approximately 1,700 linear feet of 20-foot-wide concrete pathway, which would travel under the new Avenue 50 overcrossing, which is intended to accommodate and connect to the future planned Segments 9 and 10 of the CV Link facility, and avoid reconstruction of the bridge in the future. The concrete pathway beneath the bridge would also serve as channel slope protection, immediately upstream and downstream of the bridge abutments, and accommodate CVWD maintenance vehicles.

In addition, the project would construct a restricted access road from Avenue 50 to the CVSC for maintenance vehicle access purposes by CVWD.

Traffic Signals

The existing traffic signal at the intersection of SR-86 and Avenue 50 would be removed and three new signals would be installed to accommodate the changes to intersection geometries and lane configurations. The following two new signals would be the same between both Build Alternatives (see Section 1.4.3 for the traffic signal details unique to the build alternatives):

- A new signal would be installed at the new intersection of Avenue 50 and Tyler Street, to the west of the new Avenue 50 bridge over CVSC. The new signal would accommodate westbound left turn movements and eastbound right turn movements from Tyler Street onto Avenue 50 and pedestrian crossings on the south, west, and north legs of the intersection.

- A new signal would be installed at the new intersection of Avenue 50 and the SR-86 northbound off-ramp and Tyler Street (to the east of the new Avenue 50 Overcrossing). The new signal would accommodate northbound turn movements onto Tyler Street as well as eastbound and westbound movements onto Avenue 50. Pedestrian crossings would be provided on the north and south legs of the intersection.

Utility Relocation

In accordance with Caltrans policy on longitudinal encroachments within controlled-access highway ROW, several existing utilities along Avenue 50 and Tyler Street would be relocated. Utilities along Avenue 50 and Tyler Street would be relocated per the City of Coachella Franchise Agreement. Existing facilities to be relocated include:

- Cable television (Charter Communications);
- Electric (Imperial Irrigation District);
- Gas (Southern California Gas);
- Agriculture/Irrigation/Tile Drain (Coachella Valley Water District);
- Sewer (Coachella Sanitary District);
- Telephone (Frontier Communications); and
- Water (City of Coachella).

Construction Phasing

As noted above, the project would be constructed in two phases. The first phase constructing the Avenue 50 bridge over CVSC is anticipated to take approximately 12 months. Since Avenue 50 and Tyler Street are constructed on new alignments, the existing Avenue 50 and Tyler Street would remain operational with exceptions of tie-in work conforming and joining existing pavements that need minimum traffic control. Therefore, construction-related delays are anticipated to be minimal. The first phase of the project would consist of the following key components:

- Construct the new Avenue 50 bridge over CVSC;
- Realign Avenue 50 and Tyler Street roadways west of CVSC;
- Construct a temporary road reestablishing the connectivity with the existing signalized intersection; and
- Construct access ramps connecting to the planned CV Link.

The second phase constructing the new SR-86/Avenue 50 interchange is anticipated to take approximately 15 months. The primary components for construction of the second phase include the following:

- Raise roadway embankment and pavement structure section;
- Construct the new overcrossing structure over SR-86;
- Construct on- and-off ramps and auxiliary lanes;
- Realign Tyler Street east of SR-86;
- Install new traffic signals; and
- Finish with highway planting, landscaping, and irrigation.

Full roadway and lane closures would be required during night times and on weekends to accommodate the following roadway and structure construction activities:

- Installation, moving and removal of k-rails;
- Striping and removal operations;
- Falsework erection and removal;
- Deck pouring;
- Placement of concrete pavement using rapid set concrete;
- Asphalt concrete pavement construction and overlay operations; and
- Utility work/traffic signal/lighting installations.

For the second phase of construction, the existing SR-86/Avenue 50 at-grade intersection would remain operational for the majority of the interchange construction process. However, in order to complete the construction of the southbound off-ramp and northbound on-ramp, short-term closure of access to SR-86 from Avenue 50 would be necessary for a period of up to 10 days.

Nonstandard Features

Both build alternatives would construct the following nonstandard features:

- A nonstandard 6 percent superelevation rate at the northbound on-ramp (standard is 10 percent);

- A nonstandard 7 percent superelevation rate at the northbound loop on-ramp (standard is 12 percent);

- A nonstandard 6 percent superelevation transition and runoff at the northbound loop on-ramp with all runoff occurring within the 140-foot radius curve (standard is two-thirds of the superelevation runoff should be on the tangent and one-third within the curve);

- A nonstandard ramp entrance of 14’ at 700’ for the northbound loop on-ramp (standard is 14’ at 467.11’); the absence of the 3,000’ radius curve at the entrance, and the nonstandard 700’ distance between the inlet nose and the convergence point;

- A 100-foot distance between the northbound direct on-ramp (from westbound Avenue 50) to the new intersection of Avenue 50/Tyler Street/northbound off-ramp (standard is 400 feet);

- Absence of access control opposite the northbound off-ramp terminal at the new intersection of Avenue 50/Tyler Street/northbound off-ramp (standard is access rights on the opposite side of the local road from ramp terminals to preclude driveways or local roads within the ramp intersection); and

- A nonstandard grade of 0.22 percent in the gore area of the southbound on-ramp.

Project Features

This project contains a number of standardized project measures applicable to both build alternatives which are employed on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the project. These measures are addressed in more detail in the Environmental Consequences sections found in Chapter 2.

- A Transportation Management Plan (TMP) will be prepared during the final design phase to minimize traffic impacts during construction. The primary objective of the TMP is to maintain safe movement through the construction zone, as well as minimize traffic delays during the construction period. The TMP will include, but not be limited to, the following six major elements:
  - Public information/public awareness campaign
  - Traveler information strategies
  - Incident management
  - Construction strategies
  - Demand management
  - Alternate route strategies

- Comply with standard provisions dealing with the discovery of unanticipated cultural materials and human remains.

- Comply with Standard Specification 14-9.02 and other standard practices according to the California Air Resources Board (CARB) and South Coast Air Quality Management District (SCAQMD) requirements for air quality restrictions such as reducing idling time, proper maintenance of equipment, and fugitive dust control during the construction period.
- Construction equipment fleets will be in compliance with Best Available Control Technology requirements.

- All engines or portable engine-driven equipment required to obtain permits will obtain either a CARB Portable Equipment Registration or a permit from SCAQMD.

- Comply with sound control provisions as included in Section 14-8.02, “Noise Control,” of Caltrans’ 2015 Standard Specifications and Special Provisions. The contractor shall not exceed 86 dBA at 50 feet from the job site from 9:00 p.m. to 6:00 a.m. Internal combustion engines shall be equipped with the manufacturer-recommended muffler. Internal combustion engines shall not be operated on the job site without the appropriate muffler.

- Follow Standard Specifications Sections 13-05 and 21 related to erosion control during construction. Measures include fiber rolls, silt fencing, soil binders, rock slope protection, revegetation with erosion control seed mix, and the use of 4:1 slopes or flatter.

- Earthwork would be performed in accordance with Caltrans Standard Specifications, Section 19, which require standardized measures related to compacted fill, overexcavation and recompaction, and retaining walls, among other requirements.

- Construction shall be conducted in accordance with Division III, "Earthwork and Landscape" Section 21-1 through 21-3 of Caltrans Standard Specifications (2015), requiring erosion protection and drainage control.

- Design pollution prevention Best Management Practices (BMPs) as required under the Caltrans MS4 Permit for areas within State ROW that focus on reducing or eliminating runoff and controlling sources of pollutants will be implemented as part of the project.

- Design pollution prevention BMPs as required under the County of Riverside Whitewater River Watershed MS4 Permit for areas outside of State ROW that focus on reducing or eliminating runoff and controlling sources of pollutants will be implemented as part of the project.

- Comply with the following Caltrans' Standard Special Provision's regarding proper removal, handling, and disposal of the generated traffic striping waste at a permitted disposal facility,

  - Section 14-11.12, Removal of Yellow Traffic Stripe and Pavement Marking with Hazardous Waste Residue,

  - Section 36-4, Residue Containing Lead from Paint and Thermoplastic, and

  - Section 84-9.03C, Remove Traffic Stripes and Pavement Markings Containing Lead.

  Follow Caltrans Standard Specifications Section 14-11.02, Discovery of Unanticipated Asbestos and Hazardous Substances, in the event unknown wastes or suspect materials are discovered during site disturbance activities that may involve hazardous waste/materials.
- During construction, solid waste would be disposed of as specified in Caltrans' Standard Specifications Section 14-10.01, General.

- During construction, dust palliatives would be used as specified in the Caltrans Standard Specifications Section 18-1.03A, General.

1.4.3 Unique Features of Build Alternatives

Build Alternative 7 (Modified Type L-9 Partial Cloverleaf with One Loop Ramp)

Southbound On-Ramp

In Build Alternative 7, a two-lane diamond-type ramp would be constructed. Pedestrian crossing along the south leg of the intersection with Avenue 50 would be provided. The southbound on-ramp would merge into one lane prior to converging with the SR-86 mainline. New expressway signage located at the southbound on-ramp divergence point would be installed to reflect the entrance lane configuration. Expressway signage along Avenue 50 would also be constructed as needed to provide proper advance guidance.

Southbound Off-Ramp

A new southbound off-ramp would be constructed. This new off-ramp would diverge to three lanes prior to intersecting with Avenue 50 at a new signalized intersection. The three lanes would encompass double right-turn lanes and one left-turn lane. New expressway signage located at the southbound off-ramp divergence point would be installed to reflect the exit lane configuration. Expressway signage upstream of the ramp would also be constructed as needed to provide proper advance guidance.

Avenue 50 Overcrossing

The Avenue 50 overcrossing structure for this alternative is slightly shorter than the structure required for Build Alternative 8, due to the diamond-type ramp for the southbound on-ramp. The Avenue 50 overcrossing for this alternative is a 2-span structure measuring 286 feet, 3 inches long and 122 feet, 4 inches wide.

Traffic Signals

In addition to the two traffic signals discussed under similar project features above, one new signal would be installed at the new intersection of Avenue 50 and the SR-86 southbound on- and off-ramps. The new signal would accommodate westbound and eastbound movements onto Avenue 50 as well as turn movements onto the southbound on-ramp. Pedestrian crossing would be provided on the north and south legs of the intersection.

Retaining Walls

One Type 1 wall will be constructed between the southbound SR-86 travel lanes and the southbound off-ramp. This new fill retaining wall would be approximately 440 feet in length, with a minimum height of 2 feet and a maximum height of 7 feet.

Cost

Table 1-13: Build Alternative 7 Project Cost Estimate Summary

Project Phase	Build Alternative 7 Costs
Construction Cost	
Roadway	$49,717,600
Structures	$32,003,559
Right of Way	$6,131,958
Support Cost	
PA/ED	$2,355,000
PS&E	$6,100,000
Right of Way	$458,000
Construction Management	$9,140,000
Total Project Cost	**$106,000,000**
Source: Draft Project Report, October 2018.	

Build Alternative 8 (Modified Type L-9 Partial Cloverleaf with Two Loop Ramps)

Southbound On-Ramp

In Build Alternative 8, a new two-lane loop on-ramp would be constructed. A pedestrian crossing at the north leg of the intersection with Avenue 50 would be constructed. The two lanes would merge into a single lane prior to converging with southbound SR-86. New expressway signage located at the southbound on-ramp divergence point would be installed to reflect the entrance lane configuration. Expressway signage along Avenue 50 would also be constructed as needed to provide proper advance guidance.

Southbound Off-Ramp

A new southbound off-ramp would be constructed. This new off-ramp would diverge to three lanes prior to intersecting with Avenue 50 at a new signalized intersection. The three lanes would encompass double right-turn lanes and one combined through- and left-turn lane. New expressway signage located at the southbound off-ramp divergence point would be installed to reflect the exit lane configuration. Expressway signage upstream of the ramp would also be constructed as needed to provide proper advance guidance.

Avenue 50 Overcrossing

The Avenue 50 overcrossing structure for this alternative is slightly longer than the structure required for Build Alternative 7 in order to accommodate the southbound loop on-ramp. The Avenue 50 overcrossing for this alternative is a 2-span structure measuring 326 feet long and 122 feet, 4 inches wide.

Traffic Signals

In addition to the two traffic signals discussed under similar project features above, one new traffic signal would be installed at the new intersection of Avenue 50 and the SR-86 southbound on- and off-ramps. The new signal would accommodate westbound and eastbound movements onto Avenue 50 as well as movements onto the southbound loop on-ramp. A pedestrian crossing would be provided on the north leg along Avenue 50. A sidewalk would be accommodated along the length of the southbound side of Avenue 50.

Nonstandard Features

In addition to those nonstandard features discussed for both build alternatives, Build Alternative 8 would also construct the following nonstandard features:

- A nonstandard superelevation transition and runoff at the southbound loop on-ramp with all runoff occurring within the 120-foot radius curve; and

- Absence of access control opposite the southbound ramp terminals at the new intersection of Avenue 50/southbound ramps (standard is access rights on the opposite side of the local road from ramp terminals to preclude driveways or local roads within the ramp intersection).

Cost

Table 1-14: Build Alternative 8 Project Cost Estimate Summary

Project Phase	Build Alternative 8 Costs
Construction Cost	
Roadway	$47,691,500
Structures	$33,465,931
Right of Way	$5,581,493
Support Cost	
PR/ED	$2,355,000
PS&E	$6,100,000
Right of Way	$458,000
Construction Management	$9,140,000
Total Project Cost	**$105,000,000**
Source: Draft Project Report, October 2018.	

1.4.4 Transportation Demand Management (TDM), Transportation System Management (TSM), and Mass Transit 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.

TDM focuses on regional means of reducing the number of vehicle trips and vehicle miles traveled as well as increasing vehicle occupancy. It facilitates higher vehicle occupancy or reduces traffic congestion by expanding the traveler's transportation options in terms of travel method, travel time, travel route, travel costs, and the quality and convenience of the travel experience. A typical activity would be providing funds to regional agencies that are actively promoting ridesharing, maintaining rideshare databases, and providing limited rideshare services to employers and individuals.

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

- The project would provide a bike/LSEV lane along the Avenue 50 through the SR-86 interchange. A 10-foot wide shoulder marked as bike/LSEV lane with no parking signage would be provided in both directions of Avenue 50. At the intersections, a 7-foot-wide bike/LSEV lane would be provided between the through lanes and right-turn-only lanes. These features would improve mobility through the interchange for bicyclists and LSEV drivers.

- Sidewalks would be constructed that would provide access through the interchange between the realigned Tyler Street, to the west of the CVSC, to Avenue 50 and the new SR-86 northbound off-ramp. A 10-foot-wide sidewalk for a distance of approximately

2,800 feet would be constructed on Avenue 50. A 10-foot-wide sidewalk would be constructed for a distance of 200 feet on Tyler Street (north), and 200 feet on the south side of Tyler Street (south). The sidewalk width on the bridge would be 6 feet, 2 inches. Sidewalks would be designed to comply with the requirements of the ADA and DIB 82-06. Pedestrian and nonmotorized safety features are also included as part of the project; these features include crosswalks, curb ramps, and signals.

1.4.5 Alternative 1 (No-Build Alternative)

Under the No-Build Alternative, no construction or improvements would be made to the existing at grade intersection of SR-86 and Avenue 50. There would be no capital costs associated with this alternative. This alternative does not provide additional capacity for ongoing and planned development within Coachella and the neighboring communities. The following elements would remain:

- The existing at-grade intersection of SR-86 and Avenue 50;
- The existing low water crossing and roadway alignment;
- Discontinuous sidewalks through the intersection;
- Lack of bicycle lanes through the intersection; and
- No right-of-way or connections to support the future CV Link project.

As a result, the No-Build Alternative is not consistent with the purpose and need of this project. The No Build Alternative is inconsistent with the City's General Plan Circulation Element, which identifies Avenue 50 as a six-lane major arterial with a new interchange at SR-86 to serve local and regional traffic needs. With the No Build Alternative, traffic volumes are expected to continue to grow with the planned residential and commercial development in the City and the surrounding low desert area.

The existing at grade intersection does not have adequate capacity to accommodate forecasted traffic volumes for year 2045, and it is expected to operate at an unacceptable LOS F in the future as existing capacity is exceeded. In addition, without the project, the roadway segment of Avenue 50 between Tyler Street and SR-86 is expected to operate at LOS F for year 2045 traffic volumes. The Avenue 50/Tyler Street intersection west of the CVSC, which is stop-controlled, currently operates at an unacceptable LOS F. Traffic circulation within the City would deteriorate due to lack of traffic capacity on Avenue 50, which is designated as a major east-west arterial serving the City. Traffic demand on the north-south corridors would eventually exceed capacity and cause congestion and delay for local and regional travelers. Last, the No Build Alternative would not accommodate direct and dependable access over the CVSC, such as removal of the low water crossing at the CVSC and construction of a new interchange on SR-86, eliminating cross traffic through SR-86.

1.4.6 Comparison of Alternatives

Alternatives 7 and 8 both satisfy the project purpose and need, and offer similar operational performance. Both propose a Modified Type L-9 Partial Cloverleaf that includes a loop on-ramp in the southeast quadrant of the interchange to accommodate the anticipated heavy eastbound-to-northbound movement of morning commute traffic. Most aspects of Build Alternative 8 are similar to Build Alternative 7, including similar realignments of Avenue 50 and Tyler Street, construction of a two-span structure over the existing SR-86, construction of a five-span structure over the CVSC, and associated signing and traffic signal controls. Alternative 8 includes a southbound loop on-ramp at the interchange, which provides better operational performance than Alternative 7's diamond-type on-ramp.

ROW acquisition would be similar for both build alternatives. A total of 0.630 acres for Build Alternative 7 and 0.858 acres for Build Alternative 8 would be temporarily acquired during Phase 1 project construction. A total of 1.726 acres for Build Alternative 7 and 1.670 acres for Build Alternative 8 would be temporarily acquired during Phase 2 project construction. Refer to Tables 2.1.4-3 and 2.1.4-4. A total of 36.723 acres for Build Alternative 7 and 29.095 acres for Build Alternative 8 would be permanently acquired during Phase 1 project construction. A total of 21.680 acres for Build Alternative 7 and 21.677 acres for Build Alternative 8 would be permanently acquired during Phase 2 project construction. Refer to Tables 2.1.4-5 and 2.1.4-6. Build Alternative 7 would require permanent partial acquisition of approximately 35.77 acres and permanent full acquisition of 19.12 acres, for a total of 54.89 acres. Build Alternative 8 would require permanent partial acquisition of approximately 42.62 acres and permanent full acquisition of 4.63 acres, for a total of 47.25 acres. Implementation of the Build Alternatives would result in a single residential relocation during Phase 2 of the project. This parcel has three structures on it. Build Alternative 7 would require acquisition of two of the three structures and Build Alternative 8 would require acquisition of one of the three structures.

Table 1-15 provides a summary comparison between the two Build Alternatives and the No-Build Alternative, which have been studied in conjunction with development of the new interchange project.

Table 1-15: Alternatives Comparison

Evaluation Criteria	No-Build Alternative	Build Alternative 7	Build Alternative 8
Project Features and Design Standards			
Traffic Operations – Roadway Segments	As shown in Table 1-2, by the year 2040 the following roadway segments are projected to have an LOS of D or worse: • LOS F for Avenue 50 Bridge (between Tyler Street and SR-86)	As shown in Table 1-4, by the year 2045 the following roadway segments are projected to have an LOS of D or worse: • LOS D for Avenue 50 (between Leoco Lane and Peter Rabbit Lane)	As shown in Table 1-4, by the year 2045 the following roadway segments are projected to have an LOS of D or worse: • LOS D for Avenue 50 (between Leoco Lane and Peter Rabbit Lane)
Traffic Operations – Intersections	As shown in Table 1-6, by the year 2040 the following locations are projected to have an LOS of D or worse: • LOS F at Avenue 50/Tyler Street • LOS F at Avenue 50/SR-86 Ramps	As shown in Table 1-7, by the year 2045 the following locations are projected to have an LOS of D or worse: No intersections are projected to have an LOS of D or worse.	As shown in Table 1-7, by the year 2045 the following locations are projected to have an LOS of D or worse: No intersections are projected to have an LOS of D or worse.
Traffic Operations – Freeway Segments	Not Applicable	As shown in Table 1-10, by the year 2045 all expressway segments are projected to have an LOS of D or better.	As shown in Table 1-10, by the year 2045 all expressway segments are projected to have an LOS of D or better.
Number of Signalized Intersections	1	3	3
Temporary Construction Easements	None	10 APNs for TCEs	11 APNs for TCEs
Total Project Cost	None	$**106,000,000**	$**105,000,000**

Table 1-16: Environmental Impacts

Evaluation Criteria	No-Build Alternative	Build Alternative 7	Build Alternative 8
Farmlands	No impact.	Project implementation would bisect two agricultural parcels resulting in indirect conversion of 13.35 acres of remnant portions of agricultural parcels and direct conversion of 44.47 acres of farmland, with a total acreage of permanently impacted farmland of 57.82 acres. All agricultural land that is converted to non-agricultural use will be addressed at a 1:1 ratio. With implementation of Measure ROW-1, ROW will be acquired in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and property owners will receive just compensation and fair market value for their property.	Project implementation would bisect two agricultural parcels resulting in indirect conversion of 13.35 acres of remnant portions of agricultural parcels and direct conversion of 44.47 acres of farmland, with a total acreage of permanently impacted farmland of 57.82 acres. All agricultural land that is converted to non-agricultural use will be addressed at a 1:1 ratio. With implementation of Measure ROW-1, ROW will be acquired in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and property owners will receive just compensation and fair market value for their property.
Relocations and Real Property Acquisition	No impact.	Temporary ROW acquisition of 2.356 acres and permanent ROW acquisition of 58.40 acres. One permanent residential relocation would occur during Phase 2 of the project. With implementation of Measure ROW-1, ROW will be acquired in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and property owners will receive just compensation and fair market value for their property.	Temporary ROW acquisition of 2.528 acres and permanent ROW acquisition of 50.772 acres. One permanent residential relocation would occur during Phase 2 of the project. With implementation of Measure ROW-1, ROW will be acquired in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and property owners will receive just compensation and fair market value for their property.
Hydrology and Floodplains	Existing Avenue 50 low water crossing will continue to be subject to flooding during storm events; CVSC swells well above the roadway surface during periods of heavy rainfall.	A localized rise in the water surface elevation at the CVSC would occur. The allowable change in water surface elevation is a cumulative 1-foot rise over the base flood elevation for Zone A floodplains. The project would not involve changes to the 100-year water surface elevation in CVSC which would exceed the allowable 1-foot rise prescribed by the FEMA regulations. A Conditional Letter of Map Revision (CLOMR) is therefore not required. Build Alternative 7 would not introduce additional risk for traffic disruptions or loss of life and property and does not support incompatible floodplain development.	A localized rise in the water surface elevation at the CVSC would occur. The allowable change in water surface elevation is a cumulative 1-foot rise over the base flood elevation for Zone A floodplains. The project would not involve changes to the 100-year water surface elevation in CVSC which would exceed the allowable 1-foot rise prescribed by the FEMA regulations. A Conditional Letter of Map Revision (CLOMR) is therefore not required. Build Alternative 8 would not introduce additional risk for traffic disruptions or loss of life and property and does not support incompatible floodplain development.

Table 1-16: Environmental Impacts [continued]

Evaluation Criteria	No-Build Alternative	Build Alternative 7	Build Alternative 8
Wetlands and Other Jurisdictional Waters	No impact.	Temporary impacts to 0.95-acre (0.08 of non-wetland waters and 0.87 of wetland) of United States Army Corps of Engineers (USACE) and Regional Water Quality Control Board (RWQCB) jurisdiction, and 1.88-acre (0.87 of vegetated streambed and 0.99 of unvegetated streambed) of California Department of Fish and Wildlife (CDFW) jurisdiction. Measure WET-1 would require impacts to jurisdictional waters of the U.S. and State be mitigated at a minimum 1:1 ratio at an approved mitigation bank, applicant-sponsored mitigation area, or on-site. The project will include a restoration plan that will provide requirements for site selection, implementation, monitoring, long-term maintenance, and performance standards, in consultation with the resource agencies. Measure WET-2 would require a delineated no work buffer around riparian and riverine communities and installation of ESA fencing and silt fence barriers. Permanent impacts to 0.02-acre of wetland associated with CVSC, which is under USACE and RWQCB jurisdiction. Permanent impacts to 3.23-acres (0.02-acre of vegetated streambed and 3.23-acres of non-vegetated streambed) of streambeds associated with CVSC, which are under CDFW jurisdiction. The City will obtain the required USACE 404 Permit, Colorado River Basin Regional Water Quality Control Board (Colorado River Basin RWQCB) 401 Water Quality Certification, and CDFW 1602 SAA, satisfying all associated requirements, prior to completion of final design. Anticipated potential impacts to jurisdictional waters of the U.S. and State will be addressed at a minimum 1:1 ratio, which may involve purchase of land or land credits and/or a restoration plan.	Temporary impacts to 0.95-acre (0.08 of non-wetland waters and 0.87 of wetland) of United States Army Corps of Engineers (USACE) Regional Water Quality Control Board (RWQCB) jurisdiction and 1.88-acre (0.87 of vegetated streambed and 0.99 of unvegetated streambed) of California Department of Fish and Wildlife (CDFW) jurisdiction. Measure WET-1 would require impacts to jurisdictional waters of the U.S. and State be mitigated at a minimum 1:1 ratio at an approved mitigation bank, applicant-sponsored mitigation area, or on-site. The project will include a restoration plan that will provide requirements for site selection, implementation, monitoring, long-term maintenance, and performance standards, in consultation with the resource agencies. Measure WET-2 would require a delineated no work buffer around riparian and riverine communities and installation of ESA fencing and silt fence barriers. Permanent impacts to 0.02-acre of wetland associated with CVSC, which is under USACE and RWQCB jurisdiction. Permanent impacts to 3.23-acres (0.02-acre of vegetated streambed and 3.23-acres of non-vegetated streambed) of streambeds associated with CVSC, which are under CDFW jurisdiction. The City will obtain the required USACE 404 Permit, Colorado River Basin Regional Water Quality Control Board (Colorado River Basin RWQCB) 401 Water Quality Certification, and CDFW 1602 SAA, satisfying all associated requirements, prior to completion of final design. Anticipated potential impacts to jurisdictional waters of the U.S. and State will be addressed at a minimum 1:1 ratio, which may involve purchase of land or land credits and/or a restoration plan.

1.4.7 Identification of a Preferred Alternative

Caltrans circulated the Initial Study with Proposed Mitigated Negative Declaration/ Environmental Assessment (IS/EA) for public review and comment between December 6, 2018 and January 7, 2019. After reviewing all the comments received (provided in Chapter 4.0, Comments and Coordination), the Project Development Team (PDT) met and identified Alternative 7 as the Preferred Alternative on February 4, 2019. In conjunction with the PDT's identification of a Preferred Alternative, the extent of operational advantages achieved at the interchange location, consistency with design standards, ROW acquisitions and relocations, cost, and potential impacts to the environment were considered. An alternative comparison matrix was prepared to validate the project's purpose and need. Considerations were given to

public review comments and the public hearing process; input from PDT members; project funding; as well as environmental, social, and economic impacts. The evaluation criteria established for identifying the Preferred Alternative are as follows:

- Traffic Operations
- Safety
- Right-of-Way
- Nonstandard Design Features
- Project Costs
- Construction Duration
- Environmental Impacts

As discussed throughout Chapter 2 of this IS/EA and as summarized above in Table 1-16, the impacts associated with Alternative 7 and Alternative 8 are very similar with respect to resources. As described in Table 1-16, Alternative 7 would result in a lower net new impervious surface area (21.3 acres) when compared to Alternative 8 (21.7 acres). Alternative 7 would require 1.18 acres of tribal land acquisition, while Alternative 8 would require 2.07 acres of tribal land acquisition. With implementation of all the identified avoidance, minimization, and/or mitigation measures, as summarized in Appendix C (Environmental Commitments Record), the SR-86/Avenue 50 New Interchange Project would not result in significant impacts.

In the context of traffic operations, Alternative 7 and Alternative 8 are essentially the same; both result in a LOS C or better. However, Alternative 7 would result in fewer nonstandard features as compared to Alternative 8. Alternative 7 would also provide standard additional driveway spacing along southbound Avenue 50 from SR-86 southbound off-ramp to the northern driveway located east of CVSC. This added standard driveway spacing would reduce the potential for rear-end collisions along westbound Avenue 50, as compared to Alternative 8.

As shown in Tables 1-13 and 1-14, the estimated design costs for Alternative 7 is $106,000,000 and for Alternative 8 is $105,000,000, which includes costs associated with project construction and support (these do not include the costs of implementation of the project's Avoidance, Minimization, and/or Mitigation Measures). Although Alternative 7 is approximately $1,000,000 more than Alternative 8, Alternative 7 has fewer project impacts, as discussed above.

1.4.8 Value Analysis (VA) Study

A Value Analysis (VA) Study was conducted for the project from November 29 through December 1, 2016. The objective of the VA study was to conduct an early review of the project design to identify value improving alternatives. Specifically, the VA objectives included the following:

- Review Avenue 50 alignments;
- Review project impacts with a goal to reduce impacts; and
- Explore traffic operation improving options.

A number of analytical tools and techniques were applied to develop a better understanding of the baseline concept. A major component of this analysis was Value Metrics, which seeks to assess the elements of cost, performance, time, and risk as they relate to project value. Value Metrics provides a standardized means of identifying, defining, evaluating, and measuring performance. The performance attributes included traffic operations, sustainability, ROW impacts, and schedule impacts. During the course of the VA Study, the alternatives were developed, assessed, and rated using these tools, techniques, and performance attributes.

Accordingly, four options were considered, but rejected as part of the Avenue 50 Realignment Study. Also, a No Build Alternative and a build alternative (Alternative 2) were studied and presented in a Project Study Report/Project Development Support (PSR/PDS; EA 0C970K) that was approved by Caltrans on August 8, 2005. These two PSR/PDS alternatives are now termed as No-Build Alternative 1 and Build Alternative 2. In addition to these two PSR/PDS alternatives, seven other alternatives (Build Alternatives 3, 4, 5, 6A, 6B, 7, and 8) were developed and discussed.

Since the start of the Project Approval and Environmental Document (PA/ED) phase of the project, reviews and discussions during monthly PDT meetings have screened these nine conceptual build alternatives to just two viable build alternatives (Build Alternatives 7 and 8). The other seven alternatives were determined to be nonviable based on a combination of cost, safety, operational, and/or environmental constraints and were eliminated from further study. These alternatives that were considered, but rejected, are further discussed below.

1.4.9 Reversible Lanes

Assembly Bill 2542 amended California Streets and Highways code to require, effective January 1, 2017, that Caltrans or a regional transportation planning agency demonstrate that reversible lanes were considered when submitting a capacity-increasing project or a major street or highway lane realignment project to the California Transportation Commission for approval (California Streets and Highways Code, Section 100.015). As Avenue 50 is an existing two-lane roadway without a median, implementing a reversible lane would require that Avenue 50 become a one-way street during peak hours. Since two-way traffic is required along Avenue 50 at all times, reversible lanes are not considered feasible and are not proposed as part of the project. In addition, the forecasted traffic volumes for Avenue 50 within the project limits are not heavily imbalanced during the daily peak travel period, and therefore, reversible lanes are deemed not required.

1.4.10 Alternatives Considered but Eliminated from Further Discussion Prior to the "Draft" Initial Study/Environmental Assessment (IS/EA)

1.4.10.1 Realignment Study Option A1 – Avenue 50 Existing Centerline (Baseline Alignment)

Assembly Bill 2542 amended California Streets and Highways code to require, effective January 1, 2017, that Caltrans or a regional transportation planning agency demonstrate that reversible lanes were considered when submitting a capacity-increasing project or a major street or highway lane realignment project to the California Transportation Commission for approval (California Streets and Highways Code, Section 100.015). As Avenue 50 is an existing two-lane roadway without a median, implementing a reversible lane would require that Avenue 50 become a one-way street during peak hours. Since two-way traffic is required along Avenue 50 at all times, reversible lanes are not considered feasible and are not proposed as part of the project.

This baseline alternative utilized the existing centerline tangent alignment. The PDT cited the following reasons for eliminating this alternative from further consideration:

- Southbound off-ramp and northbound on-ramp would encroach into tribal land.
- Virtually zero spacing between southbound off-ramp intersection and driveways (immediately east of CVSC).
- Short southbound off-ramp (approximately 800 feet) would require a number of design exceptions.

- The 45-degree skew angle would require the longest bridges, which significantly increase the overall construction cost. It also would result in an undesirable intersection skew angle at the on- and off-ramp intersections.
- Large retaining walls.

1.4.10.2 Realignment Study Option A2 – Avenue 50 Realignment (Hybrid Alignment)

Similar to Build Alternatives 7 and 8 (up to the easterly abutment of the proposed Avenue 50 bridge over CVSC), this alignment would have continued and crossed SR-86 at approximately 90 degrees, then curved northerly (to avoid the existing radio towers located at the radio tower station) and tied back into the existing Avenue 50 centerline approximately 3,000 feet east of the proposed northbound ramp intersection.

The PDT cited the following reasons for eliminating this alternative from further consideration:

- Southbound off-ramp and northbound on-ramp would encroach into tribal land.
- Longest realignment among Avenue 50 realignment alternatives, resulting in significant environmental and ROW impacts. It also increases project costs.

1.4.10.3 Realignment Study Option A3 – Avenue 50 Realignment (Centerline Alignment at the CVSC Bridge)

The proposed improvements for this alternative utilized the existing centerline alignment up to the easterly abutment of the proposed Avenue 50 bridge over CVSC. This alignment then curved to the north and crossed SR-86 at approximately 70 degrees, then curved northerly (to avoid the existing radio towers located at the radio tower station) and tied back into the existing Avenue 50 centerline approximately 3,000 feet east of the proposed northbound ramp intersection, similar to Avenue 50 realignment Alternative 2 (discussed below).

The PDT cited the following reasons for eliminating this alternative from further consideration:

- Southbound off-ramp and northbound on-ramp would encroach into tribal land.
- Require the longest bridge over CVSC.
- Long realignment resulting in environmental and ROW impacts. It also increases project costs.

1.4.10.4 Realignment Study Option A4 – Avenue 50 Realignment (North Alignment)

This proposed alignment started by curving northerly at the westerly bridge terminus across the CVSC. It continued and crossed SR-86 at approximately 85 degrees, then curved northerly (to avoid the existing radio towers located at the radio tower station) and tied back into the existing Avenue 50 centerline approximately 3,000 feet east of the proposed northbound ramp intersection, similar to Avenue 50 realignment Alternatives 2 and 3 (discussed below). This alignment required substantial ROW easement takes from tribal land. This would result in a lengthy approval process with the Cabazon Band of Mission Indians tribal members and council and would require close coordination and agreement with the Bureau of Indian Affairs (BIA).

The PDT cited the following reasons for eliminating this alternative from further consideration:

- Substantial ROW impacts to tribal land.
- Avoid sensitive cultural resources.

1.4.10.5 Alternative 2 – Spread Diamond Interchange (From PSR-PDS)

Alternative 2 proposed a spread diamond interchange with an option to convert to a partial cloverleaf interchange to accommodate future growth and traffic demands. Avenue 50 would be realigned approximately 45 degrees in a northeasterly direction to accommodate the new interchange, perpendicular across SR-86. Tyler Street would also be realigned to maintain traffic circulation and route continuity.

The Avenue 50 overcrossing for this alternative was an approximately 60-foot-wide, 2-span structure to accommodate one through lane in each direction and two left-turn pockets for both directions. The bridge over the CVSC was a 5-span structure supported on multi-column bents.

The PDT cited the following reasons for eliminating this alternative from further consideration:

- This alternative would result in a segmented Avenue 50 (not a continuous east-west corridor), which is inconsistent with the Circulation Element of the City's General Plan;
- Impacts to Cabazon Band of Mission Indians Tribal Lands;
- Landlocked adjacent parcels (APNs 603-300-024, 603-330-011, 778-170-013, 763-020-010, 763-020-021, 763-042-022, 763-030-007, and 763-020-027); and
- Substantial impacts to KNWZ Radio Towers resulting a full acquisition and relocations of the radio transmission towers, as well as lengthy consultations with Federal Communications Commission and additional permit compliance.

1.4.10.6 Alternative 3 – Diverging Diamond Interchange (DDI)

Diverging Diamond Interchange (DDI) is an innovative, proven solution for improving safety and mobility at interchanges. Alternative 3 proposed a DDI utilizing a twin bridge layout and took advantage of reduced speeds of 25 to 35 miles per hour (mph) through the interchange. The realignment of Avenue 50 and Tyler Street on the west side of SR-86 would be similar to Build Alternatives 7 and 8. This alternative would meet the physical site constraints and provided the following benefits:

- Reduced overall ROW impacts;
- Improved skew angle, compared to other alternatives;
- Shortest Avenue 50 Overcrossing bridge length;
- Operational benefits:
  - Two phase signals reduce lost time at interchange;
  - Free-flow left turns onto expressway;
  - Increased capacity; and
- Lowest costs.

The PDT cited the following reasons for eliminating this alternative from further consideration:

- Lack of feasible options for reestablishing the Tyler Street connection to Avenue 50 on the east side of SR-86;
- Potential driver unfamiliarity;
- Safety concerns:
  - Potential for wrong-way maneuvers at crossovers; and
  - Unusual sight distance considerations.

1.4.10.7 Alternative 4 – Diamond Interchange with Roundabout Intersection Control

Alternative 4 proposed a Type L-1 Diamond interchange at Avenue 50 with the realignment of Avenue 50 and Tyler Street similar to Build Alternatives 7 and 8. Roundabouts were proposed to provide traffic ROW controls at the ramp intersections. A two-span structure was proposed for the Avenue 50 Overcrossing to accommodate three through lanes in each direction. This alternative would provide the following benefits:

- No traffic signals, which reduce lost time at interchange;
- Fewer number of overall conflict points and no left turn conflicts; and
- Reduced crash severity.

Alternative 4 was also consistent with the requirements stated in the Traffic Operations Policy Directive (TOPD) 13-02: Intersection Control Evaluation (ICE).

The PDT cited the following reasons for eliminating this alternative from further consideration:

- An undesirable 6-leg roundabout would be required on the west side of SR-86 to maintain access to the Cabazon Band of Mission Indians tribal land to the north and properties to the south.
- Three through-lane roundabouts would be required to accommodate the Avenue 50 corridor. Signing and striping on a 3-lane roundabout is complex and could lead to confusion for motorists. Currently, neither Caltrans nor FHWA has design guidelines for a three-lane roundabout.
- Due to the elevated Avenue 50 Overcrossing structure and limited space between the Avenue 50 bridge over CVSC and the southbound ramp intersection, the roundabouts would require significant fill material resulting in higher costs.
- This alternative also had safety concerns pertaining to pedestrians with vision impairment, as such persons would find it difficult to maneuver the roundabouts.

1.4.10.8 Alternative 5 – Single Point Interchange (SPUI)

A two-span structure was proposed for the Avenue 50 Overcrossing to accommodate three through lanes and two left-turn pockets for each direction of travel. This alternative would provide the following benefits:

- Improved operational efficiency and safety;
- Single traffic signal, ideal for balanced traffic volumes; and
- Wider turn radii eases movement for large vehicles.

Following the project alternative screening during ongoing PDT meetings and evaluation during the VA study session, the project team rejected this alternative. The PDT cited the following reasons for eliminating this alternative from further consideration:

- Safety Concerns:
  - Per Single Point Interchange Planning, Design, and Operations Guidelines, intersection skew angle should not exceed 15 degrees from normal;
  - Driver unfamiliarity;
- Wider bridge and extensive retaining walls resulting in substantially greater construction costs; and
- Difficult for future expansion.

1.4.10.9 Alternative 6A/6B – Modified Type L-9 Partial Cloverleaf

Alternative 6A/6B proposed a Modified Type L-9 Partial Cloverleaf interchange at SR-86 similar to Build Alternative 7 with the exception of the northbound ramp configuration. For Alternative 6A, the off-ramp aligns with the on-ramp to form a four-legged intersection with standard access control. For Alternative 6B, an innovative slip on-ramp design was proposed to comply with ADA requirements and minimize ROW impacts. Although both Alternatives 6A and 6B meet the purpose and need of the project, they do not provide feasible options for reestablishing the Tyler Street connection to Avenue 50 on the east side of SR-86.

Following the project alternative screening during ongoing PDT meetings and evaluation during the VA study session, the project team rejected this alternative. The PDT cited lack of feasible options for reestablishing the Tyler Street connection to Avenue 50 on the east side of SR-86 as the reason for eliminating these two alternatives from further consideration.

1.5 Permits and Approvals Needed

The following permits, licenses, agreements, and certifications (PLACs) are required for project construction:

PLAC	Agency	Status
Clean Water Act Section 401 Water Quality Certification	Colorado River Basin Regional Water Quality Control Board (RWQCB)	Application for certification will be submitted to CRBRWQCB after approval of the final Environmental Document. Certificate will be acquired prior to completion of final design.
Clean Water Act Section 404 Standard Individual Permit	United States Army Corps of Engineers (USACE)	Application for permit will be submitted to USACE after approval of the final Environmental Document. Permit will be acquired prior to completion of final design.
California Fish and Game Code Section 1602 Streambed Alteration Agreement	California Department of Fish and Wildlife (CDFW)	Application for permit will be submitted to CDFW after approval of the final Environmental Document. Permit will be acquired prior to completion of final design.
Air Quality Conformity Determination	Federal Highway Administration (FHWA)	The Air Quality Conformity Analysis (AQCA) for the project was submitted to FHWA on March 14, 2019. FHWA provided a Conformity Determination on April 2, 2019.

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

ENVIRONMENTAL ISSUES WITH NO IMPACTS

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 document.

- *Coastal Zone* – California's Coastal Zone generally extends 1,000 yards inland from the mean high tide line. The project area is situated in Riverside County and is not located within the Coastal Zone. Therefore, the project is not subject to the federal Coastal Zone Management Act of 1972 (CZMA) or to the California Coastal Act of 1976.

- *Wild and Scenic Rivers* – The project is not near any National Wild and Scenic Rivers.

- *National Marine Fisheries Service (NMFS)* – This project is located outside of National Marine Fisheries Service (NMFS) jurisdiction; therefore, an NMFS species list is not required and no effects to NMFS species are anticipated.

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2.1 HUMAN ENVIRONMENT

2.1.1 Land Use

The project is located in the central portion of the City of Coachella. The land use analysis is based predominately on information contained in the City of Coachella General Plan Update (General Plan), adopted April 22, 2015. Please refer to Section 2.1.2, Farmlands, for information pertaining to agricultural land use designations and zoning consistencies.

2.1.1.1 Affected Environment

2.1.1.1.1 Existing Land Use

East of SR-86, existing land uses are predominately agricultural and residential. West of SR-86, existing land uses are predominately residential, commercial, agricultural, institutional, and open space.

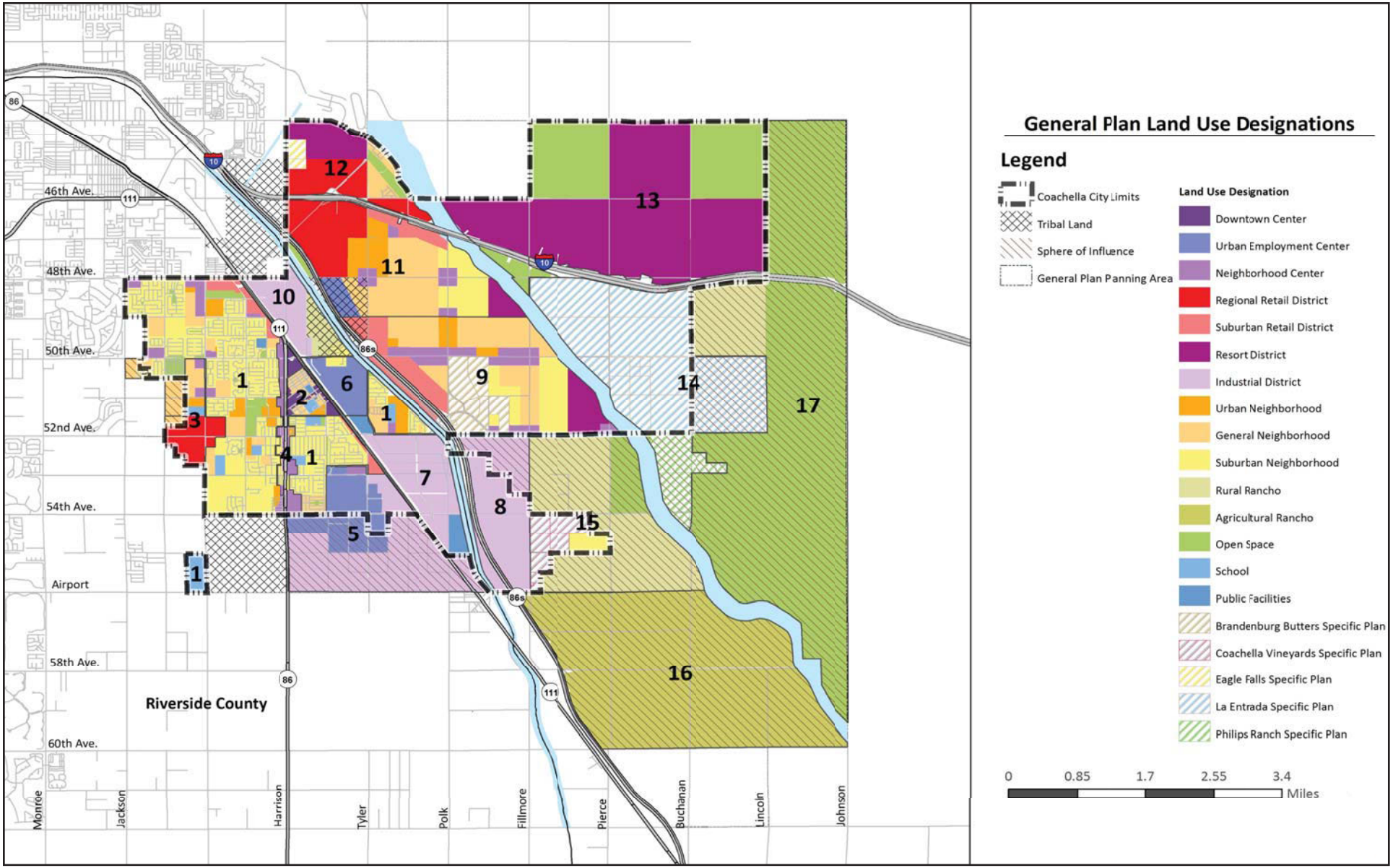
2.1.1.1.2 Future Land Use

Land use designations adjacent to the project site, as shown in the City's General Plan Figure 4-23, General Plan Designation Map, include Suburban Neighborhood, Open Space, Urban Employment Center, Suburban Retail District, Neighborhood Center, and Urban Neighborhood; refer to Figure 2.1.1-1, Coachella General Plan Land Use Designations. Areas north and west of the interchange are also identified as Tribal Land (Cabazon Band of Mission Indians). Based on the General Plan Figure 4-24, General Plan Subareas Map, existing subareas adjacent to the project site include Subarea 1 (West Coachella Neighborhoods), Subarea 6 (Downtown Expansion), Subarea 10 (North Employment District), and Subarea 9 (Central Coachella Neighborhoods); refer to Figure 2.1.1-2, Coachella General Plan Subareas.

According to the City of Coachella Official Zoning Map (2013), included as Figure 2.1.1-3, Coachella Zoning Map, the SR-86/Avenue 50 New Interchange and adjacent land uses have zoning designations of Residential Single Family (R-S), Agricultural Reserve (A-R), Open Space (O-S), Agricultural Transition (A-T), and Commercial Tourist Planned Unit Development (C-T, PUD) under the City's Zoning Code (Zoning Code). Single family residential uses to the south of Avenue 50 and west of the CVSC are specifically identified as Residential Estate (R-E). Land north of Avenue 50 and west of Tyler Street are identified as Tribal Land.

Multiple land development and transportation infrastructure projects are planned within and adjacent to the study area for future development. The locations of these projects are depicted on Figure 2.1.1-4, Planned Projects in the City of Coachella. According to the General Plan, Coachella's vision is to transform the City from a small town to a medium-sized, full-service city, and to diversify its economic activity and job opportunities. As a result, development within the City has been robust in recent years, and a substantial amount of new development is anticipated to continue throughout the City's planning horizon. Recent development trends in the City include multiple large specific plans, as well as commercial and public facilities and infrastructure that would be necessary to support the additional population that would result with implementation of these specific plans.

As shown on Figure 2.1.1-4, a portion of one specific plan (Brandenburg Butters Specific Plan) is located within the project vicinity. Further away, there are two other large specific plans located in the eastern portion of the City that would potentially utilize the new interchange at



Source: City of Coachella General Plan Update 2035, January 2014.

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Coachella General Plan Land Use Designations

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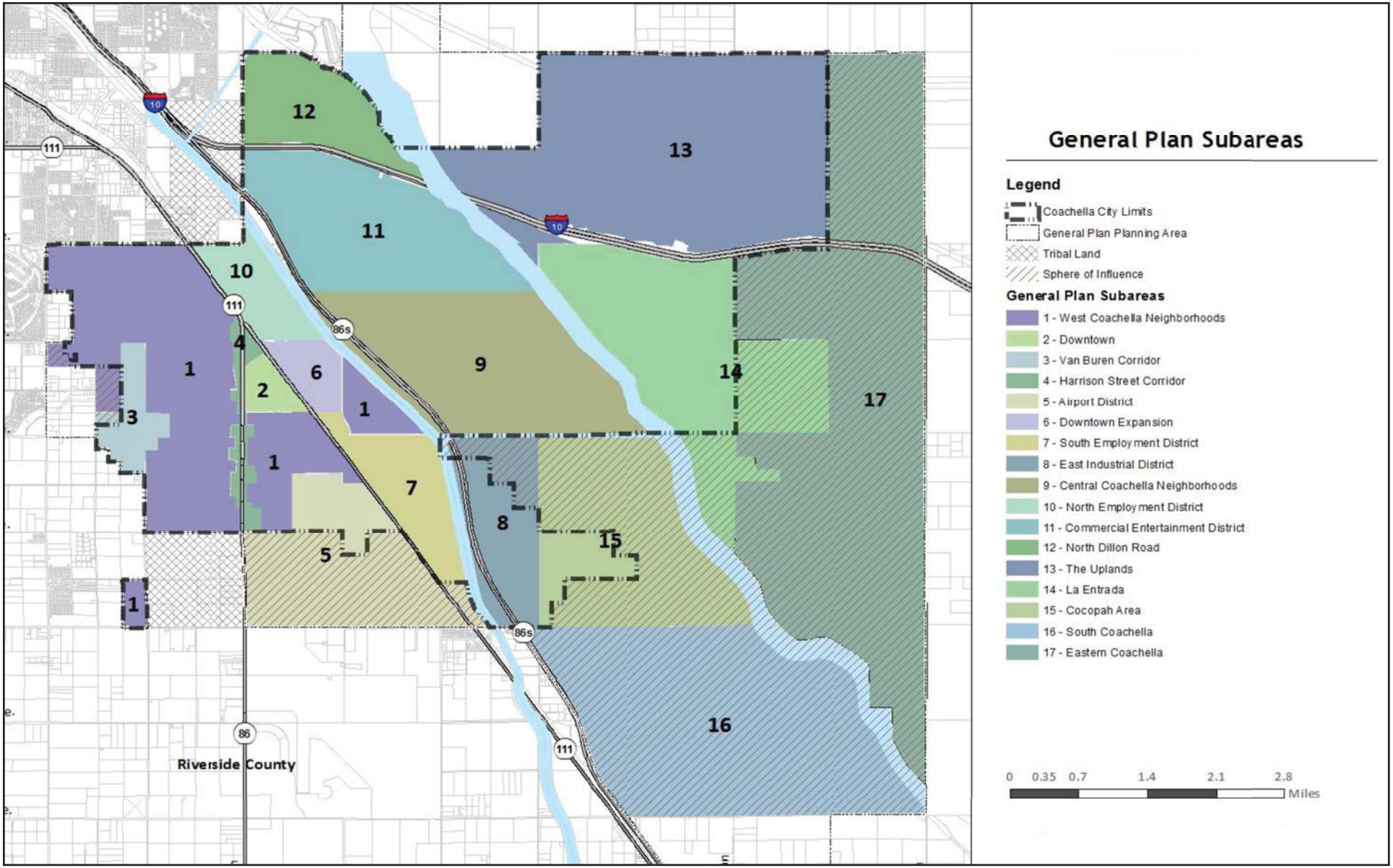
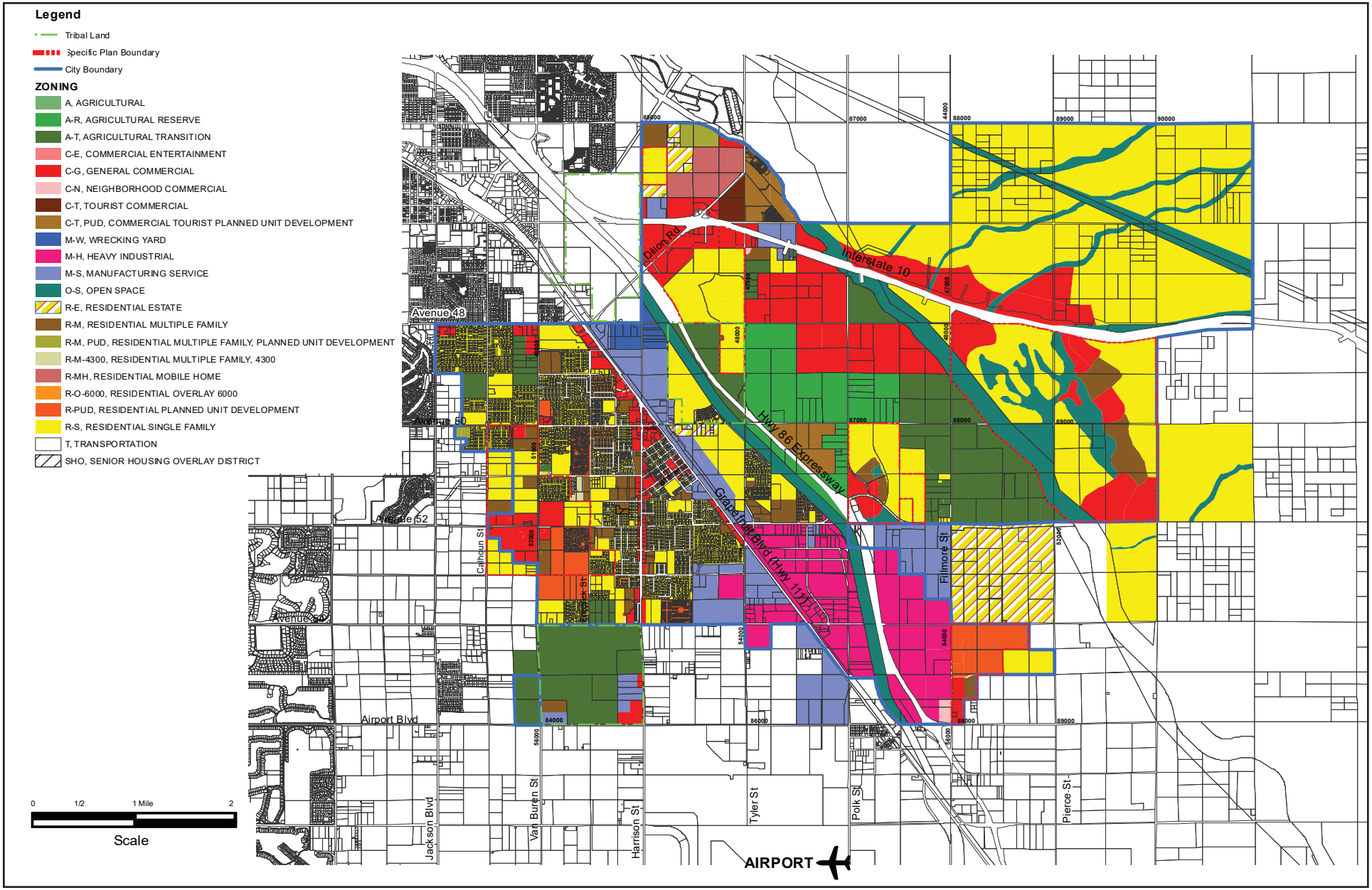
Figure 2.1.1-1



Source: City of Coachella General Plan Update 2035, January 2014.

Coachella General Plan Subareas

Figure 2.1.1-2



INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Coachella Zoning Map

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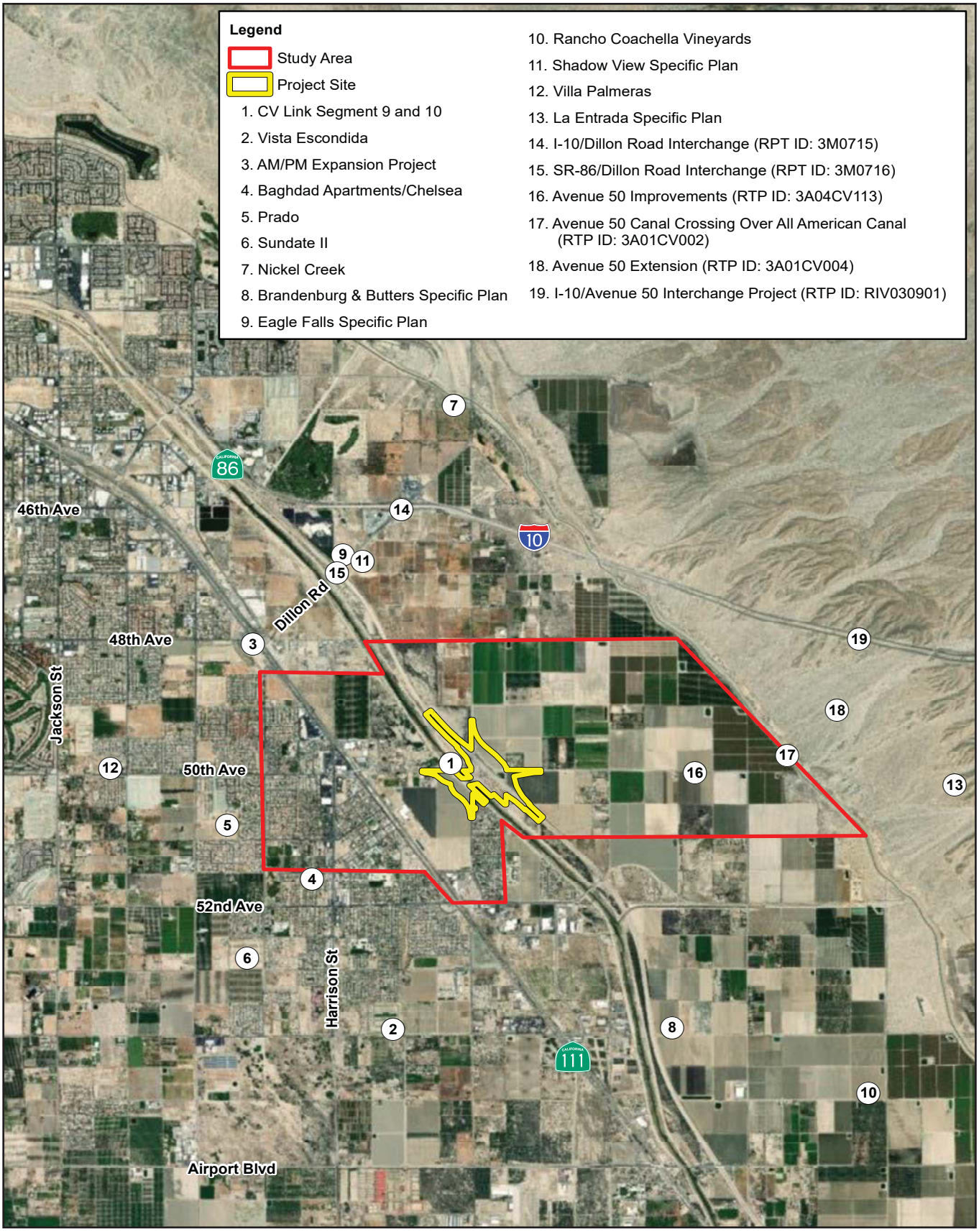
Figure 2.1.1-3



INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Planned Projects in the City of Coachella

11/18 | JN 159814

Figure 2.1.1-4

SR-86/Avenue 50 and new Avenue 50 bridge over the CVSC. These specific plans and other approved land development and transportation infrastructure projects under consideration by the City are listed in Table 2.1.1-1, Planned Projects and are identified on Figure 2.1.1-4.

Table 2.1.1-1: Planned Projects in the City of Coachella

Map ID*	Project Name	Project Description	Location	Status
1	CV Link Segments 9 and 10	3.5 miles of the total 50-mile CV Link alignment	Taylor Street to Airport Boulevard (Avenue 56)	First phase completed in Palm Springs, second phase commencing in La Quinta 2019.
2	Vista Escondida	282 single-family unit subdivision on 46.64 acres.	Northwest corner of Shady Lane and Avenue 54, Coachella.	25 percent of homes built; park and off-site improvements complete. Future phases to begin construction in 2019.
3	AM/PM Expansion Project	Construct new carwash, drive-thru restaurant, and retail buildings on 4.85 acres.	Southwest corner of Avenue 48 and Grapefruit Boulevard, Coachella.	Under construction. Phase 1 and 2 complete. Expected completion in 2020.
4	Baghdad Apartments/ Chelsea	General plan amendment from low-density residential; architectural review for 144-unit apartments and parcel map modification.	Southwest corner Calle Avila and Bagdad Avenue, Coachella.	First phase complete (56 units); off-site improvements complete. Second phase completed June 2018.
5	Prado	232 single-family unit subdivision.	West of Frederick Street between Avenue 50 and Avenue 51, Coachella.	65 homes built; all off-site improvements complete. Next phase of construction expected in 2018.
6	Sundate II	169 single-family unit subdivision.	Northwest corner Avenue 53 and Frederick Street, Coachella.	Tentative map revision approved. First phase of construction expected in 2020.
7	Nickel Creek	322 single-family unit subdivision on 64.64 acres.	Avenue 44, West of Dillon Road, Coachella.	Tentative map approved. Construction expected in 2020 or later.
8	Brandenburg & Butters Specific Plan	Revised Plan includes 212 single-family unit subdivision.	North of Avenue 54, between Fillmore Street and Polk Street, Coachella.	Tentative map approved. Construction expected in 2020 or later.
9	Eagle Falls Specific Plan	295 single-family unit subdivision on more than 90 acres.	North of I-10 West of Harrison Place, Coachella.	Tentative map approved. Construction expected in 2020 or later.
10	Rancho Coachella Vineyards	272 single-family unit subdivision 80 acres.	Northwest corner Avenue 55 and Pierce Street, Coachella.	Tentative map approved. Time extension granted. Construction expected in 2020 or later.
11	Shadow View Specific Plan	1,600 single-family unit subdivision on 368 acres.	Southeast of Dillon Road between I-10 and SR-86 Expressway, Coachella.	Tentative maps expired. Construction expected in 2020 or later.
12	Villa Palmeras	111 single-family attached and detached residential units on 11.58 acres.	South side of Avenue 50 between Jackson Street and Calhoun Street, Coachella.	Tentative map approved. Construction expected in 2020 or later.
13	La Entrada Specific Plan	7,800 residential units; mixed uses including high-density residential, commercial, public facilities, and other non-residential uses; three elementary schools and one middle school; 345 acres of parks/ recreation uses, including multi- purpose trails; 112 acres of roadway uses; and 557 acres of open space.	South of I-10 and east of All American Canal.	Specific Plan, environmental document, and Development Agreement approved. First phase of construction expected by 2020.
14	I-10/Dillon Road Interchange (RTP ID: 3M0715)			PSR approved in 2010.
15	SR-86/Dillon Road Interchange (RTP ID: 3M0716)			PSR approved in 2010.
16	Avenue 50 Improvements (RTP ID: 3A04CV113)			Final design.
17	Avenue 50 Canal Crossing over All American Canal (RTP ID: 3A01CV002)			Final design.
18	Avenue 50 Extension (RTP ID: 3A01CV004)			Final design.
19	I-10/Avenue 50 New Interchange Project (RTP ID: RIV030901)			Final design.

*Mapping ID Nos. correspond to those identified in Figure 2.1.1-4, Planned Projects in the City of Coachella.

Source: SR-86/Avenue 50 New Interchange Project Community Impact Assessment, dated September 2018.

The project site also includes a planned future alignment of the planned Coachella Valley (CV) Link project. CV Link is a 50 mile multi-modal transportation path proposed by Coachella Valley Association of Governments (CVAG) that would extend from the City of Palm Springs on the west to the City of Coachella on the east. The route is generally proposed along the levees of the CVSC and on local streets. CV Link is designed to accommodate the widest possible range of users, including pedestrians, bicyclists, low-speed electric vehicles (LSEVs), and mobility device users (wheelchairs and electric scooters). LSEVs include golf carts and neighborhood electric vehicles (NEVs). The project would accommodate a segment of the CV Link project along the south bank of the CVSC within the project limits.

2.1.1.1.2 Consistency with State, Regional, and Local Plans and Programs

Southern California Association of Governments (SCAG) 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS): A Plan for Mobility, Accessibility, Sustainability, and a High Quality of Life

The 2016-2040 RTP/SCS provides a vision for transportation investments throughout the region. Using growth forecasts and economic trends that project out over a 20-year period, the RTP considers the role of transportation in the broader context of economic, environmental, and quality-of-life goals for the future, identifying regional transportation strategies to address our mobility needs. The RTP seeks to identify regional solutions to transportation issues in Southern California. This comprehensive approach to regional planning is imperative to maintaining the unique social, environmental, cultural, and economic vitality for the tens of millions of people who would live, work, and play in Southern California. Federal and State regulations require SCAG, as the Regional Transportation Planning Agency (RTPA) and Metropolitan Planning Organization (MPO), to develop an RTP every four years in order for the region's transportation projects to qualify for federal and State funding. The RTP is updated to reflect changes in trends, progress made on projects, and to adjust the growth forecast for population changes. The 2016 RTP was adopted by SCAG's Regional Council on April 7, 2016, which subsequently received the required conformity determination letter from the FHWA and the Federal Transit Administration (FTA) on June 1, 2016.

SCAG's 2016 RTP provides the basic policy and program framework for long-term investment in the regional transportation system. Transportation investments in the SCAG region that receive State or federal transportation funds must be consistent with the RTP and must be included in the FTIP (see below) when ready for funding. The project is included in SCAG's 2016-2040 RTP/SCS (as RTP IDs RIV061159 and RIV110825).

Southern California Association of Governments (SCAG) 2019 Federal Transportation Improvement Program (FTIP)

The FTIP, formerly referred to as the Regional Transportation Improvement Program (RTIP), is a capital listing of all transportation projects proposed over a six-year period for the SCAG region. The projects include highway improvements, transit, rail and bus facilities, high occupancy vehicle lanes, signal synchronization, intersection improvements, freeway ramps, etc. In the SCAG region, a biennial FTIP update is produced on an even-year cycle. The FTIP is prepared to implement projects and programs listed in the RTP and developed in compliance with State and federal requirements. County Transportation Commissions have the responsibility under State law of proposing county projects, using the current RTP's policies, programs, and projects as a guide, from among submittals by cities and local agencies. The locally prioritized lists of projects are forwarded to SCAG for review. From this list, SCAG

develops the FTIP based on consistency with the current RTP, inter-county connectivity, financial constraint, and conformity satisfaction.

The project is listed in SCAG's 2019 FTIP (adopted September 6, 2018) as a State Highway project (Project IDs RIV110825 and RIV061159). The project entry identifies the following scope of work:

- *RIV110825* – In the City of Coachella, Avenue 50 over Coachella Stormwater Channel: (Phase 1) Replacement of a 2-lane low water crossing (Bridge No. 00L0055) with a 6-lane (3 lanes in each direction) bridge on new roadway alignment from approximately 300-ft west of Apache Trail to SR-86 south intersection. Other improvements include bike lanes, sidewalks, reconstruct traffic signal/driveways, channel scour protection, and retaining existing low water crossing and culverts (EA: 0C970).

- *RIV061159* – At SR-86/Avenue 50: (Phase 2) Widen and construct new 6-through lane interchange from east of Coachella Stormwater Channel Bridge to east of Tyler Street. Improvements include: extended ramp acceleration/deceleration lanes, relocate/realign Avenue 50 and Tyler Street, bike lanes, sidewalks, and reconstruct traffic signals (SAFETEA LU 1702, CA583, #2543) (EA: 0C970).

Coachella Valley Multiple Species Habitat Conservation Plan

The Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) is a comprehensive, multi-jurisdictional habitat conservation plan focusing on preservation of species and their associated habitats within the Coachella Valley region of Riverside County. The primary goal of the CVMSHCP is to maintain and enhance biological diversity and ecosystem processes within the region while allowing the opportunity for future economic growth. The CVMSHCP covers 27 sensitive plant and wildlife species ("covered species") as well as 27 natural communities. Covered species include both listed and non-listed species that are sufficiently conserved by the CVMSHCP. The overall provisions for the plan are subdivided according to specific resource conservation goals that have been organized based on geographic areas defined as Conservation Areas. These areas are identified as Core, Essential, or Other Conserved Habitat for sensitive plant, invertebrate, amphibian, reptile, bird, and mammal species; Essential Ecological Process Areas; and Biological Corridors and Linkages. Each Conservation Area has specific Conservation Objectives that must be satisfied.

The CVMSHCP was prepared for the entire Coachella Valley and surrounding mountains to address current and potential future State and Federal Endangered Species Act issues in the Plan Area. A Memorandum of Understanding ("Planning Agreement") was developed to govern the preparation of the CVMSHCP. In late 1995 and early 1996, under the auspices of CVAG, the cities of Cathedral City, Coachella, Desert Hot Springs, Indian Wells, Indio, La Quinta, Palm Desert, Palm Springs, and Rancho Mirage; County of Riverside; USFWS; California Department of Fish and Wildlife (CDFW); Bureau of Land Management; U.S. Forest Service; and National Park Service signed the Planning Agreement to initiate the planning effort. Subsequently, Caltrans, Coachella Valley Water District (CVWD), Imperial Irrigation District (IID), Riverside County Flood Control and Water Conservation District (County Flood Control), Riverside County Regional Park and Open Space District, Riverside County Waste Resources Management District, California Department of Parks and Recreation, and Coachella Valley Mountain Conservancy decided to participate in the CVMSHCP. Local Permittees would be required to ensure future development is consistent with the MSHCP.

The CVMSHCP balances environmental protection and economic development objectives in the plan area and simplifies compliance with endangered species related laws. The CVMSHCP is intended to satisfy the legal requirements for the issuance of permits that would allow the Take of species covered by the plan in the course of otherwise lawful activities. The CVMSHCP would, to the maximum extent practicable, minimize and mitigate the impacts of "Take" and provide for Conservation of the Covered Species. Implementation of the MSHCP would be overseen and administered by the Coachella Valley Conservation Commission (CVCC), a joint powers authority formed by the Local Permittees pursuant to the requirements of the California Government Code and other appropriate legal authorities. Each participating Permittee or local jurisdiction within the Coachella Valley region would impose a development mitigation fee for new development projects within its jurisdiction. With payment of the mitigation fee and compliance with the requirements of the CVMSHCP, full mitigation compliance with CEQA, the NEPA, California Endangered Species Act (CESA), and Federal Endangered Species Act (FESA) would be granted.

The CDFW issued the Natural Community Conservation Plan permit for the CVMSHCP on September 9, 2008, and the USFWS issued the final permit for the CVMSHCP on October 1, 2008. The MSHCP "balances environmental protection and economic development objectives in the plan area and simplifies compliance with endangered species related laws" (CVAG 2007). It currently covers 27 species; a Reserve System would be established within 21 Conservation Areas based on occurrences of 27 natural communities that provide habitat for the Covered Species. The Biological Study Area (BSA) associated with the project is located in the CVMSHCP Area, but is located outside of all associated Conservation Areas (Natural Environment Study [NES], May 2018).

City of Coachella General Plan

The City of Coachella's General Plan was adopted on April 22, 2015, and it establishes a comprehensive framework through which the City manages its growth and development.

Mobility Element

The Mobility Element addresses both automobile travel as well as the movement of bicycles, pedestrians, and transit users. Rather than prioritize one mode of travel as compared to another, the goals and policies outlined are focused on creating a balanced transportation system in which all modes of travel are treated equally. Relevant mobility-related goals and policies in the General Plan are described below.

ME Goal 1 – Complete Streets. A balanced transportation system that accommodates all modes of travel safely and efficiently without prioritizing automobile travel at the expense of other modes.

ME Policy 1.1 – Complete streets for new construction. Require that the planning, design and construction of all new transportation projects consider the needs of all modes of travel to create safe, livable and inviting environments for pedestrians, bicyclists, motorists and public transit users of all ages and abilities.

ME Policy 1.2 – Complete streets for existing roadways. Require that the planning, design and reconstruction of any existing transportation projects consider the needs of all travel modes to the extent feasible.

ME Policy 1.6 – Pedestrian and cyclist safety. Balance the safety concerns of pedestrians and cyclists with motor vehicles and emergency response to ensure that the safety of all users of the transportation system is considered.

ME Policy 1.7 – Street Beautification: Require that the City maintain consistency among landscape and streetscape elements along roadway projects to create a more uniform approach to these items throughout the City.

ME Goal 3 – Pedestrian Network. A safe pedestrian network that provides direct connections between residences, employment, shopping and civic uses.

ME Policy 3.3 – Sidewalks for roadways. Require that the City provide wide sidewalks along all roadways which are built or reconstructed in the City except in those instances in which there is insufficient right-of-way or other physical limitations.

ME Goal 4 – Bicycle Trail Network. A bicycle and multi-use trail network that facilitates bicycling for commuting, school, shopping and recreational trips.

ME Policy 4.1 – Bicycle networks. Require that the City provide additional bicycle facilities along all roadways in the City which are built or reconstructed in the City except in those instances in which there is insufficient right-of-way or other physical limitations.

ME Goal 6 – Sustainable Transportation. A sustainable transportation system that can be built, operated, and maintained within the City's existing and future resource limitations.

ME Policy 6.5 – Sustainable Landscaping. Promote the use of sustainable landscape and streetscape elements along roadways and other transportation facilities as they are constructed or reconstructed.

Land Use and Community Character Element

The Land Use and Community Character Element provides a long-term vision, goals, and policies for land use and development in Coachella over the next 20 to 30 years. Over this time, Coachella is expected to grow significantly and transform from a small town to a medium sized city. The goals and policies in the Land Use and Community Character Element are critical to the overall development of the City. In addition to regulating land use and development intensity, this element also regulates the form and character of development that would occur and the connections between development projects. Relevant land use-related goals and policies in the General Plan are described below.

LU Policy 3.3 – Pedestrian barriers. Discourage physical barriers to walking and bicycling between and within neighborhoods and neighborhood centers. If physical barriers are unavoidable, provide safe and comfortable crossings for pedestrians and cyclists. Physical barriers may include arterial streets with speed limits above 35 mph, transit or utility rights-of-way, very long blocks without through-streets, and sound walls, among others.

LU Goal 9 – Corridors and Connectivity. A network of transportation and open space corridors throughout the City that provides a high level of connectivity for vehicles, cyclists and pedestrians.

LU Policy 9.4 – Transportation corridors. Plan and reserve transportation corridors in coordination with land use.

- Avenues 50 and 52. Establish Avenues 50 and 52 as important cross-town corridors that connect Coachella, serve as transitions between neighborhoods, provide opportunities for local-serving retail and balance the needs of multiple transport modes.

2.1.1.2 Environmental Consequences

Alternative 1 (No-Build Alternative)

The No-Build Alternative is not consistent with State and regional plans and programs, or the City's General Plan for this area. Refer to Table 2.1.1-2, Consistency with State, Regional, and Local Plans and Programs.

Alternatives 7 and 8 (Build Alternatives)

While permanent ROW acquisition would be required, conversion of these vacant, residential, agricultural, and commercial (radio tower station) uses to a roadway use would not trigger a new land use requiring an amendment to the City's General Plan Land Use Element for both Build Alternatives 7 and 8. Relocation of the one residential use would occur within a comparable land use area in the City, which would not necessitate a General Plan Amendment. Therefore, no permanent land use impacts would occur.

As outlined above, the project is a planned project per the City's General Plan Mobility Element. Build Alternatives 7 and 8 would be consistent with State, regional, and local plans and programs, as identified in Table 2.1.1-2.

Table 2.1.1-2: Consistency with State, Regional, and Local Plans and Programs

Policy	No-Build Alternative	Build Alternatives 7 and 8
Regional Plans and Programs		
Southern California Association of Governments (SCAG) 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)	**Not Consistent.** The project is included in SCAG's 2016-2040 RTP/SCS as RTP IDs RIV061159 and RIV110825. As such, implementation of the No-Build Alternative would not be consistent with the 2016-2040 RTP/SCS since the transportation improvements that would be provided by the project would not be constructed under the No-Build Alternative.	**Consistent.** The project is included in SCAG's 2016-2040 RTP/SCS as RTP IDs RIV061159 and RIV110825. As such, implementation of Build Alternatives 7 and 8 would be consistent with the 2016-2040 RTP/SCS since the transportation improvements that would be provided by the project would be constructed under Build Alternatives 7 and 8.
Southern California Association of Governments (SCAG) 2019 Federal Transportation Improvement Program (FTIP)	**Not Consistent.** The project is included in SCAG's 2019 FTIP as Project ID RIV061159 and RIV110825. As such, implementation of the No-Build Alternative would not be consistent with the 2019 FTIP since the transportation improvements that would be provided by the project would not be constructed under the No-Build Alternative.	**Consistent.** The project is included in SCAG's 2019 FTIP as Project ID RIV061159 and RIV110825. As such, implementation of the Alternative 7 or Alternative 8 would be consistent with the 2019 FTIP since the transportation improvements that would be provided by the project would be constructed under the project.

Table 2.1.1-2: Consistency with State, Regional, and Local Plans and Programs [continued]

Policy	No-Build Alternative	Build Alternatives 7 and 8
Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP)	**Not Consistent.** The project is recognized as a Covered Activity under the CVMSHCP. In developing the conservation goals and objectives of the CVMSHCP, the project was determined to be consistent with the biological goals and objectives of the CVMSHCP. The project is located within the boundaries of the CVMSHCP, although it is not located within any identified Conservation Areas. As the project is a Covered Activity, even though it is located outside designated Conservation Areas, because the project is an identified covered project, implementation of the No-Build Alternative would not be consistent with the CVMSHCP.	**Consistent.** As indicated in the CVMSHCP Table 7-3, CVAG Regional Road Projects, Caltrans and the City of Coachella are both agencies identified in conjunction with the State Route 86/Avenue 50 New Interchange Project. Implementing Agencies are obligated to acquire land and fund the Monitoring Program, the Management program, and Adaptive Management is described in Section 6.6.1 and Section 6.6.2 of the CVMSHCP. The project is recognized as a Covered Activity under the CVMSHCP. In developing the conservation goals and objectives of the CVMSHCP, the project was determined to be consistent with the biological goals and objectives of the CVMSHCP. The project is located within the boundaries of the CVMSHCP, but is not located within any identified Conservation Areas. As such, no CVMSHCP Conservation Areas would be impacted from project implementation. Although the project is a Covered Activity located outside designated Conservation Areas, construction of the project is still expected to be consistent with the applicable avoidance, minimization, and mitigation measures set forth in Section 4.4 of the CVMSHCP. No further avoidance, minimization, and mitigation measures are required. See Section 2.3, "Biological Environment" in this chapter of this Environmental Document for more detailed discussion regarding the project's consistency with the CVMSHCP.
Local Plans and Programs		
City of Coachella General Plan Mobility Element: Goal 1 - Complete Streets, Policies 1.1, Complete streets for new construction; 1.2, Complete streets for existing roadways; 1.6, Pedestrian and cyclist safety; and 1.7, Street Beautification	**Not Consistent.** Under the No-Build Alternative, no changes to the existing roadways would occur in the project area. This alternative would not improve interchange traffic operations, nor would it contribute to the achievement of the City's mobility goals, particularly those excerpted herein as part of the City of Coachella General Plan discussion.	**Consistent.** With implementation of the Build Alternatives 7 and 8, the project would contribute to a balanced transportation system that accommodates all modes of travel safely and efficiently without prioritizing automobile travel at the expense of other modes. Through the sidewalks, dedicated LSEV lanes, LSEV connections, and accommodation of the CV Link right-of-way, the project considers all modes of travel to create safe environments for pedestrians, bicyclists, motorists, and public transit users. Not only would the project accommodate these alternative modes of transportation, but would also increase connectivity of automobiles in the area, including emergency vehicle access. Further, all City General Plan goals and policies pertaining to street trees would be incorporated into the improvements located within City right-of-way, as part of the City's design review process.
Goal 4, Bicycle Trail Network, Policies 3.3, Sidewalks for roadways; and 4.1, Bicycle networks	**Not Consistent.** Under the No-Build Alternative, no changes to the existing roadways would occur in the project area. This alternative would not improve interchange traffic operations, nor would it contribute to the achievement of the City's mobility goals, particularly those excerpted herein as part of the City of Coachella General Plan discussion.	**Consistent.** Development of Build Alternatives 7 and 8 would provide wide sidewalks and bicycle lanes along all project roadways, removing the existing physical limitations imposed by the CVSC and SR-86.

Table 2.1.1-2: Consistency with State, Regional, and Local Plans and Programs [continued]

Policy	No-Build Alternative	Build Alternatives 7 and 8
Goal 6, Sustainable Transportation, Policy 6.5, Sustainable Landscaping	**Not Consistent.** Under the No-Build Alternative, no changes to the existing roadways would occur in the project area. This alternative would not improve interchange traffic operations, nor would it contribute to the achievement of the City's mobility goals, particularly those excerpted herein as part of the City of Coachella General Plan discussion.	**Consistent.** All City General Plan goals and policies pertaining to streetscape and sustainable landscape would be incorporated into the improvements located within City right-of-way, as part of the City's design review process.
City of Coachella General Plan Land Use and Community Character Element: Policy 3.3, Pedestrian barriers	**Not Consistent.** Under the No-Build Alternative, no changes to the existing roadways would occur in the project area. This alternative would not improve the physical barriers to pedestrians and bicyclists presented by the SR-86 corridor.	**Consistent.** Build Alternatives 7 and 8 support development patterns and urban design comprised of complete, walkable streets that support healthy and active lifestyles. Implementation of the project would encourage walkability by maximizing connectivity both to the future CV Link Project, as well as between the east and west sides of SR-86.
Goal 9, Corridors and Connectivity, Policy 9.4, Transportation corridors	**Not Consistent.** Under the No-Build Alternative, no changes to the existing roadways would occur in the project area. This alternative would not improve interchange traffic operations, nor would it contribute to the achievement of the City's mobility goals, particularly those excerpted herein as part of the City of Coachella General Plan discussion.	**Consistent.** The project would enhance the City's network of transportation and open space corridors (particularly along Avenue 50, SR-86, and the CVSC), which provides a high level of connectivity for vehicles, bicyclists, and pedestrians in the project area. These corridors would increase the City's green/open space network along, and to, the CVSC.

2.1.1.3 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.1.1.4 Parks and Recreational Facilities

2.1.1.4.1 Affected Environment

There is one public park located within 0.5-mile of the project site, as described below.

- Sierra Vista Park is a park that adjoins the project site in the southwest quadrant at 50-570 Calle Mendoza, in the City of Coachella. This 2.6-acre park includes one basketball court, and a playground and picnic tables. The facility is owned and operated by the City and is open to the public.

2.1.1.4.2 Environmental Consequences

Alternative 1 (No-Build Alternative)

No temporary, permanent, and/or indirect impacts on the aforementioned parks/recreational facilities would occur with implementation of the No-Build Alternative, since no construction activity or land use changes would occur with this alternative.

Alternatives 7 and 8 (Build Alternatives)

A detailed discussion of temporary, permanent, and indirect impacts of the Build Alternatives on the aforementioned parks/recreational facilities is provided in Appendix A to this Environmental Document.

Potential project effects related to the Sierra Vista Park are discussed below.

Sierra Vista Park

As discussed above, Sierra Vista Park is a park that adjoins the project site in the southwest quadrant at 50-570 Calle Mendoza, in the City of Coachella. This 2.6-acre park includes one basketball court, and a playground and picnic tables. The facility is owned and operated by the City and is open to the public. Thus, it is considered a Section 4(f) property under the provisions of Section 4(f).

There are a number of existing electrical power poles within Sierra Vista Park that would require removal as part of Phase 1 of project construction. Specifically, there are four power poles located within Sierra Vista Park that would be removed under construction of the Build Alternatives (pole numbers T-17671; T-17672; T-17673; and T-17674). Figure A-4 of Appendix A, Project Improvements Relative to Sierra Vista Park, shows the location of the affected power poles. Construction activities associated with the power pole relocation would be of short duration (approximately one week). During this brief period, the park may require closure for safety purposes. Measure PR-1 would ensure that closure information is received by the City a minimum of 60 days in advance, so that the City would be able to provide 30 days advance notice to the neighborhood from Calle Mendoza south to Avenue 52.

Upon completion of the power pole removal, full use of Sierra Vista Park would be restored and users of the park would continue to utilize the park facilities as they currently do. The removal of the power poles would represent a beneficial impact during long-term operations, since these existing obstructions would be removed.

Construction of the re-alignment of Tyler Street is expected to be completed within one to three months. Throughout the duration of construction of the re-alignment of Tyler Street, pedestrian access to Sierra Vista Park would be maintained (aside from the maximum of one week when power pole relocation in Sierra Vista Park occurs). Park users would be able to park along the streets located in the neighborhood immediately south of the park during the re-alignment of Tyler Street and construction of the cul-de-sac. Roadside parking within walking distance of the park would be available specifically on Calle Mendoza, Calle Pizano, Corte Olivia, and Las Flores Avenue, all of which are located less than 0.25-mile from the park. Additionally, a sidewalk is currently provided along the eastern side of Tyler Street. The sidewalk along Tyler Street would remain open throughout project construction.

A temporary loss of parking for users of the park would occur during Phase 1 of project construction. There are currently 11 parallel parking stalls located on the east side of Tyler Street along the park's western border; no parking is permitted along the west side of Tyler Street. Following project completion, access to Sierra Vista Park would be provided via a new driveway extending immediately north of Calle Mendoza. This driveway would include 11 diagonal parking spaces along the eastern side and three parallel parking spaces along each side of the roadway. A cul-de-sac would be provided at the end of the driveway. Refer to Figure A-4 of Appendix A for the location of parking.

As summarized above, based on review of preliminary engineering efforts to date for the project, Caltrans anticipates concluding that the project would result in no use of Sierra Vista Park, and that regarding Sierra Vista Park, the project satisfies the criteria for a Temporary Occupancy exception as set forth in 23 CFR 774.13(d). Written correspondence took place with Ms. Maritza Martinez**,** Public Works Director at the City of Coachella, in this regard and the City provided their agreement with the temporary occupancy exception determination.

As noted above, the removal of power poles from Sierra Vista Park would take a maximum of one week, and the realignment of Tyler Street would last from one to three months. The scope of work for the project in relation to Sierra Vista Park would be minor and would result in beneficial impacts for park users after the poles are removed. This duration would be shorter than construction of Phase 1 of the project (12 months). Access to the park would be maintained continuously during the realignment of Tyler Street, and an increased amount of parking would be provided adjacent to Sierra Vista Park, as compared to existing conditions. Moreover, Measure PR-1 would require that the City of Coachella receive closure information a minimum of 60 days in advance so that the City would be able to provide 30 days advance notice to the neighborhood from Calle Mendoza south to Avenue 52. Accordingly, the project would not interfere with the protected activities, features, or attributes of the property. Additionally, there would be no change in ownership of any land associated with Sierra Vista Park.

Since the project would result in no use of Sierra Vista Park, this facility meets the Section 4(f) exception requirements of 23 CFR 774.13(d). In addition, the project would have minimal adverse constructive use effects (i.e., "proximity" impacts), that would substantially impair the activities, features, and/or attributes that qualify this facility for protection under Section 4(f), such as access (discussed above), visual/aesthetics (refer to Section 2.1.7), air quality (refer to Section 2.2.6), and noise (refer to Section 2.2.7). As such, the project would not represent a use of this resource under the provisions of Section 4(f).

The above-referenced parks and recreational resources are shown on Figure A-1 in Appendix A. These resources were evaluated to assess whether they would trigger the requirements for protection under Section 4(f). As discussed in Appendix A, although there are Section 4(f) resources located within 0.5-mile of the project area, the project would not result in a use of these Section 4(f) resources. Refer to Appendix A for additional discussion regarding evaluation of the project under Section 4(f).

In California, public parks operated by public agencies are protected by the Park Preservation Act (California Public Resources Code [PRC] Sections 5400-5409). As defined by the Park Preservation Act, "public park" means any park operated by a public agency. The Park Preservation Act 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 land, or both, to enable the operator of the park to replace the park land and any park facilities on that land. Because neither of the Build Alternatives would result in the acquisition of land in use as a public park, the requirements of the Park Preservation Act do not apply to the project.

2.1.1.4.3 Avoidance, Minimization, and/or Mitigation Measures

Refer to Appendix A, Section 4(f). Measure PR-1 would ensure that closure information for Sierra Vista Park is received by the City a minimum of 60 days in advance, so that the City would be able to provide 30 days advance notice of closure to the neighborhood from Calle Mendoza south to Avenue 52.

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2.1.2 Farmland

2.1.2.1 Regulatory Setting

The National Environmental Policy Act (NEPA) and the Farmland Protection Policy Act (FPPA, 7 United States Code [USC] 4201-4209; and its regulations, 7 Code of Federal Regulations [CFR] Part 658) require federal agencies, such as the Federal Highway Administration (FHWA), to coordinate with the Natural Resources Conservation Service (NRCS) if their activities may irreversibly convert farmland (directly or indirectly) to nonagricultural use. For purposes of the FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance.

The California Environmental Quality Act (CEQA) requires the review of projects that would convert Williamson Act contract land to non-agricultural uses. The main purposes of the Williamson Act are to preserve agricultural land and to encourage open space preservation and efficient urban growth. The Williamson Act provides incentives to landowners through reduced property taxes to discourage the early conversion of agricultural and open space lands to other uses.

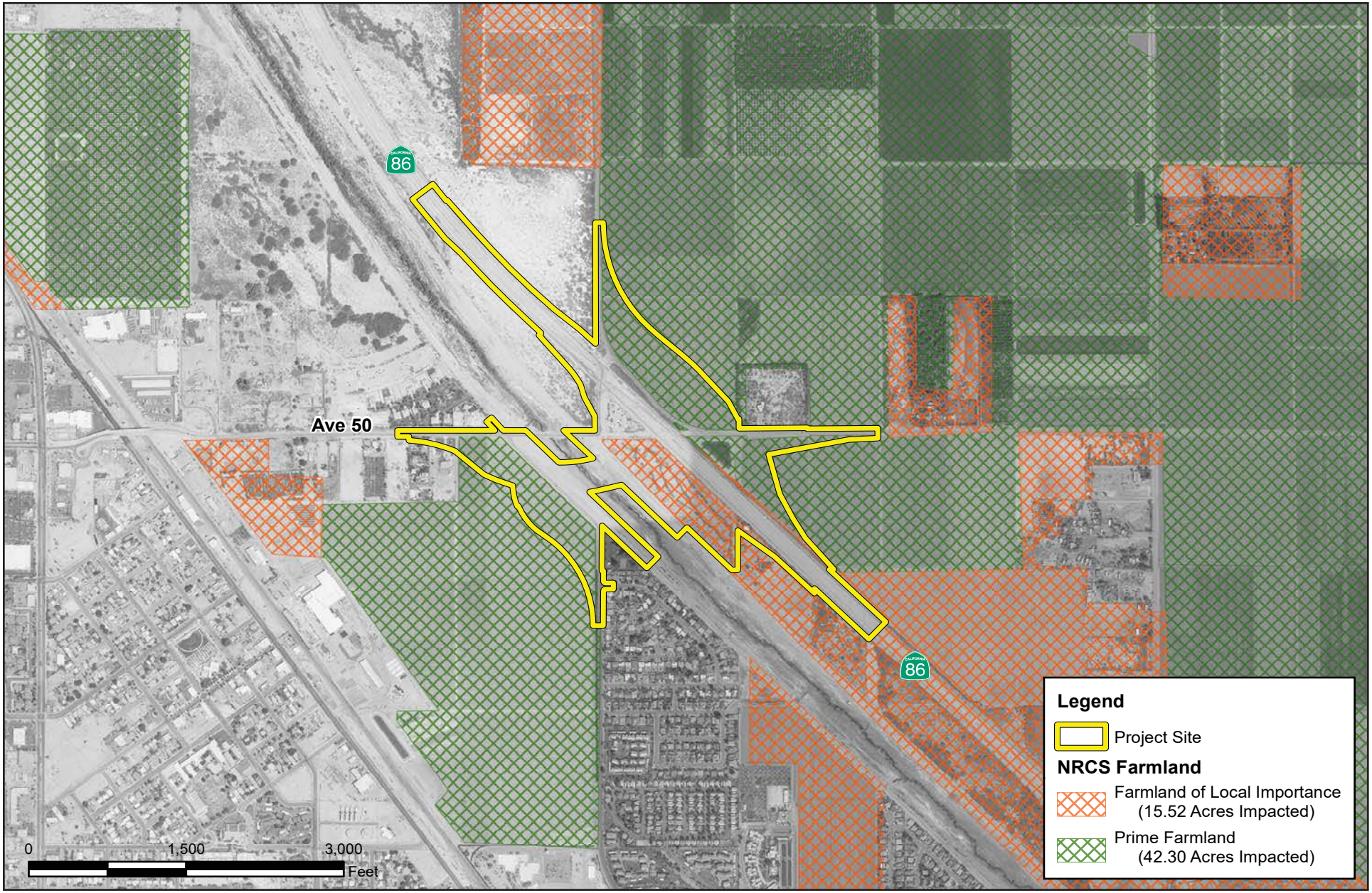
2.1.2.2 Affected Environment

Information in this section is based on the August 2018 Community Impact Assessment (CIA) that was prepared for the project.

The California Department of Conservation, Office of Land Conservation maintains a statewide inventory of farmlands. These lands are mapped by the Division of Land Resource Protection (DLRP) as part of the Farmland Mapping and Monitoring Program (FMMP). For the purposes of this analysis, farmland includes lands identified by the State of California Department of Conservation as Prime Farmland, Unique Farmland, Farmland of Statewide Importance, and Farmland of Local Importance, as well as those properties encumbered by a Williamson Act preserve contract.

Cultivated farmland, consisting of a variety of row crops, is located within both the northeast and southwest quadrants of the interchange. Row crops within the project area have historically included fruits and vegetables (lettuce, celery, broccoli, strawberries, etc.) but can vary widely due to seasonal demand and market conditions. The cultivated land in the southwest quadrant has been designated as Prime Farmland by the California Department of Conservation, DLRP. In the northeast quadrant, there are both Prime Farmland and Farmland of Local Importance designations for the cultivated land. None of these farmlands are currently committed to future development. Refer to Figure 2.1.2-1, Important Farmland Map.

There are no Williamson Act lands within the project area.



INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Important Farmland Map

11/18 | JN 159814

Figure 2.1.2-1

2.1.2.3 Environmental Consequences

2.1.2.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

Since no construction or physical changes to the environment would occur under the No-Build Alternative, no conversion of farmland would result; therefore, no temporary impacts would occur under this alternative.

Alternatives 7 and 8 (Build Alternatives)

Potential impacts to farmland associated with Phase 1 and Phase 2 construction and operation of the Build Alternatives are considered permanent. Refer to Section 2.1.2.3.2, Permanent Impacts, below.

2.1.2.3.2 Permanent Impacts

Alternative 1 (No-Build Alternative)

There would be no permanent impacts under the No-Build Alternative since no farmland conversion would occur.

Alternatives 7 and 8 (Build Alternatives)

In the context of permanent impacts to farmland, the two agricultural parcels discussed below are owned by the same entity. Accordingly, the discussion of Alternatives 7 and 8, as well as the phasing of the project (Phase 1 and Phase 2), is combined into a single discussion since implementation of either Build Alternative and would result in similar impacts and impacts would be addressed as a single project.

Construction would occur in two phases and is anticipated to last approximately 27 months. Although grading and construction impacts would be temporary, it is expected that agricultural activities will not be restored in these areas, due to a lack of accessibility for agricultural equipment. As such, these impacts to agricultural lands are considered permanent impacts. Project implementation would bisect two agricultural parcels (Assessor's Parcel Number [APN]: 778-170-011 and 603-330-010), resulting in 13.35 acres of remnant portions of the parcels following construction of the project, considered to be an indirect conversion of farmland acreage. Either Build Alternative would directly convert 44.47 acres of farmland. The total acreage of permanently impacted farmland is 57.82 acres (refer to Table 2.1.2-1: Important Farmland Conversion, and Figure 2.1.2-1: Important Farmland Map). The project is subject to the FPPA, 7 USC 4201-4209; and its regulations, 7 CFR Part 658). The FPPA requires Federal agencies to "…coordinate with the Natural Resources Conservation Service (NRCS) to examine the effects of farmland conversion…" before they approve any activity that would convert farmland. According to the FPPA, Section 658.2, farmland does not include land already in or committed to urban development. In order to determine permanent farmland impacts in the study area, per the FPPA, a Farmland Conversion Impact Rating Form (Form AD-1006) was completed for the Build Alternatives and submitted to the NRCS for review. Documentation of coordination with NRCS is provided in Chapter 4.0 of this document, Comments and Coordination.

Both Build Alternatives rated the same combined score of 179 points on the land evaluation and site assessment portion of the Form AD-1006. When the total points equal or exceed 160, it is expected that alternative actions be considered that could reduce adverse impacts. Refer to Appendix H, Farmland Impact Rating Form, of this document.

Table 2.1.2-1: Important Farmland Conversion

Alternative	Total Farmland Affected (acres)	Prime Farmland (acres)	Farmland of Local Importance (acres)	Direct Impact (acres)	Indirect Impact (acres)	Percent of Important Farmland in County	Farmland Conversion Impact Rating
Build Alternatives	57.82	42.30	15.52	44.47	13.35	0.006%	179

Although the Form AD-1006 threshold of 160 has been exceeded, Riverside County as a whole contains 419,835 acres of important farmland, meaning that the project comprises a total of 0.006 percent of important farmland in Riverside County. Additionally, the City's General Plan does not assign an "agricultural" land use designation to these areas, but rather, residential and commercial land use designations. As stated in General Plan Policy 2.14, Reserve Development Areas, subareas 13, 15, and 16 will maintain their current land or agricultural use until the identified "High Priority Development Areas" are at least 60 percent developed with urban uses or preserved open spaces. Consistent with Policy 2.14, the project site is located in subareas 6, 9, and 10, which are areas identified as "High Priority Development Areas" in the General Plan. Refer to Figure 2.1.1-2: Coachella General Plan Subareas in Section 2.1.1, Land Use, in this IS/EA.

The western portion of the project site (west of the Coachella Valley Stormwater Channel [CVSC]) is zoned "residential single family," the CVSC is zoned "open space" and the eastern portion of the project site is zoned "PUD, commercial tourist planned unit development," "agricultural reserve," and "agricultural transition." However, as a roadway project, the Build Alternatives would not result in the creation of a new land use or development that would result in a zoning conflict resulting in the need for a zone change. Although the Build Alternatives would provide infrastructure that is intended to serve future planned growth, any future development project within agricultural areas of the City would be subject to a case-by-case zoning consistency review as part of its entitlement process.

Although the Build Alternatives have received a combined score of 179 on the Form AD-1006, exceeding the threshold where alternative actions should be considered, the NRCS data indicates that the prime and unique farmland to be converted to non-agricultural use comprises just 0.006 percent of farmland in the County jurisdiction. Accordingly, the measure which has been incorporated into the project, which provides property owners with just compensation and fair market value for their property, is considered appropriate to address the project's acquisition of agricultural land for non-agricultural use.

2.1.2.4 Avoidance, Minimization, and/or Mitigation Measures

Implementation of minimization measure ROW-1 will appropriately address the project's acquisition of agricultural land for non-agricultural use.

2.1.3 Growth

2.1.3.1 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 may 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…"

2.1.3.2 Affected Environment

Information for this section was derived from the Community Impact Assessment (August 2018) that was prepared for the project. The affected environment for growth effects includes the community impact study area boundaries shown in Figure 2.1.4-1, Community Impact Study Area, in Section 2.1.4, Community Impacts, of this IS/EA.

As discussed in Section 2.1.1, Land Use, of this IS/EA, development within the City has been robust in recent years, and a substantial amount of new development is anticipated to continue throughout the City's planning horizon. Recent development trends in the City include multiple large specific plans, as well as commercial and public facilities and infrastructure that would be necessary to support the additional population that would result with implementation of these specific plans.

Population Growth Rates. Table 2.1.3-1 below, shows the projected population, housing units, and employment figures for both the City of Coachella and the County of Riverside for year 2012 and future year 2040, according to the Growth Forecast Appendix of the *2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS),* adopted by the Southern California Association of Governments (SCAG) in June 2016. This data shows that population, housing unit, and employment growth in the City will dramatically increase in the next 20 years. In fact, the City's population is projected to more than triple from about 42,000 people, to just over 146,000 in 2040. This is a major contrast to the slower rate of growth projected in Riverside County. Overall, the County's population is expected to increase from 2.2 million people to approximately 3.2 million in 2040, an increase of 41.1 percent.

Table 2.1.3-1: Population, Housing Unit and Employment Projections for the City and County

Type	Location	2012	2040
Population	City of Coachella	42,400	146,300
	Riverside County	2,245,100	3,168,000
Housing Units	City of Coachella	9,200	40,100
	Riverside County	694,400	1,048,500
Employment	City of Coachella	8,500	34,400
	Riverside County	616,700	1,174,300

Source: Growth Forecast Appendix, 2016 RTP/SCS, SCAG, June 2016, Table 11.

Planned Land Use. For the purposes of planned land use organization, Coachella is divided into 17 distinct and unique subareas. The purpose of the subareas is to define an overall vision and specific policy direction that supplements the *General Plan* designations and the citywide goals and policies. Descriptions of each of the 17 subareas are included in the Land Use and Community Character Element of the General Plan.

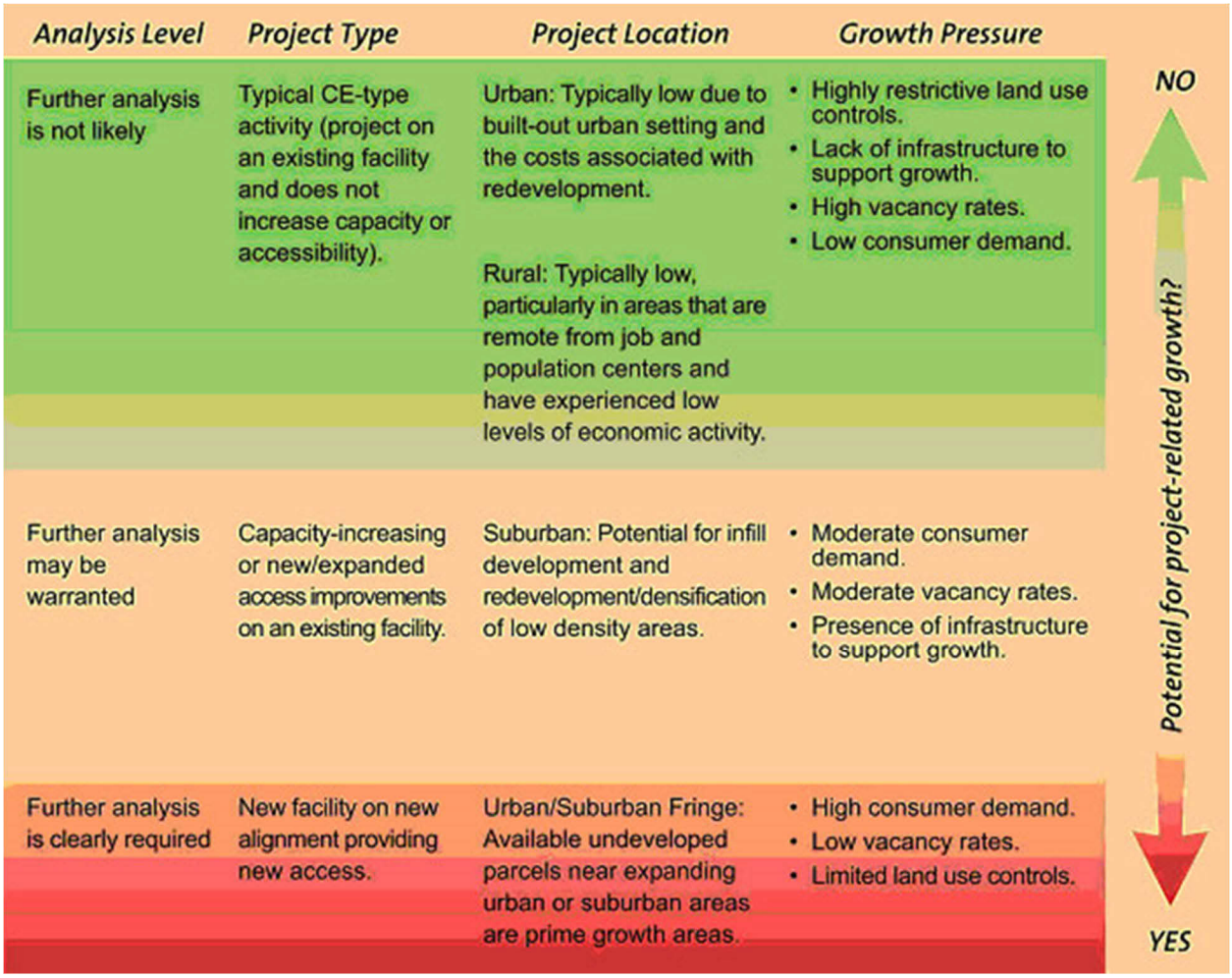
The study area encompasses seven (7) different subareas, as identified in the *General Plan.* As discussed in Section 2.1.1 of this IS/EA, the study area traverses subareas 1, 2, 4, 6, 9, 10 and 11; four out of five of which are designated as Priority Growth Areas in the General Plan, targeted for growth through City policies and actions, as described in the Land Use and Community Character Element Policy 2.12.

First-Cut Screening Methodology. According to the Caltrans guidance document titled *Guidance for Preparers of Growth-related, Indirect Impact Analyses* (May 2006), the first step in determining whether a project could potentially influence growth and development is to perform a "first-cut screening." The "first-cut screening" process evaluates the potential for growth-related effects and whether further analysis is required through addressing the following:

- How, if at all, does the project potentially change accessibility?
- How, if at all, does the project type, project location, and growth pressure potentially influence growth?
- Is project-related growth reasonably foreseeable as defined by NEPA (under NEPA, indirect impacts need only be evaluated if they are reasonably foreseeable as opposed to remote and speculative)?
- If there is project-related growth, how, if at all, will that affect resources of concern?

Figure 2.1.3-1, Analysis Considerations Related to Determining Potential for Project-Related Growth, helps illustrate the relationship between project type, location and growth pressure, and the potential for project-related growth. If the first-cut screening results in a determination that further analysis is required regarding growth, additional analysis steps must be followed, as described in Chapter 6 of the Guidance for Preparers of Growth-related, Indirect Impact Analyses (Guidance) (May 2006).

Figure 2.1.3-1: Analysis Considerations Related to Determining Potential for Project-Related Growth



Source: California Department of Transportation, *Guidance for Preparers of Growth-related, Indirect Impact Analyses* (May 2006), p. 5-8, Figure 5-2.

2.1.3.3 Environmental Consequences

The "first-cut screening" is presented below.

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

The project improvements include construction of a new interchange at an existing facility (SR-86) and new bridge on an existing facility (Avenue 50), spanning over the CVSC and replacing the existing low water crossing to eliminate flood-related hazards. Capacity associated with the existing SR-86 mainline would remain the same. Although the improvements would be implemented on existing roadway facilities, the improvements would increase local roadway capacity and provide enhanced connections to SR-86 and would subsequently also result in improved accessibility. However, no new roadways, and thus, no new access would result with project implementation. Therefore, the project is likely to result in only a low-to-moderate change in accessibility.

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

The project type is a combination of replacing an existing low water crossing with a bridge and replacing an existing signalized intersection with an interchange. Since the project would construct a new interchange and new bridge on existing facilities, subsequently enhancing access (but not resulting in new access), the project type is considered to be one that has a low-to-moderate potential to influence growth.

The project location is in the eastern portion of the City, which currently retains a sparsely-populated rural character and consists of predominately agricultural production, some residential uses, and a park. Based on the planned land use designations (subareas), projected growth for the area, and planned projects in the area, growth in the region is anticipated to occur. However, construction of the project would not influence this planned growth in the project area. Additionally, due to the lack of existing infrastructure to support the designed growth in the study area and low consumer demand, the growth pressure within the study area is considered to be low.

Is project-related growth reasonably foreseeable as defined by NEPA?

As discussed above, the project would not influence growth because the project would not directly result in substantial changes to land use or directly encourage changes in population density. Growth in the region is anticipated to occur whether or not the project is constructed. While the project would result in some improvements in accessibility due to the replacement of an existing low water crossing with a bridge and improvements in the operational performance of Avenue 50 in relation to SR-86, these improvements would not influence the attractiveness of some areas to development over others. Project-related growth is not reasonably foreseeable as defined by NEPA.

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

As discussed above, the project would not influence growth. No further analysis is required.

2.1.3.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.1.4 Community Impacts

Community Character and Cohesion

2.1.4.1 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.

2.1.4.2 Affected Environment

The information for this section is based upon the Community Impact Assessment (August 2018) that was prepared for the project. The community impact study area, shown on Figure 2.1.4-1, Community Impact Study Area, is completely contained within the boundaries of the City of Coachella. The study area includes a total area of approximately 5.95 square miles and is generally bounded by Avenue 48 to the north; the All-American Branch of the Coachella Canal to the east; primarily Avenue 52 west of SR-86 and 51st Avenue east of SR-86 to the south; and Frederick Street to the west. SR-86 bisects the study area in a northwest-southeast orientation and the Coachella Valley Stormwater Channel (CVSC) follows the SR-86 alignment on the west side.

Population and Housing

Community character is generally reflected by such demographic factors as average age, ethnicity, race, income, employment, household size, and population growth trends that are found within the study area. This data provides a snapshot of residents living in the community and helps in developing a community profile, so that the affected environment can be correctly described as it relates to communities and neighborhoods. A community profile is provided in this subsection, including a description of the populations residing within the study area and the existing housing stock within the study area.

Information from the U.S. Census Bureau was used to identify the demographic characteristics of the populations within the study area. The four census tract block groups that were selected to be analyzed were chosen because their boundaries most closely align with the community impact study area boundaries, although some of the area in these census tracts is located outside of the study area boundaries. The smaller-size block groups were chosen for analysis rather than entire census tracts because the census tracts in this area are relatively large in size and would include populations within a geographic distance that are not likely to be impacted by

project implementation. The total population within all the block groups is 7,470 residents. Refer to Figure 2.1.4-2, Study Area Census Tract Block Groups. The block groups and population of each block group include the following:

- Census Tract 456.09, Block Group 2 (population 1,140)
- Census Tract 457.06, Block Group 1 (population 3,667)
- Census Tract 457.06, Block Group 2 (population 1,128)
- Census Tract 457.07, Block Group 1 (population 1,535)

The portion of the study area east of SR-86 (Census Tract 456.09, Block Group 2) is located in a sparsely populated, rural area within the limits of the City of Coachella, whereas the portion of the study area west of SR-86 (Census Tract 457.06, Block Group 1; Census Tract 457.06, Block Group 2; and Census Tract 457.07, Block Group 1) is located within a more densely populated area that has cohesive residential neighborhoods in newer developments, as well as shopping centers with a downtown area, indicative of a high level of community activity.

General Demographics: Table 2.1.4-1, Regional, Local, and Study Area Demographics, shows general demographic information for the existing population within the study area census tract (CT) block groups (BG), the City, and the County. As shown in Table 2.1.4-1, the study area block groups share similar characteristics with the City, including average household size and median age. The block groups have a lower median household income than the City by a range of approximately $10,000 to $18,000, and they have a lower median household income than the County overall by a range of approximately $25,000 to $34,000. The low-income percentages for the block groups also tend to be higher than both the City and County, ranging from approximately 25 to 33 percent, whereas the City's low-income percentage is at nearly 28 percent and the County's low-income percentage is only 13 percent.

Table 2.1.4-1: Regional, Local, and Study Area Demographics

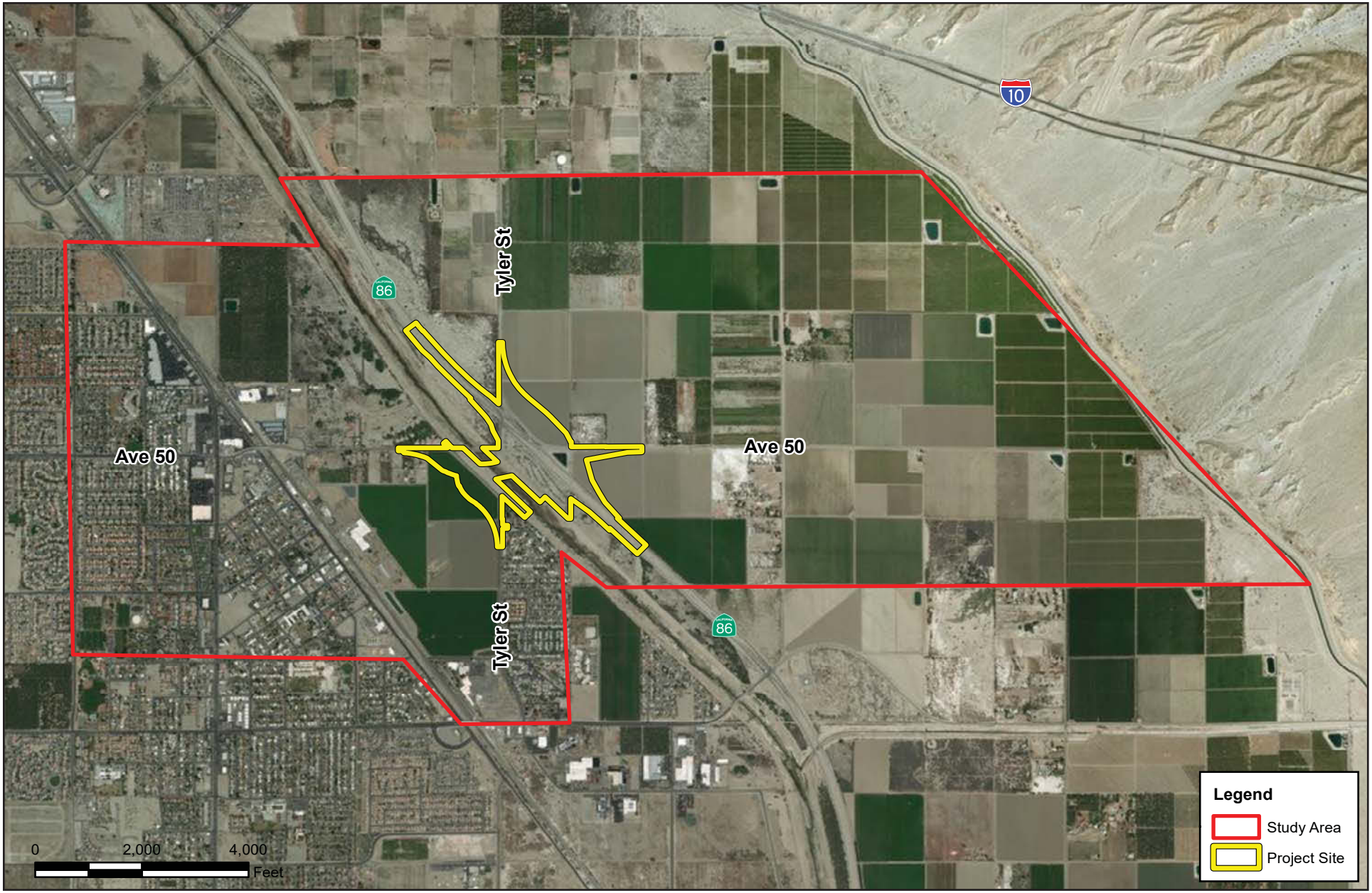
Demographics	BG 2 in CT 456.09	BG 1 in CT 457.06	BG 2 in CT 457.06	BG 1 in CT 457.07	City of Coachella	Riverside County
Total Population[1] (# of persons)	1,140	3,667	1,128	1,535	40,704	2,189,641
Average Household Size[1] (# of persons)	4.03	4.61	4.87	3.98	4.52	3.14
Median Age[1] (years)	34.6	25.4	35.4	28.7	24.5	33.7
Median Household Income[1] (dollars)	$22,656	$30,333	$30,964	$25,536	$40,423	$56,592
Low Income[1, 2] (percent)	25.4%	32.3%	31.5%	32.6%	27.9 %	13.1%

CT = Census Tract, BG = Block Group

Notes:
1. U.S. Census Bureau, 2015 American Community Survey 5-year estimates (2011-2015).
2. Percentage of families below poverty level.

Source: Community Impact Assessment, October 2018

Ethnic and Racial Composition: Table 2.1.4-2, Ethnic and Racial Composition, identifies the ethnic characteristics of the existing population within the study area block groups, the City, and the County. As shown in Table 2.1.4-2, the study area block groups have a similar ethnic and racial distribution to the City of Coachella. However, the study area block groups represent a dissimilar ethnic and racial distribution when compared to the County overall. In particular, the percentage of persons identifying as Hispanic or Latino in all the block groups, as well as the City, is more than double that of the County.

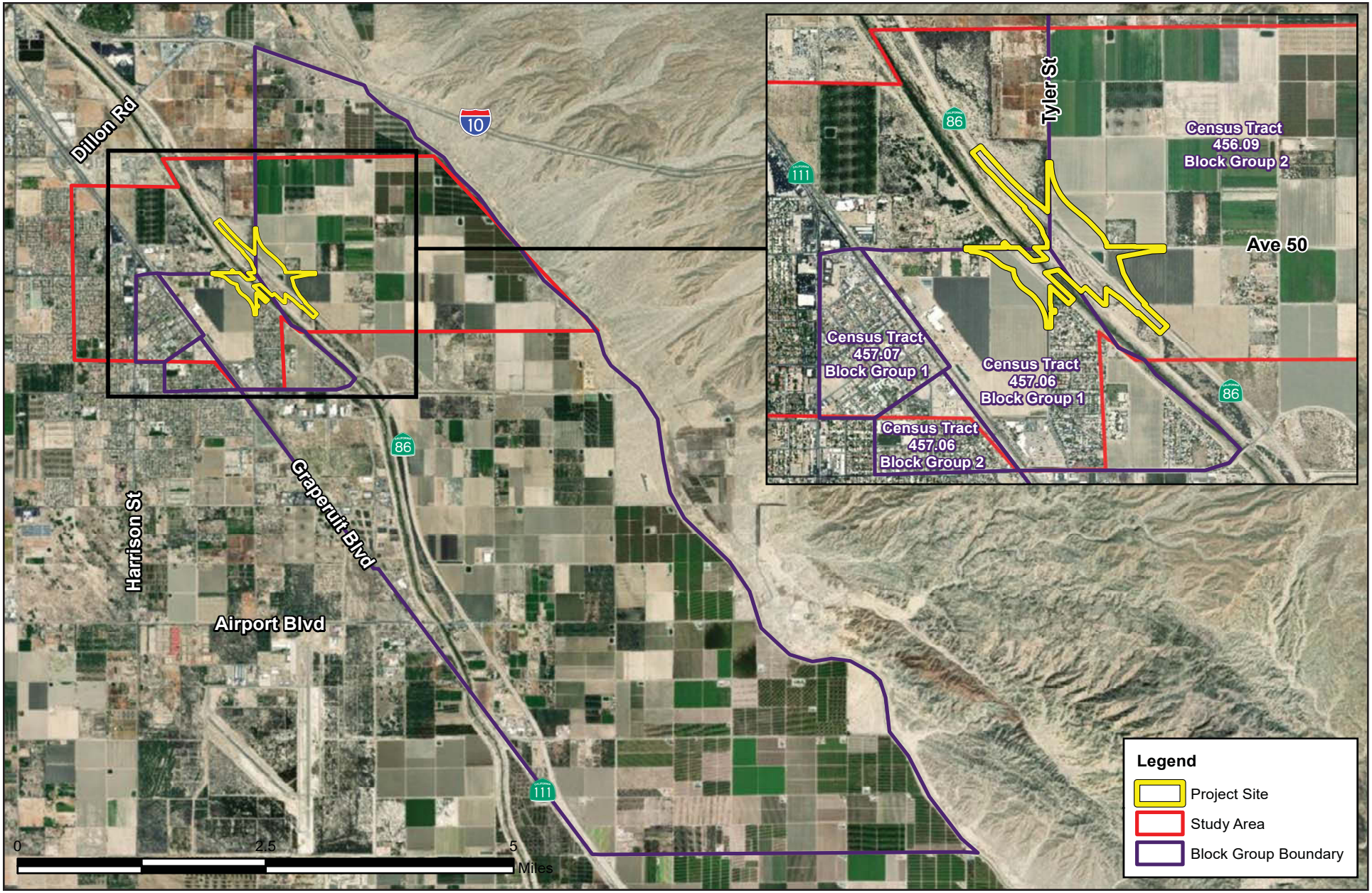


INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Community Impact Study Area

11/18 | JN 159814

Figure 2.1.4-1



INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Study Area Census Tract Block Groups

11/18 | JN 159814

Figure 2.1.4-2

Table 2.1.4-2: Ethnic and Racial Composition

Composition	BG 2 in CT 456.09	BG 1 in CT 457.06	BG 2 in CT 457.06	BG 1 in CT 457.07	City of Coachella	Riverside County
White Alone	41.8%	57.2%	45.5%	47.4%	48.1%	61.0%
Black or African American Alone	0.8%	0.7%	2.2%	0.6%	0.8%	6.4%
American Indian/Alaska Native Alone	1.0%	0.5%	1.0%	0.9%	0.7%	1.1%
Asian Alone	1.4%	0.4%	0.3%	0.0%	0.7%	6.0%
Native Hawaiian/Other Pacific Islander Alone	0.0%	0.1%	0.2%	0.3%	0.1%	0.3%
Some Other Race Alone	53.4%	38.2%	48.1%	47.2%	47.1%	20.5%
Two or More Races	1.5%	2.8%	2.7%	3.6%	2.6%	4.8%
Hispanic or Latino (any race)	96.5%	98.5%	98.1%	96.2%	96.4%	45.5%

CT: Census Tract, BG: Block Group

Note:
1. 2010 Decennial Census Data was used for this table because it is the Caltrans standard data set for discussion of minority populations.

Source: Community Impact Assessment, October 2018.

Housing: The City's General Plan Housing Element Technical Appendix contains a discussion of the City's housing stock characteristics. The proportion of units by housing type has remained stable over the last 20 years. Single-family units constitute the majority of the housing stock in the city. In 2000, 68 percent of the housing stock was single-family units, increasing to 73 percent in 2010. From the 2000 and 2010 US Census, structures with 5 or more units increased slightly; in 2000, when they represented 10 percent of the units, and in 2010, they represented 11 percent of the housing stock. From 2000 to 2010, the number of housing units in Coachella increased by 4,359.

From 2000 to 2010, there was a change in housing tenure (owner-occupied versus renter-occupied) within the City. Owner-occupied households outpaced renter-occupied households in Coachella, with 5,586 owner-occupied households and 3,412 renter-occupied households in 2010. Both renter and owner households have experienced numeric increases between 2000 and 2010. In comparison to Coachella, Riverside County has a higher proportion of owner households. Although both owners and renters continue to increase numerically, the proportion of owner households in the county continues to rise. Approximately 67 percent of county households were owners, while 62 percent of city households were owners.

Vacancy trends in housing are analyzed using a vacancy rate, which establishes the relationship between housing supply and demand. For example, if the demand for housing is greater than the available supply, then the vacancy rate is low and the price of housing will most likely increase. Additionally, the vacancy rate indicates whether or not Coachella has an adequate housing supply to provide choice and mobility. U.S. Department of Housing and Urban Development (HUD) standards indicate that a vacancy rate of five percent is sufficient to provide choice and mobility.

General existing housing stock conditions were also assessed based on an exterior survey of quality, condition and improvements needed. Each residential structure was scored according to structural criteria established by the California Department of Housing and Community Development in five categories: foundation, roofing, siding, windows and electrical. Based on scores assigned for each category, housing structures were rated as "sound," "dilapidated" or in need of minor, moderate or substantial repairs. Survey findings indicated that the majority of

units, 73 percent, were in sound condition or in need of minor repair, and approximately 27 percent of units were in need of moderate or substantial rehabilitation or were dilapidated.

The median housing unit value, based on the U.S. Census Bureau's most recent American Community Survey (2015), is $151,700. According to the General Plan Housing Element Technical Appendix, Coachella has remained relatively affordable as compared to other areas of the region in terms of housing costs. Based on the point-in-time analysis done for housing and rental costs, very low-income households have access to up to three-bedroom rental houses. Similarly, most of the houses currently for sale in the city are affordable to low-and moderate-income households.

Of the 9,903 existing housing units in Coachella, 197 units (2 percent) of the available housing units were vacant rental units. An additional 388 units (4 percent) were vacant for-sale units. The remaining 316 vacant housing units (3 percent) comprised rented and sold but unoccupied units, seasonal units or uncategorized units. Approximately 905 (9 percent) of the total housing units in the city were vacant in 2010. Based on the U.S. Census Bureau's most recent American Community Survey (2015) vacancy rate of 7.1 percent for the community,[1] it is anticipated that there will be sufficient single-family residences that are equal to or better than the displacement properties available for rent or purchase.

In addition, the City's Regional Housing Needs Allocation (RHNA) new construction goal is 6,771 housing units (2,614 of which are for lower-income households) in the 2014-2021 timeframe; a total of 4,795 units have been entitled.[2] The City has ample land to accommodate housing appropriate for households with a wide variety of needs and lifestyles, and has identified sites already approved for residential development as well as vacant parcels and underutilized sites that will be appropriate to meet the remaining lower-income RHNA for the current and previous planning cycles.

Economic Conditions

Jobs/Employment: Major employers in the study area include two schools, agricultural/produce processing facilities (all of which are located west of SR-86), and various commercial/retail, wholesale and food establishments in the downtown area as well as along the Harrison Street Corridor. Also located downtown within the study area are several city government agencies, a post office, and a public water agency (CVWD), located just to the southeast of downtown along Highway 111.

The number of jobs in the City overall has increased in the last decade. According to the Southern California Association of Governments' (SCAG) most recent city profile available for the City, in 2015, total jobs in the City numbered 12,222, an increase of 89.1 percent from 6,463 total jobs in 2007. The wholesale sector was the largest job sector, accounting for 22.8 percent of total jobs in the City. Other large sectors included education (13.7 percent), leisure (11.1 percent), and retail (9.7 percent). Agricultural jobs accounted for 9.0 percent, down from 29.1 percent in 2010.[3]

Unemployment Rates: Unemployment data from the U.S. Census Bureau are not available at the census tract or census block group level. Therefore, only City and County unemployment data are included herein. According to the 2015 American Community Survey (ACS), the

[1] U.S. Census Bureau website, https://factfinder.census.gov/, accessed 8-22-17.

[2] City of Coachella General Plan Update 2035 Housing Element, January 2014, Chapter 11, *Housing,* p. B-36 through B-38.

[3] Southern California Association of Governments (SCAG) Profile of the City of Coachella, May 2017, p. 27.

unemployment rate for the population age 16 and over in the City of Coachella in year 2015 was 17.9 percent, as compared to that of Riverside County at 12.9 percent. This represents an increase in the unemployment rate of 14.9 percent in year 2010 in the City, and 11.2 percent in the County, although the approximate 4 to 5 percent margin between the City and County remained similar.

Jobs/Housing Ratio: The jobs-housing ratio is a basic tool to measure whether the number of jobs and housing units within a community are roughly equivalent. According to the City's General Plan, the City's jobs-housing ratio was 0.65 (5,831 jobs ÷ 8,998 housing units) in 2010. The recommended standard for jobs-housing unit ratios is based on the assumption the average number of workers per household is approximately 1.5. As such, the City's jobs-housing ratio is significantly lower than the recommended standard, indicating the area is job-poor, requiring many of the workers to travel outside the jurisdiction to find employment.

The General Plan states that the City intends to attract employers to the area that will help diversify its employment base, while continuing employment growth through the existing base. In conjunction with implementation of the City's RHNA new home construction of 6,771 housing units in the 2014-2021 timeframe, improvement of the jobs-housing ratio is a goal the City intends to pursue.

Property Tax Revenue: The City of Coachella Comprehensive Annual Financial Report for Fiscal Year Ended June 30, 2017, provides a list of the top 25 principal property tax payers within the City, which include a variety of local businesses in several different industries including, but not limited to, agricultural producers, residential construction companies, real estate/land development companies, big-box retail establishments, combustible ordnance manufacturing, and others. In the 2016-17 fiscal year, the City estimated a total taxable property value of over $273 million for these principal property tax payers, which accounted for 16.42 percent of the total city taxable value.[4]

At the county level, the County of Riverside Assessor-County Clerk-Recorder 2017-18 Annual Report provides a breakdown of the annual assessment analysis for both secured and unsecured property, by land type. In 2017, the gross value of secured agricultural property in the County was nearly $3.3 billion with a 1.26 percent value percentage. The gross value of unsecured agricultural property in the County was approximately $99 million with a 1.18 percent value percentage.[5]

Property tax information for Peter Rabbit Farms and Cardinal Distributing Co. Inc. is currently unavailable. However, the Riverside County Assessor ParcelQuest website identifies a total land and improvement assessment value for year 2018 of $55,149 for Assessor's Parcel Number (APN) 778-170-011, and $165,631 for APN 603-330-010, for a total of assessment value of $220,780.[6] Of note, while several of the 25 principal property tax payers listed above are agricultural companies, Peter Rabbit Farms and Cardinal Distributing Co. Inc. are not included on the list.

Community Facilities

Community facilities are those services and institutions that the local population relies on for their health and welfare and as a means to interact with other members of the community. Such

[4] City of Coachella Comprehensive Annual Financial Report for Fiscal Year Ended June 30, 2017, p. 122.
[5] County of Riverside Assessor-County Clerk-Recorder 2017-18 Annual Report, pp. 10-11.
[6] County of Riverside Assessor-County Clerk-Recorder website, http://www.asrclkrec.com/Assessor/AssessorServices/PropertyInformationCenter.aspx, accessed 8-10-18.

places serve the normal daily functions of a community or neighborhood; these can generally include—but are not limited to—schools, religious institutions and/or places of worship, medical institutions, senior centers and community centers. Existing community facilities located within the study area include two elementary schools, one library, and one place of worship as listed below.

- Cesar Chavez Elementary School located at 49601 Avenida De Oro (student population of 988 students);
- Palm View Elementary School located at 1390 7th Street (student population of 556 students);
- Coachella Library located at 1538 7th Street; and
- Islamic Society of Palm Springs located at 84650 Avenue 49.

Community facilities can also include parking facilities and bike paths/walkways because they also influence the character of a community. A separate discussion of these facilities is included in the "Transportation and Traffic/Pedestrian and Bicycle Facilities" discussion below.

Art in Public Places: The City has implemented its Art in Public Places Program as part of its effort to enhance the enrichment of the community through fine arts, visual arts, performing arts, arts education, historic preservation and cultural issues. Art in public places are intended to promote the general welfare of the public through the acquisition and installation of public art works (Municipal Code Chapter 4.48),[7] and include various paintings and murals located on walls throughout the City. There are several facilities containing art as part of this Program within the study area (although none exist within the project footprint), such as those located on walls along Vine Street and 6th Street in the downtown area. It should be noted that the Program is an important vehicle for integration of cultural affairs into the social and economic fabric of the City, and as such, would be considered a resource that is integral to the health of the existing community character.

Transportation and Traffic/Pedestrian and Bicycle Facilities

The complete streets goals and policies in the General Plan Mobility Element address both automobile travel as well as the movement of bicycles, pedestrians, and transit users to create a balanced transportation system in which all modes of travel are treated equally. This balance would enhance roadway operations and the wellbeing of the community. Currently, there are no existing bike lanes or sidewalks in the study area with the exception of a sidewalk along the eastern side of Tyler Street. Figure 2.1.4-3, Existing and Planned Transportation Facilities and Public Transportation, shows existing and reasonably foreseeable transportation facilities for motorized use (roadways) and non-motorized use (bicycle lanes and trails) related to the study area.

Public transportation in Coachella is operated by SunLine Transit Agency (SunLine), which enables commuters to travel within the City and adjacent cities with minimal transfers. Sunline operates one bus route within the study area, Line 95. The alignment of Line 95 within the study area (along Avenue 50 and Tyler Street) is shown on Figure 2.1.4-3.

2.1.4.3 Environmental Consequences

The project footprint for both Build Alternatives is similar; therefore, the discussion of Alternatives 7 and 8 below is combined into a single discussion of Build Alternatives, since implementation of either of the Build Alternatives would result in similar impacts.

[7] City of Coachella website, accessed 3-3-16. http://www.coachella.org/residents/art-in-public-places.

Population and Housing

Temporary Impacts

Alternative 1 (No-Build Alternative)

Since no construction or physical changes to the environment would occur under the No-Build Alternative, no changes to the existing population characteristics or existing housing would result; therefore, no temporary impacts would occur under this alternative.

Alternatives 7 and 8 (Build Alternatives)

Phase 1 and 2 construction of the Build Alternatives would result in temporary noise and traffic impacts within the study area, which may affect existing populations residing in the study area. However, access to the neighborhoods within the study area would be maintained throughout the duration of construction, and a Transportation Management Plan (TMP) would be implemented during the Plans, Specifications, and Estimates (PS&E) phase. The Caltrans TMP Guidelines identifies the processes, roles, and responsibilities for preparing and implementing TMPs, as well as useful strategies for reducing congestion and managing work zone traffic impacts. The primary objective of the TMP is to maintain safe movement for vehicles, pedestrians, and bicyclists through the construction zone, as well as minimize traffic delays during the construction period. Temporary impacts regarding population and housing would not be substantial.

Permanent Impacts

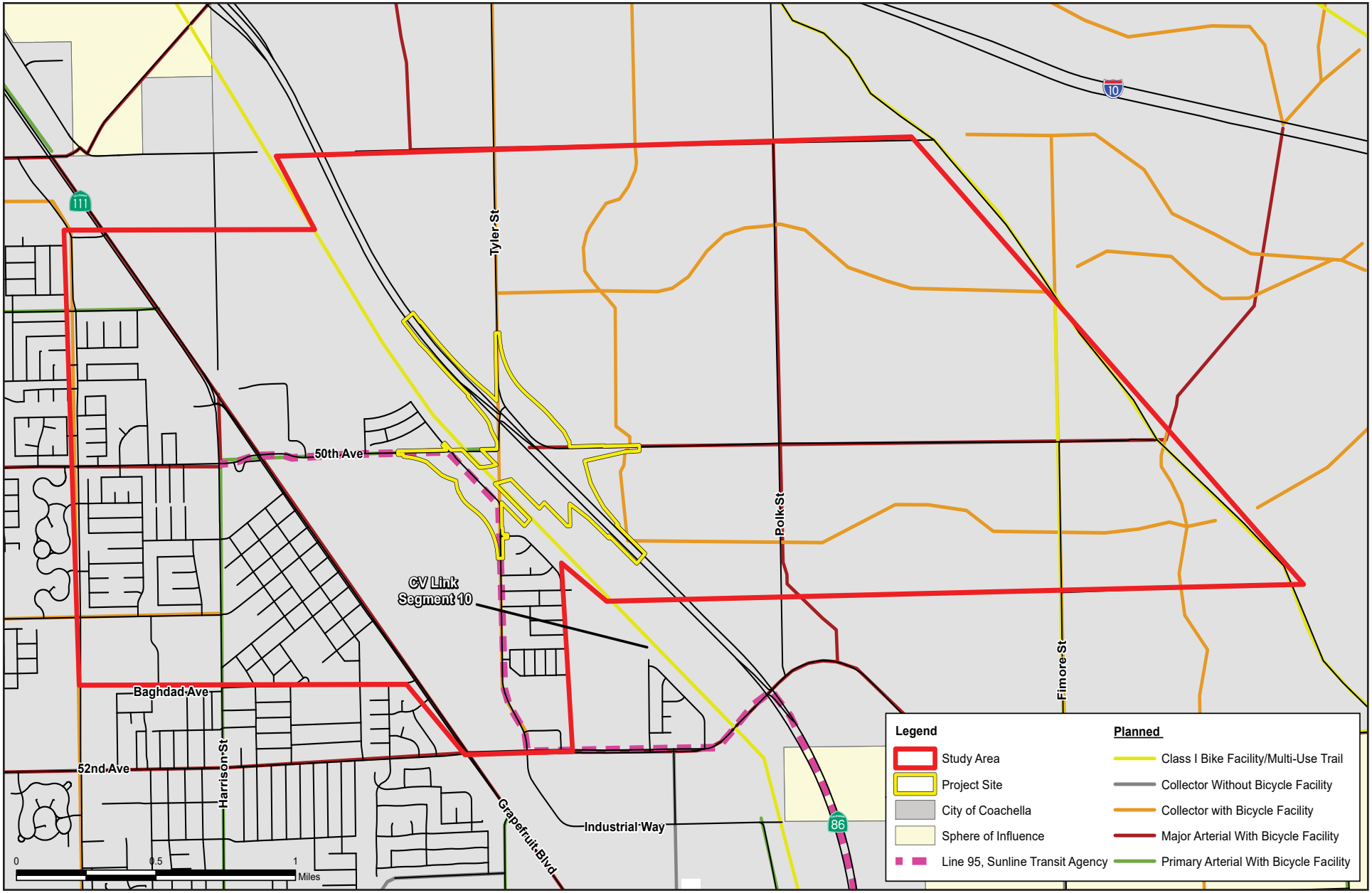
Alternative 1 (No-Build Alternative)

There would be no permanent impacts related to population and housing under the No-Build Alternative since no physical changes to the existing environment would occur.

Alternatives 7 and 8 (Build Alternatives)

The Build Alternatives would not result in impacts with regard to general demographics or ethnic and racial composition. The project would not divide neighborhoods, since the improvements would occur on existing roadways, nor would the project separate residences from any community facilities in the study area. It is not expected that the Build Alternatives would result in disproportionate effects to minority populations; refer to the “Environmental Justice” discussion below for further analysis regarding Environmental Justice.

The Build Alternatives propose implementation of transportation infrastructure improvements and would not construct any new housing. One residence would be displaced under the Build Alternatives during Phase 2 of the project. According to the Final Relocation Impact Memorandum (FRIM) that was prepared for the project, the City has sufficient replacement housing within its existing housing stock, and impacts related to housing under the Build Alternatives would be nominal. Refer to the “Relocations and Real Property Acquisition” discussion below for further analysis regarding relocations and real property acquisition.



Source: Coachella General Plan 2035.

INITIAL STUDY/ENVIRONMENTAL ASSESSMENT
STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Existing and Planned Transportation Facilities and Public Transportation

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Figure 2.1.4-3

Economic Conditions

Temporary Impacts

Alternative 1 (No-Build Alternative)

Since no construction would occur under the No-Build Alternative, existing economic conditions would remain and no impacts regarding economic conditions would occur under this alternative.

Alternatives 7 and 8 (Build Alternatives)

The Build Alternatives involve construction of transportation infrastructure improvements that would require expenditures on labor and materials. No fiscal impact analyses were prepared for the project to quantify potential economic impacts related to employment. However, construction activities associated with both Phase 1 and Phase 2 of the Build Alternatives would provide minor temporary economic benefit to the region through these expenditures and through additional employment opportunities, but such effects would not be substantial given the small size of the development and the relatively large size and diversity of the local economy. Implementation of the Build Alternatives would not appreciably change the economic character or employment stability of the surrounding area.

Construction of the Build Alternatives is not anticipated to result in impacts to existing businesses in the project area regarding access to local businesses. As noted above, a TMP will be prepared during the PS&E phase. A component of the TMP will include ensuring access to business operations is maintained throughout the duration of construction.

Permanent Impacts

Alternative 1 (No-Build Alternative)

No permanent physical changes to the environment would be implemented under the No-Build Alternative and no impacts are anticipated.

Alternatives 7 and 8 (Build Alternatives)

Because the project involves transportation improvements and would not construct any residential or commercial uses or permanent employment opportunities, operation of the Build Alternatives is not expected to result in any change to the existing employment in the project area, and no impacts are anticipated.

Operation of the Build Alternatives is not anticipated to result in impacts with regard to jobs. Two agricultural/produce processing facilities located in the study area would be affected by real property acquisition in both Phase 1 and Phase 2 of the project, as discussed in the "Relocations and Real Property Acquisition" discussion below. These agricultural facilities currently provide employment in the City. Although, based on preliminary engineering efforts, potential partial and full permanent acquisition of parcels associated with Peter Rabbit Farms and Cardinal Distributing Co. Inc. are anticipated under either of the Build Alternatives, these businesses would not be displaced as a result of project implementation and employment opportunities would continue. Additionally, the project would not otherwise result in changes to locations of employment centers, or new permanent employment opportunities. As such, the Build Alternatives are not expected to affect existing unemployment rates.

As a transportation project, the Build Alternatives are not expected to contribute to the need for new housing or employment and are therefore not expected to result in any change to the existing jobs/housing ratio in the City.

Operation of the Build Alternatives is not anticipated to result in substantial impacts with regard to property tax revenue in the City. Two agricultural/produce processing facilities located in the study area would be affected by real property acquisition in both Phase 1 and Phase 2 of the project, as discussed in the "Relocations and Real Property Acquisition" discussion below. As discussed above, the 2018 land and improvement assessment value for the agricultural lands that will be affected by the project was $220,780, according to the Riverside County Assessor. This represents a very minor percentage (0.0008 percent) of the City's total taxable property value of over $273 million for the top 25 principal property tax payers in the City. A formal land value appraisal for these agricultural lands will be conducted at a later phase of the project, however, based on the preliminary analysis discussed above, agricultural acquisitions associated with either of the Build Alternatives are not expected to result in a substantial loss of property tax revenue.

Community Facilities

Temporary Impacts

Alternative 1 (No-Build Alternative)

No temporary impacts regarding community facilities would occur with implementation of the No-Build Alternative since no construction activity would occur with this alternative.

Alternatives 7 and 8 (Build Alternatives)

There are no community facilities situated within the design footprint associated with the Build Alternatives. However, as noted above, there are a number of community facilities located in the study area. Access to community facilities in the study area will not be impacted during construction of the project.

Permanent Impacts

Alternative 1 (No-Build Alternative)

No permanent impacts regarding community facilities would result with implementation of the No-Build Alternative since no physical changes to the environment would occur under this alternative.

Alternatives 7 and 8 (Build Alternatives)

There are no community facilities located within the design footprint associated with the Build Alternatives. Existing community facilities located within the study area include two elementary schools, one library, and one place of worship. Operation of the Build Alternatives would not impact these facilities. The Build Alternatives would provide direct and dependable access over the CVSC by replacing the existing low water crossing with a new bridge, allowing uninterrupted travel to and out of Coachella when flooding and debris flows occur. The Build Alternatives would also improve operational efficiency by replacing the existing SR-86/Avenue 50 at grade intersection with a new grade separated overcrossing structure, which would eliminate conflicts between local cross traffic and mainline traffic streams. These would be considered beneficial impacts relative to community facilities and patrons traveling to such facilities.

There are no identified locations of art in public places within the project footprint, and the locations of art in public places that are located within the overall study area would not be affected by the Build Alternatives due to their distances from the project area.

Project Features That Will Avoid or Minimize Community Impacts

Transportation and Traffic/Pedestrian and Bicycle Facilities

Temporary Impacts

Phase 1

Alternative 1 (No-Build Alternative)

No temporary impacts regarding access, circulation and parking or public transit would occur with implementation of the No-Build Alternative since no construction activity would occur with this alternative.

Alternatives 7 and 8 (Build Alternatives)

All construction activity associated with Phase 1 of the project will occur west of SR-86 and will not include any work on SR-86. The Build Alternatives would result in temporary construction impacts that are anticipated to result in some instances of vehicular travel within the construction area being restricted and/or detoured; however, these disruptions are expected to be temporary, and would cease once construction of the project is complete. Construction-related detours will be finalized during the final design phase; however, construction of the improvements have been examined relative to the existing transportation system and it has been determined that no long-term lane closures would be necessary. Refer to Figure 2.1.6-4, Phase 1 Detour Map, in Section 2.1.6 of this document. The current alignment Avenue 50 crossing the CVSC at ground level would remain open at all times during the construction of the bridge crossing over the channel, maintaining access to the local street network west of SR-86. In conjunction with constructing the completion of the access to the new bridge across the CVSC from the existing portion of Avenue 50, which turns north and becomes Tyler Street, flagging will be used to manage travel through this area. The duration of this construction activity is anticipated to be approximately one week. Following completion of this work, it is anticipated local traffic will be able to utilize the new bridge across the CVSC.

The Build Alternatives would also accommodate the planned CV Link multi-modal pathway, that would extend along the western side of the CVSC within the project area.

Traveler information strategies will include Portable Changeable Message Signs to advise motorists to divert at remote advance decision points beginning approximately one week ahead of the start of construction, as well as announcement of lane closure locations and detours on the City's website. This is expected to ensure sufficient advance notice of lane closures is provided to local residents and businesses.

Construction of the Build Alternatives will include re-alignment of the portion of existing Tyler Street from just south of the Calle Mendoza/Tyler Street intersection, north, to where existing Tyler Street turns toward Avenue 50. There are currently 11 parallel parking stalls located on the east side of Tyler Street along the park's western border; no parking is permitted along the west side of Tyler Street. The re-alignment of this part of Tyler Street will result in the existing on-street parking available on Tyler Street, immediately adjacent to Sierra Vista Park, being replaced with a

new cul-de-sac, that will be accessed from Calle Mendoza. The new cul-de-sac will be designed to provide angled parking for nine vehicles, plus angled parking for two dedicated (signed) handicap-access parking spaces, plus parallel parking spaces for six more vehicles. A temporary loss of parking for users of the Sierra Vista Park will occur during construction.

Construction of the re-alignment of Tyler Street is expected to be completed within one to three months. Throughout the duration of construction of the re-alignment of Tyler Street, pedestrian access to Sierra Vista Park will be maintained (aside from the maximum of one week when power pole relocation in Sierra Vista Park occurs). Park users would be able to park along the streets located in the neighborhood immediately south of the park during the re-alignment of Tyler Street and construction of the cul-de-sac. Roadside parking within walking distance of the park would be available specifically on Calle Mendoza, Calle Pizano, Corte Olivia, and Las Flores Avenue, all of which are located less than 0.25-mile from the park. Additionally, a sidewalk is currently provided along the eastern side of Tyler Street. The sidewalk along Tyler Street would remain open throughout project construction. Following project completion, access to Sierra Vista Park would be provided via a new driveway extending immediately north of Calle Mendoza. This driveway would include 11 diagonal parking spaces along the eastern side and six parallel parking spaces along both sides of the roadway. A cul-de-sac would be provided at the end of the driveway.

The existing sidewalk adjacent to Sierra Vista Park will be maintained, however, from the top of the cul-de-sac, a paved pedestrian/bicycle access ramp will be constructed to where a portion of the future CV Link will be constructed (on top of the embankment adjacent to the CVSC).

The City of Coachella would receive closure information related to Sierra Vista Park a minimum of 60 days in advance so that the City would be able to provide 30 days advance notice to the neighborhood from Calle Mendoza south to Avenue 52.

The components of the TMP that will be implemented during construction, will help to ensure that construction impacts to local traffic circulation are as minimal as possible. The TMP will be finalized during the PS&E phase associated with Phase 1 of the project.

Phase 1 construction of the Build Alternatives would not restrict accessibility for public transportation within the study area. The nearest bus stop is located approximately 0.25-mile to the southwest of the project site; there are no bus stops located within the project area. If road closures are required during construction, Line 95 would be temporarily diverted. Coordination with SunLine regarding potential bus route diversions during construction would occur throughout the construction phase and temporary impacts would not be substantial.

Phase 2

Alternative 1 (No-Build Alternative)

No temporary impacts regarding access, circulation, and parking or public transit would occur with implementation of the No-Build Alternative since no construction activity would occur with this alternative.

Alternatives 7 and 8 (Build Alternatives)

Most of the construction activity associated with Phase 2 of the project will occur east of SR-86, with the exception of the work necessary to complete the new on- and off-ramps to northbound and southbound SR-86. Construction of the new on- and off-ramps to northbound SR-86 will occur east of SR-86. Construction of the new on- and off-ramps to southbound SR-86 as well

as related local access to the new SR-86/Avenue 50 interchange from the west, will occur west of SR-86. The Build Alternatives would result in temporary construction impacts that are anticipated to result in some instances of vehicular travel within the construction area being restricted and/or detoured, however these disruptions are expected to be temporary, and would cease once construction of the project was complete.

Construction of realigned Tyler Street to realigned Avenue 50 is expected to result in a 10-day full closure at the intersection of Tyler Street and Avenue 50. A temporary detour will be constructed in advance to manage traffic through this existing intersection during construction. Construction of new alignment of Avenue 50 to existing alignment of Avenue 50 at the eastern limits of the project with respect to Avenue 50, is expected to be accomplished through flagging only and is anticipated to be completed in 10 days. Completion of construction of the northbound on-ramp to SR-86, which will involve permanent removal of access to SR-86 via the existing Tyler Street/ Avenue 50 intersection with northbound SR-86, is expected to be completed in one month. This part of Phase 2 construction will require a detour for traffic on Avenue 50 and for traffic on Tyler Street, to address access to northbound SR-86. Refer to Figure 2.1.6-5, Phase 2 Detour Map. Completion of construction of the southbound off-ramp to Avenue 50, which will involve permanent removal of access to SR-86 via the existing Tyler Street/Avenue 50 intersection with southbound SR-86, is expected to be completed in one month. This part of Phase 2 construction, which will coincide with the construction related to the northbound on-ramp, will require a detour for traffic on Avenue 50, to address access to southbound SR-86. The respective detours related to construction of the new on-ramp to northbound SR-86 and construction of the new off-ramp from southbound SR-86 will be in place until the new interchange is open for traffic.

Traveler information strategies will include Portable Changeable Message Signs to advise motorists to divert at remote advance decision points beginning approximately one week ahead of the start of construction, as well as announcement of lane closure locations and detours on the City's website. This is expected to ensure sufficient advance notice of lane closures is provided to local residents and businesses.

The portion of the project setting associated with Phase 2 currently includes no sidewalks or bicycle facility designations. As discussed in the "Permanent Impacts" discussion below, completion of Phase 2 of the project will result in construction of some new sidewalks and bicycle facilities. The bicycle facilities will involve usage of paved 10-foot shoulders and include "share the road" signage as well as "no parking" signage for regular motorized vehicles. The bicycle facilities will be shared and also signed for low-speed electric vehicles (LSEV).

Phase 2 construction of the Build Alternatives would not restrict accessibility for public transportation within the project area. The nearest bus stop is located approximately 0.25-mile to the southwest of the project site; there are no bus stops located within the project area. If road closures are required during construction, Line 95 would be temporarily diverted. Coordination with SunLine regarding potential bus route diversions during construction would occur throughout the construction phase and temporary impacts would not be substantial.

Permanent Impacts

Phase 1

Alternative 1 (No-Build Alternative)

Under the No-Build Alternative, improvements that would improve mobility and traffic operations would not be constructed.

Alternatives 7 and 8 (Build Alternatives)

Long-term operation of either of the Build Alternatives would replace an existing low water crossing of the CVSC with a bridge structure; and improve operational performance by replacing an existing at grade intersection with a new grade separated overcrossing structure. In addition, a multi-modal pathway is proposed along the alignment of Avenue 50, and along the CVSC alignment, as part of the CV Link Project. Regional benefits that are anticipated with implementation of the CV Link include alternative transportation resulting in a reduction in traffic congestion and air quality improvement, and the enhancement of safety.[8] The project would fully accommodate the CV Link project design features within the project area.

Implementation of Phase 1 of the project would not construct any improvements that would affect existing transit service or transit stops within the project area. Long-term operation of either of the Build Alternatives would not reduce transit service or alter access to transit stops within the project area, including SunLine bus service and stops located along the alignment of Line 95. Therefore, the Build Alternatives would not result in impacts to public transportation.

Phase 2

Alternative 1 (No-Build Alternative)

Under the No-Build Alternative, improvements that would improve traffic operations would not be constructed.

Alternatives 7 and 8 (Build Alternatives)

Long-term operation of either of the Build Alternatives is expected to result in beneficial traffic and transportation impacts. The project would construct a new interchange on SR-86 with a new overcrossing structure and access ramps, which would accommodate traffic for existing and planned development in the area. The project would also improve traffic operations by enhancing level of service (LOS) at local street intersections and adjacent interchanges. The improvements also include realignment and widening of Avenue 50 from the existing two-lane roadway to a six-lane major arterial, and realignment of Tyler Street on both the east and west side of SR-86.

As discussed in Section 2.1.1, Land Use, of this IS/EA, an increase of six parking stalls would be provided for Sierra Vista Park under the Build Alternatives, as compared to existing conditions. Therefore, the Build Alternatives would not result in the loss of any parking spaces for businesses or other facilities within the project area.

The project would result in beneficial changes to bicycle and pedestrian routes within the project area, as it would provide these facilities in areas where none currently exist. Refer to Figure 2.1.6-4, Proposed Typical Bicycle and Pedestrian Facilities, within Section 2.1.6 of this document, which shows a typical section of Avenue 50 and Tyler Street; Figure 2.1.6-5, Alternative 7 Proposed Bike Lanes, within Section 2.1.6 of this document; and Figure 2.1.6-6, Alternative 8 Proposed Bike Lanes, within Section 2.1.6 of this document, which shows the locations of bike lanes. As such, transportation connectivity would be enhanced as a result of these improvements, as envisioned in the General Plan Land Use goals and policies. The Build Alternatives would be designed and constructed in compliance with regulations included in the 1990 Americans with Disabilities Act (ADA), as required for federal-aid projects. The Build

[8] Coachella Valley Association of Governments, *CV Link Master Plan*, January 2016.

Alternatives both include planned access and mobility of non-motorized vehicles and pedestrians. These accommodations are consistent with the General Plan, in which Avenue 50 within the project area is proposed as a "Major Arterial with Bicycle Facility." Design facilities for both Build Alternatives would be fully accessible as described in the Caltrans' Design Information Bulletin 82-03 "Pedestrian Accessibility Guidelines for Highway Projects," and allows Americans with Disabilities Act-compatible crossings.

Implementation of Phase 2 of the project would not construct any improvements that would affect existing transit service or transit stops within the project area. Long-term operation of either of the Build Alternatives would not reduce transit service or alter access to transit stops within the project area, including SunLine bus service and stops located along the alignment of Line 95. Therefore, the Build Alternatives would not result in impacts to public transportation.

2.1.4.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

Relocations and Real Property Acquisition

2.1.4.5 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 C 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 B for a copy of the Department's Title VI Policy Statement.

2.1.4.6 Affected Environment

This section is based on the Final Relocation Impact Memorandum (FRIM) (February 6, 2019) that was prepared for the project. The FRIM described the existing setting and identified potential relocation impacts related to the project.

Based on the FRIM, within the project area, temporary and permanent partial and full right-of-way (ROW) acquisition of parcels situated within the realignment of Avenue 50 and SR-86 would be required. There are three existing structures associated with the single-family residence located on APN 763-030-010, which is located on the south side of Avenue 50 in the southwest quadrant of the SR-86/Avenue 50 intersection. According to the Riverside County Assessor's Office, this 9.85-acre parcel is located within Tax Rate Area 012-009. The main residence structure was constructed in 1950, has 4 bedrooms and a total area of 2,371 square feet. The most recent assessed value of the residence includes the land at $279,193 and the structure at $126,906, for a total assessed value of $406,099.[9]

[9] County of Riverside Assessor-County Clerk-Recorder website, http://www.asrclkrec.com/, accessed 8-22-17.

As discussed in Section 2.1.2, Farmlands, of this IS/EA, acquisition of existing agricultural lands would also occur under the Build Alternatives. Cultivated farmland, consisting of a variety of row crops, is located within both the northeast and southwest quadrants of the interchange area. Row crops within the project area have historically included fruits and vegetables (lettuce, celery, broccoli, strawberries, etc.) but can vary widely due to seasonal demand and market conditions. The cultivated land in the southwest quadrant has been designated as Prime Farmland by the California Department of Conservation, Division of Land Resource Protection (DLRP). In the northeast quadrant, there are both Prime Farmland and Farmland of Local Importance designations for the cultivated land. None of these farmlands are currently committed to future development.

2.1.4.7 Environmental Consequences

A detailed profile of all parcels that would be potentially affected by temporary and permanent ROW acquisition associated with the Build Alternatives, including APNs, acreages, property owners, relocation status, and land uses, are shown in Table 2.1.4-3, Phase 1 Potential Temporary ROW Acquisitions and Relocations, Table 2.1.4-4, Phase 2 Potential Temporary ROW Acquisitions and Relocations, Table 2.1.4-5, Phase 1 Potential Permanent ROW Acquisitions and Relocations, and Table 2.1.6-6, Phase 2 Potential Permanent ROW Acquisitions and Relocations below. In addition, Figures 2.1.4-4a through 2.1.4-4d, Alternative 7 Potential ROW Acquisition and Figures 2.1.4-5a through 2.1.4-5d, Alternative 8 Potential ROW Acquisition, show the areas of potential temporary and permanent ROW acquisition.

It should be noted that there is an acreage difference between the ROW acquisition acreages discussed in Section 2.1.2, Farmlands, of this IS/EA, and the ROW acquisition acreages discussed in this section. The acreages obtained for this section are the result of the use of the detailed grading/roadway design plans as the basis; refer to Figures 2.1.4-4a through 2.1.4-4d and 2.1.4-5a through 2.1.4-5d. The acreages obtained for Section 2.1.2 are the result of the use of a project footprint polygon developed in GIS as the basis for all technical studies prepared for the project and disclosed on the Farmland Conversion Impact Rating Form (Form AD-1006), which was submitted to the Natural Resources Conservation Service (NRCS). Areas within State ROW have been identified as farmlands due to underlying soil conditions per FMMP data.

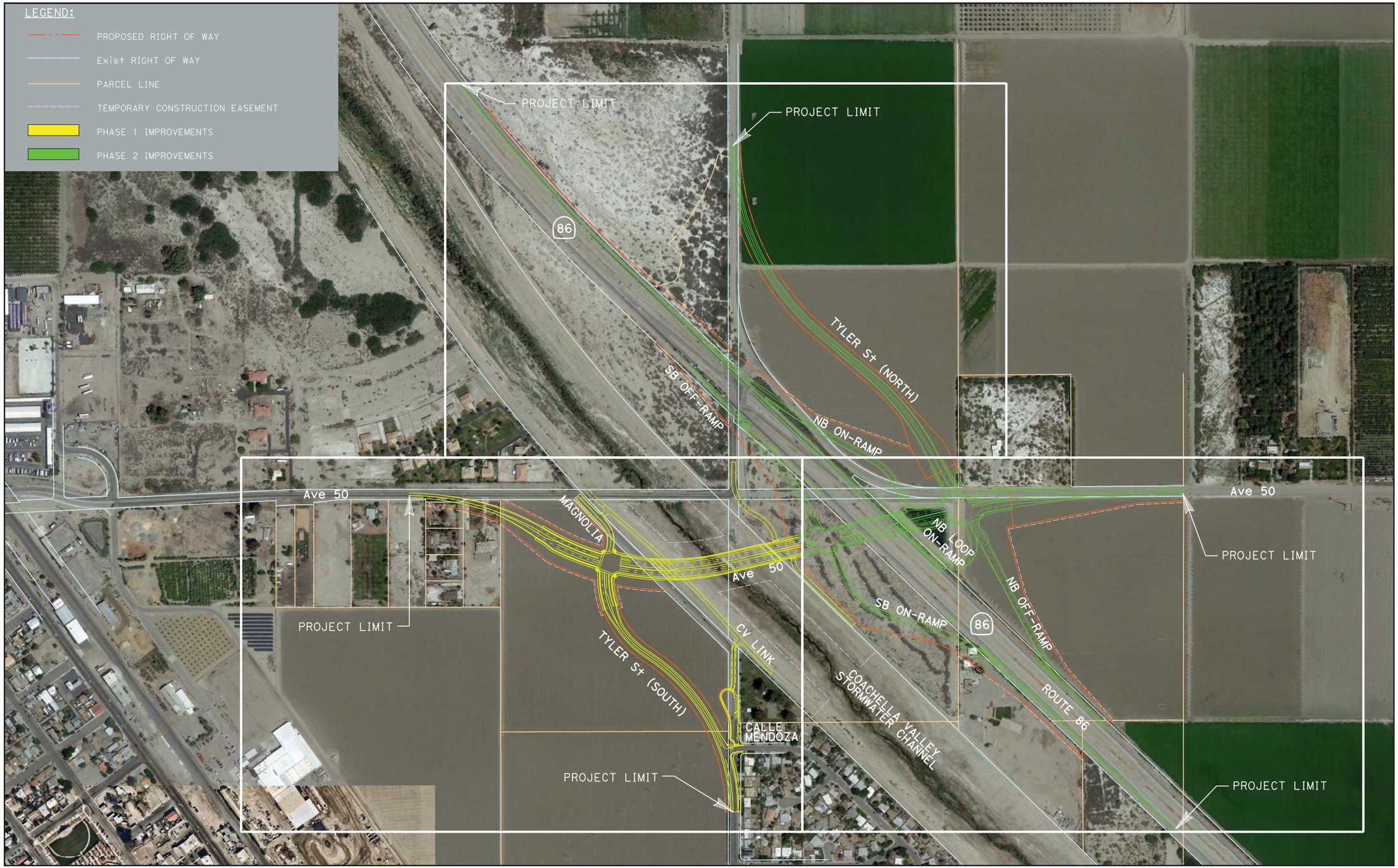
Temporary Impacts

Alternative 1 (No-Build Alternative)

No temporary relocations or real property acquisition impacts would occur with implementation of the No-Build Alternative since no construction activity would occur.

Alternatives 7 and 8 (Build Alternatives)

It is expected that Temporary Construction Easement (TCE) areas will be required for the Build Alternatives. Construction would occur in two phases and is anticipated to last approximately 27 months. Tables 2.1.4-3 and 2.1.4-4 below show the potential temporary ROW acquisitions that may occur under the Build Alternatives. A total of 0.630 acres for Build Alternative 7 and 0.858 acres for Build Alternative 8 would be temporarily acquired during Phase 1 project construction. A total of 1.726 acres for Build Alternative 7 and 1.670 acres for Build Alternative 8 would be temporarily acquired during Phase 2 project construction.



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Alternative 7 Potential ROW Acquisition Key Map

Figure 2.1.4-4a

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Alternative 7 Potential ROW Acquisition – Sheet 1

Figure 2.1.4-4b

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Alternative 7 Potential ROW Acquisition – Sheet 2

Figure 2.1.4-4c

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Alternative 7 Potential ROW Acquisition – Sheet 3

Figure 2.1.4-4d

Back of 11x17 figure.

LEGEND:

- PROPOSED RIGHT OF WAY
- Exist RIGHT OF WAY
- PARCEL LINE
- TEMPORARY CONSTRUCTION EASEMENT
- PHASE 1 IMPROVEMENTS
- PHASE 2 IMPROVEMENTS

PROJECT LIMIT

PROJECT LIMIT

86

TYLER St (NORTH)

SB OFF-RAMP

NB ON-RAMP

Ave 50

MAGNOLIA

Ave 50

NB LOOP ON-RAMP

PROJECT LIMIT

SB LOOP ON-RAMP

NB OFF-RAMP

86

PROJECT LIMIT

PROJECT LIMIT

CV LINK

TYLER St (SOUTH)

COACHELLA VALLEY STORMWATER CHANNEL

ROUTE 86

CALLE MENDOZA

PROJECT LIMIT

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Alternative 8 Potential ROW Acquisition Key Map

Figure 2.1.4-5a

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Alternative 8 Potential ROW Acquisition – Sheet 1

Figure 2.1.4-5b

Back of 11x17 figure.

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STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Alternative 8 Potential ROW Acquisition – Sheet 2

Figure 2.1.4-5c

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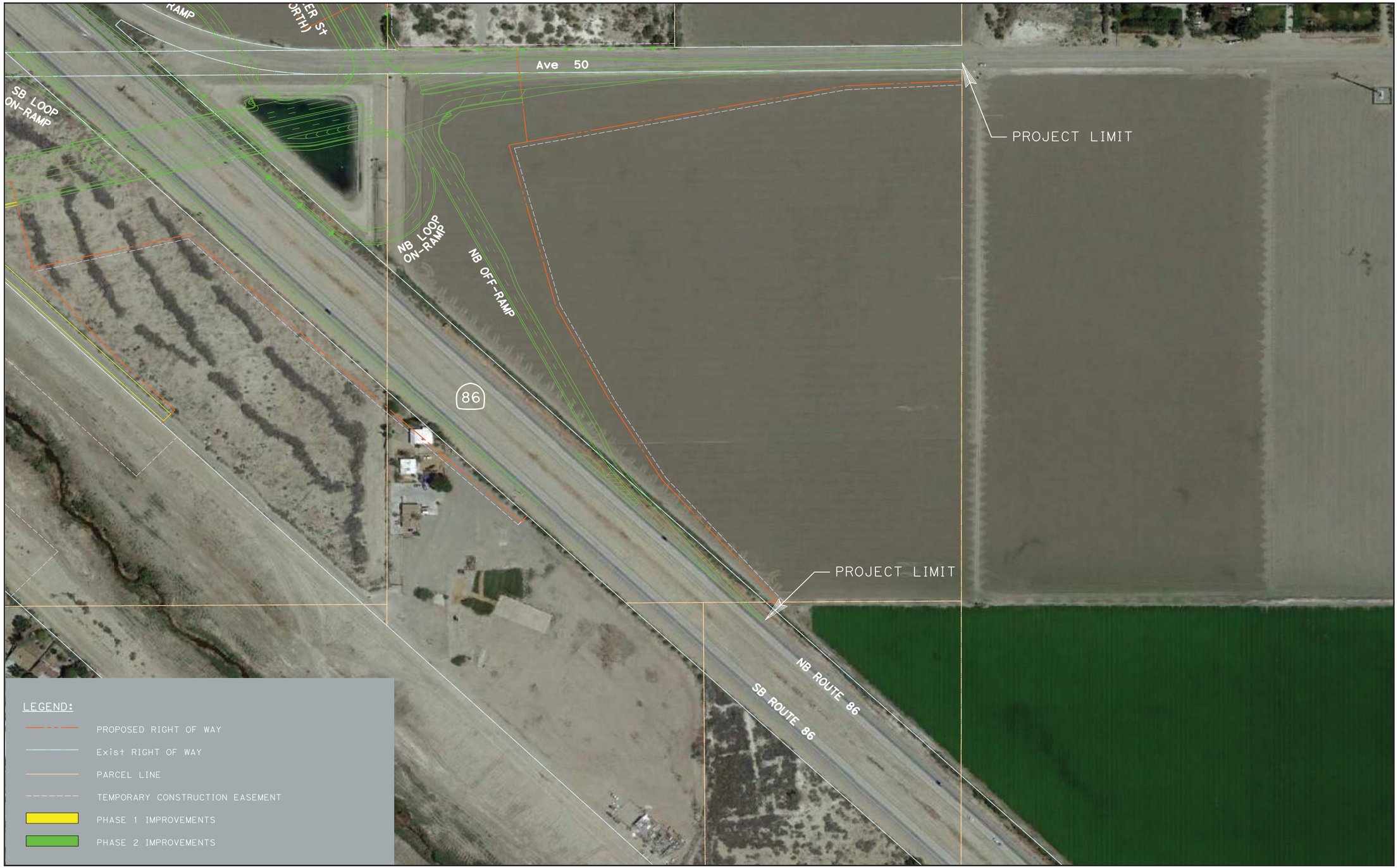

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Alternative 8 Potential ROW Acquisition – Sheet 3

Figure 2.1.4-5d

Back of 11x17 figure.

Table 2.1.4-3: Phase 1 Potential Temporary ROW Acquisitions and Relocations

APN	Address	Alternative 7 Impacts (Acres)	Alternative 8 Impacts (Acres)	Relocation	Current Land Use
763-020-021	No address reported	--	0.228	No	Vacant Land
778-170-005	85701 Avenue 50	0.051	0.051	No	Single-Family Residential
778-170-009	85751 Avenue 50	0.053	0.053	No	Single-Family Residential
778-170-011	No address reported	0.526	0.526	No	Agricultural
Totals		**0.630**	**0.858**		

Source: Community Impact Assessment, October 2018.

Table 2.1.4-4: Phase 2 Potential Temporary ROW Acquisitions and Relocations

APN	Address	Alternative 7 Impacts (Acres)	Alternative 8 Impacts (Acres)	Relocation	Current Land Use
603-300-024	No address reported	0.150	0.218	No	Vacant Land
603-300-027	No address reported	0.126	0.126	No	Vacant Land
603-300-028	No address reported	0.334	0.334	No	Vacant Land
603-330-003	No address reported	0.170	0.170	No	Vacant Land
603-330-010	No address reported	0.185	0.185	No	Agricultural
763-020-023	No address reported	0.542	0.542	No	Agricultural
763-030-010	86275 Avenue 50	0.219	0.095	Yes	Single-Family Residential
Totals		**1.726**	**1.670**		

Source: Community Impact Assessment, October 2018.

Permanent Impacts

Alternative 1 (No-Build Alternative)

Under the No-Build Alternative, the existing SR-86 and Avenue 50 roadways, and surrounding transportation network would be maintained. No relocations or permanent property acquisition would occur.

Alternatives 7 and 8 (Build Alternatives)

According to the FRIM that was prepared for the project, there would be no significant impact to owners, tenants, businesses, or persons in possession of real property to be acquired who would qualify for relocation assistance benefits or entitlements under the Uniform Relocation Assistance and Real Property Act of 1970, as amended. The Preferred Alternative would convert a portion of SR-86 from the existing expressway to a freeway with a new overcrossing structure and associated access ramps, which would accommodate traffic for existing and planned development in the area. The improvements include realignment and widening of Avenue 50 from the existing two-lane roadway to a six-lane major arterial, and realignment of Tyler Street on both the west and east sides of SR-86. The project would also improve public safety and mobility by constructing a second new bridge structure over the CVSC. This new bridge structure would replace the existing low water crossing and eliminate flood-related hazards during inclement weather events.

There are three separate existing structures associated with one single-family residence located on Assessor's Parcel Number (APN) 763-030-010, which is located on the south side of Avenue 50 in the southwest quadrant of the SR-86/Avenue 50 interchange. Preliminary analysis of aerial imagery indicates the structures may include a primary living residence, a garage, and an accessory guest residence. However, the exact function of the three structures, as well as the type and number of occupants residing in the residence, will be determined during the ROW acquisition phase of the project. According to the Riverside County Assessor's Office, this 9.85-acre parcel is located within Tax Rate Area 012-009. The main residence structure was constructed in 1950, has four bedrooms and a total area of 2,371 square feet. Based on the FRIM, the most recent assessed value of the residence includes the land at $279,193 and the structure at $126,906, for a total assessed value of $406,099; the average number of persons per household is 2.75 persons. Partial permanent ROW acquisition of this parcel would occur under the Preferred Alternative, Build Alternative 7, which would require acquisition and removal of two of the three structures on the parcel.

Real estate research was conducted during the preparation of the FRIM to determine the availability of single-family residential replacement properties located within the City of Coachella. The parameters of this analysis included a sale price range of $350,000 to $400,000, and a location focused primarily in the northwestern portion of the City of Coachella and southeastern portion of the City of Indio. Since there currently are no similar properties available for sale east of SR-86, this portion of Coachella was omitted from the analysis. As indicated by the analysis, there are currently ample single-family residential replacement properties on the market similar to the displacement property, and it was determined that adequate housing stock is available in proximity to the project area to meet the decent, safe, and sanitary standards to relocate the displaced residents from the impacted area. In addition, the FRIM indicates that there is currently a 7.1 percent vacancy rate for the community; therefore, it is anticipated that there will be sufficient single-family residences that are equal to or better than the displacement properties available for rent or purchase.

No business relocations would occur under the Preferred Alternative. Although partial and full permanent acquisition of parcels associated with Peter Rabbit Farms (APNs 778-170-011 and 778-180-004) and Cardinal Distributing Co. Inc. (APNs 603-330-010, 603-330-011, 603-330-012, and 763-020-020) would occur under the Preferred Alternative, these businesses would not be displaced as a result of project implementation.

The Preferred Alternative would also require the relocation of public utilities including the following: water (City); sewer (Coachella Sanitary District); gas (Southern California Gas Company); electrical (Imperial Irrigation District); telecommunications (Frontier Communications and Charter Communications); and agricultural drain/tile drain/irrigation laterals (Coachella Valley Water District). These existing utility lines are currently located either overhead on utility poles or underground within the Avenue 50 roadway ROW. Utility relocation would not necessitate the displacement of any residences or businesses within the project area. Utilities would remain in full service throughout the construction period and the relocations would be coordinated throughout the construction phase.

Construction would occur in two phases and is anticipated to last approximately 27 months. Tables 2.1.4-5 and 2.1.4-6 below show the potential permanent ROW acquisitions that would occur under the Preferred Alternative; as shown, a total of 36.723 acres would be permanently acquired during Phase 1 project construction and a total of 21.680 acres would be permanently acquired during Phase 2 project construction.

Table 2.1.4-5: Phase 1 Potential Permanent ROW Acquisition and Relocations

APN	Address	Preferred Alternative Impacts (Acres)	Relocation	Current Land Use
603-330-011	No address reported	1.805 (full)	No	Agricultural
763-020-019	No address reported	7.044 (partial)	No	Vacant Land
763-020-021	No address reported	14.478 (full)	No	Vacant Land
778-170-005	85701 Avenue 50	0.130 (partial)	No	Single-Family Residential
778-170-009	85751 Avenue 50	0.460 (partial)	No	Single-Family Residential
778-170-011	No address reported	6.489 (partial)	No	Agricultural
778-170-012	No address reported	5.714 (partial)	No	Vacant Land
778-170-013	No address reported	0.029 (full)	No	Agricultural
778-180-004	No address reported	0.574 (partial)	No	Agricultural
Totals		**36.723**		
Source: Community Impact Assessment, October 2018.				

Table 2.1.4-6: Phase 2 Potential Permanent ROW Acquisition and Relocations

APN	Address	Preferred Alternative Impacts (Acres)	Relocation	Current Land Use
603-300-024	No address reported	0.373 (partial)	No	Vacant Land
603-300-027	No address reported	0.512 (partial)	No	Vacant Land
603-300-028	No address reported	0.291 (partial)	No	Vacant Land
603-330-003	No address reported	0.009 (partial)	No	Vacant Land
603-330-010	No address reported	8.180 (partial)	No	Agricultural
603-330-012	No address reported	0.099 (full)	No	Agricultural
763-020-020	No address reported	2.720 (full)	No	Agricultural
763-020-023	No address reported	8.349 (partial)	No	Agricultural
763-030-010	86275 Avenue 50	1.147 (partial)	Yes	Single-Family Residential
Totals		**21.680**		
Source: Community Impact Assessment, October 2018.				

According to the FRIM, there are currently ample single-family residential replacement properties on the market similar to the displacement property, and it was determined that adequate housing stock is available in proximity to the project area to meet the decent, safe, and sanitary standards to relocate the displaced residents from the impacted area. Implementation of Minimization Measure ROW-1, below, would reduce potential relocation impacts and impacts would not be substantial. Any person (individual, family, corporation, partnership, or association) who moves from real property or moves personal property from real property as a result of the acquisition of the real property, or required to relocate as a result of a written notice from the California Department of Transportation from the real property required for a transportation project is eligible for "Relocation Assistance." All activities will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Relocation resources shall be available to all displacees free of discrimination. To minimize potential impacts on displacees, the RAP would provide advisory

services to assist individuals and businesses being displaced by the project. Additional plans to minimize hardships on potential displacees will be developed further during the ROW acquisition phase of the project. Interviews may be conducted at that time, which would provide a greater understanding of household demographics and financial challenges facing each respective owner and occupant.

Implementation of Minimization Measure ROW-1, below, would reduce potential relocation impacts and impacts would not be substantial.

2.1.4.8 Avoidance, Minimization, and/or Mitigation Measures

ROW-1 Right-of-way will be acquired in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and property owners will receive just compensation and fair market value for their property.

Environmental Justice

2.1.4.9 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 2018, this was $25,100 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 B of this document.

2.1.4.10 Affected Environment

Demographic information from the U.S. Census Bureau was used to identify minority and low-income populations in the project area. The same four census tract block groups that were used for general demographics were used for this Environmental Justice analysis; refer to the "Community Character and Cohesion" discussion and the corresponding Figure 2.1.4-2, Study Area Census Tract Block Groups above.

Racial and Ethnic Characteristics: Table 2.1.4-7, Racial and Ethnic Demographics, shows the minority population for the City, the County and the study area block groups. Three out of the four block groups (CT 456.09, BG 2; CT 457.06, BG 1; and CT 457.06, BG 2) have similar percentages of White populations, at 49.0 percent, 46.0 percent, and 48.0 percent, respectively, whereas CT 457.07, BG 1 has a lower White percentage of 24.5 percent. A similar trend occurs for the Black population in the block groups. Three out of the four block groups (CT 456.09, BG 2; CT 457.06, BG 1; and CT 457.07, BG 1) have Black populations of 1.8 percent, 1.0 percent, and 0.0 percent, respectively, whereas CT 457.06, BG 2 shows a Black population of 10.0 percent.

The City's White percentage is higher than CT 457.07, BG 1 at 31.0 percent, but lower than the rest of the block groups, whereas the County's White percentage is higher than all other areas

included in the study area at 64.6 percent. The City's Black percentage of 1.3 percent is similar to those of CT 456.09, BG 2; CT 457.06, BG 1; and CT 457.07, BG 1. The County has a Black population percentage of 6.3 percent.

All four block groups included in the study area show a high percentage of Hispanic or Latino populations, ranging from 90.0 percent to 99.3 percent. The City's Hispanic percentage is similar to the block groups at 97.5 percent, whereas the County's Hispanic population is lower than all other areas included in the study area at 47.0 percent. All four block groups also showed an absence of any American Indian and Alaska Native, Asian, and Native Hawaiian/ Other Pacific Islander populations. The City also shows a very low percentage of these populations, with a 0.5 percent American Indian and Alaska Native population, a 0.1 percent Asian population, and a 0.1 percent Native Hawaiian/Other Pacific Islander population. All four block groups and the City have fairly high percentages of Some Other Race populations, ranging from 49.3 percent to 74.1 percent. The City's Some Other Race population percentage is 66.6 percent, and the County's Some Other Race population percentage is lower than all the other areas in the study area at 17.5 percent.

Table 2.1.4-7: Racial and Ethnic Demographics

Demographic	BG 2 in CT 456.09	BG 1 in CT 457.06	BG 2 in CT 457.06	BG 1 in CT 457.07	City of Coachella	Riverside County
White Alone, Non-Hispanic %	558 (49.0%)	1,674 (46.0%)	541 (48.0%)	376 (24.5%)	13,443 (31.0%)	1,484,768 (64.6%)
Black or African American Alone, Non-Hispanic %	20 (1.8%)	36 (1.0%)	112 (10.0%)	0 (0%)	549 (1.3%)	143,976 (6.3%)
American Indian and Alaska Native Alone, Non-Hispanic %	0 (0%)	0 (0%)	0 (0%)	0 (0%)	209 (0.5%)	21,535 (0.9%)
Asian Alone, Non-Hispanic %	0 (0%)	0 (0%)	0 (0%)	0 (0%)	24 (0.1%)	142,136 (6.2%)
Native Hawaiian and Other Pacific Islander Alone, Non-Hispanic %	0 (0%)	0 (0%)	0 (0%)	0 (0%)	18 (0.1%)	6,601 (0.3%)
Some Other Race Alone, Non-Hispanic %	562 (49.3%)	1,947 (53.1%)	475 (42.1%)	1,137 (74.1%)	28,849 (66.6%)	401,152 (17.5%)
Two or More Races, Non-Hispanic %	0 (0%)	10 (0.3%)	0 (0%)	22 (1.4%)	216 (0.5%)	97,864 (4.3%)
Hispanic/Latino (any race) %	1,021 (90.0%)	3,621 (99.0%)	1,037 (92.0%)	1,524 (99.3%)	42,220 (97.5%)	1,079,778 (47.0%)
Total Population	**1,140**	**3,667**	**1,128**	**1,535**	**43,308**	**2,298,032**

Source: Community Impact Assessment, October 2018.

Poverty/Low-Income Characteristics: For the purposes of this discussion, the poverty threshold according to the U.S. Census Bureau was used to determine the percentages of families living below the poverty line. According to the Census Bureau, the poverty threshold for a family of four (including two adults and two children) was $24,858 in 2017 (the most recent year for which this data is available).[14] Low income is defined based on the Department of Health and Human Services (DHHS) poverty guidelines. According to the DHHS 2018 Poverty Guidelines, the

[14] U.S. Census Bureau website, accessed 8-8-18. https://www.census.gov/topics/income-poverty/poverty/guidance/poverty-measures.html.

poverty threshold for a family of four in the State of California is $25,100.[15] There is a nominal difference of $242 between the Census Bureau and DHHS poverty thresholds.

Table 2.1.4-8, Regional, Local, and Project Area Income and Poverty Levels, shows the percentage of families living below the poverty level (low income) for the City, the County, and the study area block groups. As shown, the figures between the City and four study area block groups are consistent, ranging from a low of 25.4 percent in Census Tract 456.09, Block Group 2, to a high of 32.3 percent in Census Tract 457.06, Block Group 1. The City's low-income population percentage is 27.9 percent, which is more than double that of the County overall. However, the variance of the number of families living below the poverty level within the study area is not considered to be substantial.

Table 2.1.4-8: Regional, Local, and Project Area Income and Poverty Levels

Demographic	City of Coachella	Riverside County	BG 2 in CT 456.09	BG 1 in CT 457.06	BG 2 in CT 457.06	BG 1 in CT 457.07
Total Population	40,704	2,189,641	1,140	3,667	1,128	1,535
Median Household Income	$40,423	$56,592	$22,656	$30,333	$30,964	$25,536
Families living below the poverty level	27.9%	13.1%	25.4%	32.3%	31.5%	32.6%

Notes:
1. CT: Census Tract, BG: Block Group.
2. The Census Bureau uses a set of money income thresholds that vary by family size and composition to determine who is in poverty. If a family's total income is less than the family's threshold, then that family and every individual in it is considered in poverty. The official poverty thresholds do not vary geographically, but they are updated for inflation using the Consumer Price Index (CPI-U). The official poverty definition uses money income before taxes and does not include capital gains or noncash benefits (such as public housing, Medicaid, and food stamps).

Source: Community Impact Assessment, October 2018.

2.1.4.11 Environmental Consequences

Temporary Impacts

To determine whether the project will have a "disproportionately high and adverse impact" on minority and low-income populations, various factors were considered, including potential beneficial and adverse impacts, both temporary and permanent, and mitigation measures that will be incorporated into the project, and offsetting benefits. Temporary impacts are those impacts resulting from construction of the project. Permanent impacts are those impacts resulting from operation of the project. Potential permanent beneficial and adverse impacts were evaluated in regard to traffic and transportation, air quality, noise and vibration, and community character and cohesion.

Alternative 1 (No-Build Alternative)

No temporary impacts regarding environmental justice populations would occur with implementation of the No-Build Alternative since no construction activity would occur with this alternative.

[15] U.S. Department of Health and Human Services (DHHS) website, accessed 8-3-18. https://aspe.hhs.gov/20185-poverty-guidelines.

Alternatives 7 and 8 (Build Alternatives)

Traffic and Transportation: The Build Alternatives may result in traffic congestion in the project area as a result of construction-related activities during the construction phases. Adverse construction-related impacts to traffic would occur with respect to the general public as a whole and would not be confined to minority or low-income populations, and these impacts would cease upon completion of the project. As discussed in Section 2.1.6 of this IS/EA, temporary traffic congestion would be addressed with implementation of a TMP, which would serve to minimize disruption to local traffic for all populations impacted during project construction. Any temporary lane closures would be publicized through a public awareness campaign and portable changeable message signs within the project limits. Access to properties in the project area would be maintained during project construction. Therefore, construction of the project would not result in disproportionate or adverse traffic impacts to low-income or minority populations in the project area.

Air Quality: The Build Alternatives may result in adverse air quality in the project area as a result of construction-related activities during the construction phase. Adverse construction-related impacts to air quality would occur with respect to the general public as a whole and would not be confined to minority or low-income populations, and these impacts would cease upon completion of the project. As discussed in Section 2.2.6 of this IS/EA, temporary air quality impacts would be addressed with implementation of standardized measures, which would reduce construction-related air emissions for all populations impacted during project construction. Therefore, construction of the project would not result in disproportionate or adverse air quality impacts to low-income or minority populations in the project area.

Noise: The Build Alternatives may result in adverse noise and vibration impacts in the project area as a result of construction-related activities during the construction phase. Adverse construction-related noise and vibration impacts would occur with respect to the general public as a whole and would not be confined to minority or low-income populations, and these impacts would cease upon completion of the project. As discussed in Section 2.2.7 of this IS/EA, temporary noise impacts would be addressed with implementation of standardized measures, which would reduce construction-related noise and vibration for all populations impacted during project construction. Therefore, construction of the project would not result in disproportionate or adverse noise and vibration impacts to low-income or minority populations in the project area.

Community Character and Cohesion: Community character and cohesion impacts generally are considered to be permanent because the project improvements would remain after construction is complete. Therefore, temporary impacts to community character and cohesion during project construction are not anticipated.

Permanent Impacts

Technical studies and analyses have been reviewed to determine whether the Build Alternatives would have any adverse effects on all segments of the population, including minority and low-income population groups. The technical studies addressing traffic and transportation, air quality, noise and vibration, and community character and cohesion, indicate that some potential adverse effects are expected as a result of the Build Alternatives. However, these impacts are either temporary, or will be mitigated to levels that are below significance. In addition, potential beneficial operational impacts that may result from implementation of the Build Alternatives are also addressed. Thus, no permanent effects are expected to disproportionately affect the minority and low-income populations within the Environmental Justice study area.

The following discussions summarize the impacts identified in these technical reports and the measures to avoid or reduce the impacts.

Alternative 1 (No-Build Alternative)

Traffic and Transportation: Under the No-Build Alternative, the existing roadway configuration would be maintained and neither the new bridge over Avenue 50 nor the new SR-86/Avenue 50 interchange would be constructed. As discussed in Section 2.1.6 of this IS/EA, long-term operational traffic impacts would occur under the No-Build Alternative. By the design horizon (2045) year, the Avenue 50 low water crossing between Tyler Street and SR-86 would operate at LOS F. In addition, the Avenue 50/Tyler Street intersection would remain as stop-controlled and operate at an unacceptable LOS F during both AM and PM peak hours, and the SR-86/Avenue 50 intersection would remain as an at-grade signal and operate at LOS F during both AM and PM peak hours. This deterioration in LOS on local roadways would adversely impact all segments of the population, including minority and low-income population groups.

Air Quality: As discussed in Section 2.2.6 of this IS/EA, the project would not result in a significant increase in truck average daily traffic (ADT) volumes between the No-Build and Build Alternative scenarios. The highest opening year No-Build average daily traffic (ADT) volumes would be 42,520, which include truck volumes of 8,249 ADT, which is slightly less than the highest opening year Build conditions ADT volumes of 43,130, which include truck volumes of 8,367 ADT. Horizon Year No-Build ADT volumes range from 15,370 to 61,180, which include truck volumes that range from 830 to 11,869 ADT, as compared to Build conditions, in which ADTs would range from 1,060 to 62,140, and truck volumes would range from 355 to 12,055 ADT. Therefore, the difference in air emissions between the No-Build Alternative and the Build Alternatives is not substantial and the No-Build Alternative is not anticipated to result in substantial air quality impacts. No permanent adverse air quality impacts to minority and low-income population groups would occur, and no long-term avoidance, minimization, and/or mitigation measures are required.

Noise: As discussed in Section 2.2.7 of this IS/EA, under the No-Build Alternative, none of the project improvements would be implemented; therefore, no operational noise impacts would occur. The No-Build Alternative would not result in permanent adverse noise impacts to minority and low-income population groups, and no long-term avoidance, minimization, and/or mitigation measures are required.

Community Character and Cohesion: As discussed above, it is unlikely that adverse community character and cohesion impacts would occur with regard to regional and local demographics or housing characteristics under the No-Build Alternative. However, in the absence of the project's transportation infrastructure, improvements that would provide direct and dependable access of the CVSC would not be constructed.

Alternatives 7 and 8 (Build Alternatives)

Traffic and Transportation: As discussed in Section 2.1.6 of this IS/EA, traffic operations in the study area would maintain existing LOS or experience improved LOS under the Build Alternatives. Specifically, the SR-86 mainline and ramps would operate at an acceptable LOS (LOS D or better) under the Build Alternatives in the design horizon year (2045) during both the AM and PM peak hours. In addition, the Build Alternatives would also substantially improve the Avenue 50/Tyler Street and SR-86/Avenue 50 intersections from an unacceptable LOS F without the project to an acceptable LOS C or better conditions.

In addition to improving levels of service, the Build Alternatives would also replace an existing low water crossing of the CVSC with a bridge structure; and improve operational performance by replacing an existing at grade intersection with a new grade separated overcrossing structure. These improvements are expected to reduce flood hazards along Avenue 50 with the provision of a bridge over the existing low-water crossing and eliminate cross traffic with the new SR-86/Avenue 50 interchange.

The beneficial traffic conditions under the Build Alternatives would occur with respect to the general public as a whole. Therefore, operation of the project would not result in disproportionate or adverse traffic impacts to low-income or minority populations in the project area.

Air Quality: As discussed in Section 2.2.6 of this IS/EA, the Build Alternatives will not cause permanent significant air quality impacts during its operation in the project area. Therefore, there will be no disproportionate impact to minority and low-income population groups.

Noise: As discussed in Section 2.2.7 of this IS/EA, the Build Alternatives will not cause permanent significant noise and vibration impacts during its operation in the project area. Noise levels under either Build Alternative would not approach or exceed the NAC of 67 dBA $L_{eq}(h)$ for Category B or C land uses or result in a substantial increase in noise. In fact, future noise levels at several modeled receptors would experience lower noise levels under design-year with project conditions as compared to existing conditions due to an increase in distance between the roadway and receptors. Therefore, there will be no disproportionate impact to minority and low-income population groups.

Community Character and Cohesion: As discussed above, there are substantial numbers of minority populations located within the census tract block groups that were analyzed for potential project impacts. The Build Alternatives would have a beneficial impact of improving access and circulation within the study area for the general public. Potential adverse community character and cohesion impacts specific to the low-income or minority populations are not anticipated to occur under the Build Alternatives because the project will not physically divide, or create barriers within, any such communities in the project area. In addition, the project will reduce flood hazards along Avenue 50 and improve the operational performance of roadways for all users of the roadways within the project area.

2.1.4.12 Avoidance, Minimization, and/or Mitigation Measures

Based on the above discussion and analysis, the Build Alternatives will 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.

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2.1.5 Utilities/Emergency Services

2.1.5.1 Affected Environment

Utilities

The following utilities exist within the project area and its vicinity:

Imperial Irrigation District (IID) – overhead transmission lines, transformers, and power poles:

- An overhead 92-kilovolt (kV) transmission line, running north-south, crosses the Coachella Valley Stormwater Channel (CVSC) and SR-86 within the project limits.
- An overhead 7.2/12.5- kV line running in the east-west direction along the existing Avenue 50 branches into two lines: One heading east crossing SR-86 and running along Avenue 50 on the eastside of SR-86 and the other heading north and crossing SR-86 at the existing intersection.
- A joint overhead of a 7.2/12.5-kV line and runs along the existing Tyler Street on the west side of SR-86.
- An overhead of a 7.2/12.5-kV line and runs in the north-south direction on the east side of the interchange.

Southern California Gas Company – distribution pipelines:

- An 8” gas line running along the existing Avenue 50/Tyler Street on the west side of the CVSC crosses the channel, turns to the north and crosses SR-86 at the existing intersection.

City of Coachella – water service lines:

- A 16” waterline running along the existing Avenue 50 on the west side of the CVSC crosses the channel, turns to the north and crosses SR-86 at the existing intersection.
- A 12” waterline branching off from the 16” waterline at the existing Avenue 50/Tyler Street intersection runs along the existing Tyler Street.

Coachella Valley Water District (CVWD) – underground agricultural/irrigation/tile drains:

- A 14” Irrigation Lateral 105.7-1.9 is located within the project limits and is part of the Coachella Valley irrigation distribution system.
- A 12” Tyler 0.25 drain runs in the north-south direction on the east side of the interchange and discharges into the CVSC.
- A 24” Avenue 50 drain runs along the existing Avenue 50 west of the CVSC and discharges into the CVSC.
- A number of tile drains exist within the project area farmlands.

Coachella Sanitary District – underground sewer lines:

- A 24” sewer line along the existing Avenue 50 on the eastside of SR-86.

Frontier Communications – telecommunication cable:

- A telephone line running along the north side of the existing Avenue 50 branches into two lines: One heading east crossing SR-86 and running along Avenue 50 on the eastside of SR-86 and the other heading north and crossing SR-86 at the existing intersection.

Charter Communications – telecommunication cable:

- An overhead cable runs along the existing Avenue 50 and Tyler Street on the west side of the CVSC.

Emergency Services

The following emergency service providers are located in the project area and its vicinity:

Police

Police protection services are provided through a contract with the City of Coachella and the Riverside County Sheriff’s Department. The Coachella Police Department is located at 86625 Airport Boulevard in Thermal. The police department includes Administration, Traffic, Patrols, Investigations, Crime Stoppers, Crime Prevention, Forensics, and an Explorer Program.

The California Highway Patrol (CHP) also provides police services in the region, such as traffic regulation enforcement and emergency accident management and service but is primarily limited to the existing state route and interstate highway systems that extend throughout the region.

Fire

Fire protection services and emergency medical services in the study area are provided by the Coachella Fire Department through a contract with the County of Riverside Fire Department. The fire department provides these services to the City as part of the regional and integrated fire protection system provided via a cooperative agreement with the Riverside County Fire Department and Cal Fire. This contract includes fire suppression, fire prevention, emergency medical response, hazardous materials response team, urban search and rescue response team, and other related public services.

The nearest fire station to the project site is Fire Station #79, located at 1377 Sixth Street. The fire department operates with one fire engine and is staffed with one firefighter, one paramedic firefighter, one engineer, and one captain. The existing goal of the fire department is to provide service to all areas of the City using a 1.5-mile service radius with a response time of approximately five minutes or less, 90 percent of the time.

2.1.5.2 Environmental Consequences

2.1.5.2.1 Temporary Impacts

Utilities

Alternative 1 (No-Build Alternative)

Under the No-Build Alternative, no construction would occur; therefore, temporary construction impacts to utilities would not occur.

Alternatives 7 and 8 (Build Alternatives)

The project's final design process (Plans, Specifications, and Estimates [PS&E] phase) will address all potential utility relocation that may be required for project implementation. An updated utility search will be conducted during final design to determine any utility conflicts requiring attention. Coordination with the identified utility companies will be carried out during the PS&E and construction phases. No service disruptions will occur to any of the utilities during construction. Accordingly, no impacts to utilities during construction of the project are anticipated.

Emergency Services

Alternative 1 (No-Build Alternative)

Under the No-Build Alternative, no construction would occur; therefore, temporary construction impacts to emergency services would not occur.

Alternatives 7 and 8 (Build Alternatives)

Access to developed areas in proximity to the project may potentially be constrained intermittently during construction. As noted in Chapter 1.0 of the IS/EA, a Transportation Management Plan (TMP) has been included as a project feature to minimize potential traffic-related impacts during construction of the project. Travel through the project area will be maintained for emergency service vehicles during project construction. The Caltrans TMP Guidelines require consideration and notification of emergency service providers to provide for adequate emergency access during the temporary construction process. With preparation of the TMP during the PS&E phase, adverse effects would not occur in this regard.

2.1.5.2.2 Permanent Impacts

Utilities

Alternative 1 (No-Build Alternative)

Under the No-Build Alternative, SR-86, Avenue 50, and the surrounding transportation network would be maintained; therefore, no permanent changes or impacts to existing utilities in the project area would occur.

Alternatives 7 and 8 (Build Alternatives)

Permanent impacts to utilities under the Build Alternatives would include multiple relocations as described in Table 2.1.5-1 below.

Table 2.1.5-1: Utility Relocations

Affected Utility		Relocation Information
Electrical Service	An overhead 92-kV transmission line, running north-south, crosses the Coachella Valley Stormwater Channel (CVSC) and SR-86 within the project limits.	Approximately 3 poles relocation (2 poles within State right of way).
	An overhead 7.2/12.5-kilovolt (kV) line running in the east-west direction along the existing Avenue 50 branches into two lines: One heading east crossing SR-86 and running along Avenue 50 on the eastside of SR-86 and the other heading north and crossing SR-86 at the existing intersection.	Approximately 12 poles relocation (2 poles within State right of way).
	A joint overhead of a 7.2/12.5-kV line and runs along the existing Tyler Street on the west side of SR-86.	Approximately 5 poles relocation.
	An overhead of a 7.2/12.5-kV line and runs in the north-south direction on the east side of the interchange.	Approximately 5 poles relocation (2 poles within State right of way).
Natural Gas	An 8" gas line running along the existing Avenue 50/Tyler Street on the west side of the CVSC crosses the channel, turns to the north and crosses SR-86 at the existing intersection.	Approximately 3,500 linear feet (LF) relocation (350 LF within State right of way).
Water	A 16" waterline running along the existing Avenue 50 on the west side of the CVSC crosses the channel, turns to the north and crosses SR-86 at the existing intersection.	Approximately 3,300 LF relocation (350 LF within State right of way).
	A 12" waterline branching off from the 16" waterline at the existing Avenue 50/Tyler Street intersection runs along the existing Tyler Street.	Approximately 2,100 LF relocation.
Agricultural	A 14" Irrigation Lateral 105.7-1.9 is located within the project limits and is part of the Coachella Valley irrigation distribution system.	Approximately 3,900 LF relocation (1,000 LF within State right of way).
	A 12" Tyler 0.25 drain runs in the north-south direction on the east side of the interchange and discharges into the CVSC.	Approximately 1,600 LF relocation (320 LF within State right of way).
	A 24" Avenue 50 drain runs along the existing Avenue 50 west of the CVSC and discharges into the CVSC.	It is not anticipated that this facility will require relocation.
	A number of tile drains exist within the project area farmlands.	Relocations will be required for tile drains.
Sewer Service	A 24" sewer line along the existing Avenue 50 on the eastside of SR-86.	Approximately 3,300 LF relocation.
Telephone Service	A telephone line running along the north side of the existing Avenue 50 branches into two lines: One heading east crossing SR-86 and running along Avenue 50 on the eastside of SR-86 and the other heading north and crossing SR-86 at the existing intersection.	Approximately 5,800 LF relocation (700 LF within State right of way).
Cable Service	An overhead cable runs along the existing Avenue 50 and Tyler Street on the west side of the CVSC.	Approximately 3,300 LF relocation.

Prior to the completion of final design, coordination with any affected utility providers in the vicinity of the SR-86/Avenue 50 new interchange project will be completed, to verify that the project will not disrupt services. For any utilities affected, all required coordination will be completed to establish exact procedures and specifications for addressing facilities impacted by the project, and as necessary, additional analysis will be completed, and any measures identified in conjunction with the completion of additional analysis will be implemented. Any required relocations of utilities will be completed prior to any project-related construction. Accordingly, no permanent impacts to utilities are anticipated.

Emergency Services

Alternative 1 (No-Build Alternative)

Under the No-Build Alternative, SR-86, Avenue 50, and the surrounding transportation network would be maintained; therefore, no changes to the provision of emergency services in the project area would occur.

Alternatives 7 and 8 (Build Alternatives)

Alternatives 7 and 8 would improve mobility by providing direct and dependable access over SR-86 and CVSC, which would improve emergency vehicle response times during storm events; therefore, a beneficial impact is anticipated to occur with regard to emergency services in the long-term. Following completion, traffic operations are expected to improve. In conjunction with the construction of the bridge over the CVSC, emergency service providers would be able to travel through the project area more efficiently. Permanent impacts related to emergency services would not occur under the Build Alternatives.

2.1.5.3 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

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2.1.6 Traffic and Transportation/Pedestrian and Bicycle Facilities

2.1.6.1 Regulatory Setting

Caltrans, 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.

2.1.6.2 Affected Environment

This section is based on the State Route 86/Avenue 50 New Interchange Project Final Traffic Operations Report (Traffic Report), dated November 2017.

2.1.6.2.1 Existing Facilities

Roadway Facilities

Key travel routes in the study area include SR-86, Avenue 50, and Tyler Street. SR-86 is a regional highway that extends north-south in the City of Coachella. It begins at Interstate 10 (I-10), north of the City, maintaining access control until reaching Avenue 50/Tyler Street. South of Avenue 50/Tyler Street, it operates as a divided arterial with two lanes in each direction with an open median. The posted speed limit on SR-86 is 55 miles per hour throughout the length of the City. SR-86 is a major regional highway that provides access to I-10 to the north and continues south to the Salton Sea and City of Imperial, near the United States border with Mexico. The segment of SR-86 within the study area is an at-grade facility with two travel lanes in each direction. Based on Caltrans 2015 Traffic Data, the annual average daily traffic (AADT) volume of SR-86 in the study area is approximately 20,500.

Avenue 50 traverses the City in an east-west direction from the western city limits, and currently terminates west of the Coachella Branch of the All-American Canal at Fillmore Street. Avenue 50 within the project limits is currently a 2-lane roadway with a low water crossing through Coachella Valley Stormwater Channel (CVSC) and is classified in the City's General Plan Update as a "Major Arterial with Bicycle Facility." The existing Avenue 50 low water crossing is approximately 700 feet long and 32 feet wide and provides two 12-foot vehicle lanes. The existing Avenue 50 crossing is equipped with two 72-inch culverts conveying CVSC flows from north to south. The capacity of these culverts is often exceeded, resulting in roadway flooding during heavy storm events. Currently, State Route 86 (SR-86) and Avenue 50 is an at-grade

signalized intersection with a dedicated left-turn lane and right-turn lane in the northbound and southbound direction along SR-86.

Tyler Street is a two-lane north/south roadway that is a segmented and discontinuous collector street within the project limits. In a south to north direction, Tyler street follows the northeasterly boundary of Peter Rabbit farms and terminates at Avenue 50. Tyler Street re-starts where Avenue 50 turns to the north; it continues to a "T" intersection with the easterly segment of Avenue 50 east of SR-86. Tyler Street continues to the north of the intersection and Avenue 50 continues to the east of the intersection. The posted speed limit on Tyler Street is 40 miles per hour.

Unimproved roads include Cabazon Road (trending in a north to south direction) and two unnamed maintenance roads that serve the CVSC.

Pedestrian and Bicycle Facilities

Within site boundaries, a sidewalk exists along the easterly side of Tyler Street, immediately south of CVSC, adjacent to existing residences and Sierra Vista Park. No other pedestrian/ bicycle facilities occur along Tyler Street and Avenue 50, within the project limits. Bicycles are not permitted along SR-86 within the project limits.

2.1.6.2.2 Existing General Plan Designations

Based on the General Plan Mobility Element Figure 5-1, Future Roadway Network, within the project limits, Avenue 50 is designated as a Primary Arterial With Bicycle Facility west of Tyler Street and Major Arterial With Bicycle Facility east of Tyler Street; Tyler Street is designated as a Collector With Bicycle Facility, and the intersections of Avenue 50 with Tyler Street and SR-86 are designated as Freeway Interchange. It is acknowledged that the planned CV Link alignment, located parallel to, and west of, SR-86, is designated as a Class I Bicycle Facility/Multi-Use Trail. Per the General Plan Mobility Element Table 5-1, Street Typologies, descriptions for these identified street types are as follows:

- *Primary Arterial With Enhanced Bicycle Facilities* – These facilities provide superior accommodations for bicyclists as compared to regular arterials. In-street Bicycle lanes (Class II) facilities are provided. The bicycle lanes can vary from 5 to 6 feet. The travel lanes can vary from 11 to 12 feet.

- *Major Arterial With Enhanced Bicycle Facilities* – These facilities provide for all modes of travel, but they acknowledge that the arterial is a primary link in the City's vehicular transportation system. Major arterials have six travel lanes and can have right-of-way (ROW) up to 132 feet. Travel lanes can vary from 11 to 12 feet.

- *Collector With Enhanced Bicycle Facilities* – Collectors are meant to serve as intermediate facilities, connecting local areas to regional mobility corridors. Collectors prioritize bicycles and pedestrians through facility design and speed management. Bus and shuttle transit services can be provided on collectors, and vehicles use them for accessibility (but these modes are not prioritized in the corridor). This specific designation includes in-street bicycle lanes.

2.1.6.2.3 Study Area

The study area consists of study intersections along Avenue 50 (between Leoco Lane and SR-86), the SR-86 mainline segment between Dillon Road and Avenue 52, and SR-86 ramp intersections at Dillon Road and Avenue 52; refer to Figure 2.1.6-1. The Avenue 50/Harrison Street intersection (Study Intersection No. 1) has been removed from the study area analysis as this intersection will become a standalone project. Operations of this intersection will be analyzed in a separate study, which is anticipated to be completed in approximately one year. The study facilities are identified below and were evaluated during the weekday AM (7:00 AM to 9:00 AM) and PM (4:00 PM to 6:00 PM) peak hours at study intersections and mainline/ramp locations and on a weekday basis for study arterial roadway segments. Figure 2.1.6-1, Traffic Study Area, depicts the traffic study area associated with the project.

Study Intersections

2. Avenue 50/Leoco Lane
3. Avenue 50/Peter Rabbit Lane
4. Avenue 50/Tyler Street
5. Avenue 50/Southbound SR-86 Ramps
6. Avenue 50/Northbound SR-86 Ramps
7. Dillon Road/Southbound SR-86 Ramps
8. Dillon Road/Northbound SR-86 Ramps
9. Avenue 52/Southbound SR-86 Ramps
10. Avenue 52/Northbound SR-86 Ramps/Tyler Street
11. Tyler Street/Calle Mendoza

SR-86 Mainline Segments

1. Northbound and Southbound SR-86: between Dillon Road and Avenue 50
2. Northbound and Southbound SR-86: between Avenue 50 and Avenue 52

SR-86 Ramp Junctions

1. Northbound SR-86 Off-ramp to Avenue 50 (future)
2. Northbound SR-86 On-ramp from Avenue 50 (future)
3. Southbound SR-86 Off-ramp to Avenue 50 (future)
4. Southbound SR-86 On-ramp from Avenue 50 (future)

Study Roadway Segments

1. Avenue 50 Bridge: between Tyler Street and SR-86
2. Avenue 50: between Leoco Lane and Peter Rabbit Lane
3. Avenue 50: west of Harrison Street

2.1.6.2.4 Study Scenarios

The project includes two phases which have different opening years. Phase 1 of the project includes the Avenue 50 Bridge, which is expected to complete construction and be open to traffic by Year 2021. Phase 2 of the project includes the SR-86/Avenue 50 new interchange, which is expected to complete construction and be open to traffic by Year 2025. Two Build Alternatives are being analyzed for the project. Therefore, the following study scenarios are analyzed:

Source: State Route 86/Avenue 50 New Interchange Project Final Traff c Operations Report, November 2017.

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Traffic Study Area

Figure 2.1.6-1

1. Existing (2015) Conditions
2. Opening Year 2021 No Build Conditions
3. Opening Year 2021 With Phase 1 (One Build Alternative for Avenue 50 Bridge)
4. Opening Year 2025 No Build Conditions
5. Opening Year 2025 With Phase 2 (Two Build Alternatives for SR-86/Avenue 50 Interchange)
6. Design Year 2045 No Build Conditions
7. Design Year 2045 With Phase 1 & Phase 2 combined (Two Build Alternatives for SR-86/Avenue 50 Interchange)

The study locations also vary by scenario. All the study locations listed above are analyzed under existing and Design Year 2045 conditions. Under Opening Year 2021, completion of Phase 1 (Avenue 50 Bridge) is not anticipated to result in significant traffic addition to the SR-86 mainline and adjacent ramps at Dillon Road and Avenue 52. Therefore, the study area under Phase 1 Opening Year 2021 consists of the six study intersections (accordingly, the tables include intersections 2 through 6 and 11) and three roadway segments along Avenue 50. None of the SR-86 mainline/ramp junctions or adjacent ramp intersections at Dillon Road and Avenue 52 are evaluated under Year 2021. Similarly, the study area under Phase 2 (SR-86/Avenue 50 Interchange) Opening Year 2025 consists of the SR-86 mainline/ramp junctions and ramp intersections at Dillon Road, Avenue 50, and Avenue 52. Other local intersections and roadway segments along Avenue 50 west of SR-86 are not analyzed under Year 2025.

2.1.6.2.5 Methodology

Traffic Forecasting Methodology

Traffic forecasts were developed using the Coachella Valley Model, which was developed in 2012 for the *General Plan Update* based on the Riverside County Traffic Analysis Model (RivTAM). The Coachella Valley Model assumed the build-out Socio-Economic Data (SED) for the City of Coachella and reflected a more refined roadway network in the Coachella Area. The Coachella Valley Model was updated to include the 2040 land use assumptions consistent with the SCAG's 2016 RTP (since this data reflects the most updated population and employment growth projections for the City of Coachella and the entire Coachella Valley Association of Governments [CVAG] region), and the updated model was used to develop traffic forecasts for the project.

Separate future year models were developed to forecast traffic volumes with and without the project. Future traffic forecasts at the study intersections and roadway segments under the Opening Year and Design Year were developed using the difference methodology, which is consistent with methodologies delineated in the National Cooperative Highway Research Program Report (NCHRP) 255 published by the Transportation Research Board (TRB): Highway Traffic Data for Urbanized Area Project Planning and Design (Transportation Research Board, December 1982). The Base Year and Future Year models were used to calculate the annual growth at study facilities, which was applied to existing traffic counts (collected in fall 2015) to develop the Opening Year and Design Year traffic projections. Since the future model reflects Year 2040 conditions, the Opening Year 2021/2025 and Design Year 2045 forecasts was developed using a calculated annual growth amount between existing and the 2040 traffic forecasts. The resulting traffic forecasts from the difference methodology were balanced where appropriate. The balanced forecasts for each scenario were compared to existing traffic counts and one another to ensure the reasonableness of the forecasts. Overall, after applying all difference method calculations and balancing operations, the average annual growth rate comes out to be approximately 3 – 5 percent per year.

Operations Analysis Methodology

Intersection Analysis: Intersection operations were conducted using methodologies contained in the Highway Capacity Manual (HCM 2010) (Transportation Research Board, 2010). The HCM 2010 methodology for signalized intersections estimates the average control delay for vehicles at the intersection while the methodology for unsignalized intersections estimates the worst-case movement control delay for two-way stop-controlled intersections and the average control delay for all-way stop-controlled intersections. After the quantitative delay estimates are complete, the methodology assigns a qualitative letter grade that represents the operations of the intersection. These grades range from level of service (LOS) A (minimal delay) to LOS F (congested conditions). LOS E represents at-capacity operations. Descriptions of the LOS letter grades for both signalized and unsignalized intersections are provided in Table 2.1.6-1.

Table 2.1.6-1: Intersection LOS

LOS	Description	Signalized Intersections	Unsignalized Intersections
		Average Stopped Delay per Vehicle (seconds/vehicle)	Average Control Delay (seconds/vehicle)
A	Very low delay occurs due to little or no conflicting traffic.	< 10.0	< 10.0
B	Low delay occurs although conflicting traffic becomes noticeable.	> 10.0 to 20.0	> 10.0 to 15.0
C	Average delays result from increased conflicting traffic.	> 20.0 to 35.0	> 15.0 to 25.0
D	Longer delays occur due to a reduction in available gaps. At signals, individual cycle failures are noticeable.	> 35.0 to 55.0	>25.0 to 35.0
E	High delays and extensive queues occur. This value indicates volume-to-capacity ratios. This is considered to be the limit of acceptable delay.	> 55.0 to 80.0	> 35.0 to 50.0
F	Delays are unacceptable to most drivers due to over-saturation.	> 80.0	> 50.0

Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 9.

Roadway Segment Analysis: Roadway segment operations were evaluated by comparing the daily traffic volumes to the roadway classification capacity identified in the General Plan Circulation Element (May 2014). The roadway capacity by classification is shown in Table 2.1.6-2. The volume-to-capacity (v/c) ratio was calculated for study roadway segments along Avenue 50. Any roadway segments with the v/c ratio equal to or greater than 1.0 are considered to have LOS F conditions.

Table 2.1.6-2: Roadway Segment AADT Capacity

Roadway Classification	Number of Lanes	AADT Capacity
Major Arterial	6 – Divided	56,000
Primary Arterial	4 – Divided	37,400
Secondary Arterial	4 – Divided	28,900
Major Collector	4 – Undivided	20,000
Minor Collector	2 – Undivided	12,000
Local Street	2 – Undivided	10,400

Source: City of Coachella General Plan Circulation Element (May 2014).

Freeway Analysis: Freeway mainline and ramps were evaluated using a Highway Capacity Software (HCS) equivalent tool which applies methodologies contained in the HCM 2010. The LOS was calculated for each study facility based on density in number of vehicles per hour per lane. Table 2.1.6-3 describes the LOS thresholds for freeway sections identified in the HCM 2010. The peak-hour density calculations provided are consistent with the definitions from the HCM, which defines four freeway section types: merge, diverge, weave, and basic.

Table 2.1.6-3: Freeway LOS Threshold

LOS	Description	Density (vplpm)[1]	
		Mainline (Basic)	Ramp/ Weave
A	Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.	< 11	< 10
B	Free-flow speeds are maintained. The ability to maneuver with the traffic stream is only slightly restricted.	> 11 to 18	> 10 to 20
C	Flow with speeds at or near free-flow speeds. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver.	> 18 to 26	> 20 to 28
D	Speeds decline slightly with increasing flows. Freedom to maneuver with the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort.	> 26 to 35	> 28 to 35
E	Operation at capacity. There are virtually no usable gaps within the traffic stream, leaving little room to maneuver. Any disruption can be expected to produce a breakdown with queuing.	> 35 to 45	> 35 to 45[2]
F	Represents a breakdown in flow.	> 45	> 45[2]

Notes:
1 Density is reported in vehicles per lane per mile.
2 The maximum density for ramp junctions and weaving sections under LOS E is not defined in the HCM. The maximum density for basic segments of 45 vplpm was assumed to apply to ramp junctions and weaving sections.

Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 10.

Analysis Evaluation Criteria

The analysis evaluation criteria described below were used to determine if the project would result in any traffic operational deficiencies to the study area. The LOS criteria are in accordance with the City of Coachella and Caltrans guidelines.

City of Coachella

Intersection: According to General Plan Circulation Element, LOS D is the maximum acceptable level of congestion that should be maintained during the peak commute hours. Therefore, any of the intersections within Coachella's jurisdiction operating at LOS E or F are considered unsatisfactory; vehicular traffic on Coachella's roadway system should not exceed these capacities.

Roadway Segment: In accordance with the General Plan Circulation Element, LOS C or better should be maintained along County roads and state highways. LOS D is allowed in "Community Development areas, only at intersections of any combination of Secondary Highways, Major Highways, Arterials, Urban Arterials, Expressways, conventional state highways or freeway ramp intersections. LOS E may be allowed in designated community centers to the extent that

it would support transit-oriented development and walkable communities." For the purposes of this evaluation, the minimum acceptable LOS for roadway segments along Avenue 50 is LOS D.

Caltrans

Based on the Caltrans 2017 Transportation Concept Report for State Route 86 (2017 TCR), Caltrans strives to have freeway facilities operate at a level of service D. Therefore, LOS D was used as the threshold for freeway facilities analysis. Any future LOS on freeway facilities that are projected to operate at unacceptable LOS (worse than LOS D) requires mitigation. Therefore, LOS D is considered as the acceptable LOS criteria for all the study intersections, freeway segments, and roadway segments in this analysis.

2.1.6.2.6 Existing Traffic Operations

Peak period AM (7-9 AM) and PM (4-6 PM) traffic volumes at study intersections were collected in 2015. The 24-hour daily traffic volumes were collected at the Avenue 50 study segments in 2015 and at SR-86 near Avenue 50 in 2017. All traffic counts were collected when schools were in session. In addition, existing signal timings at the signalized intersections were collected from the City and Caltrans.

Figure 2.1.6-2, Existing Year 2015 Peak Hour Intersection Volumes, shows the existing lane configurations and traffic volumes for all study intersections. Figure 2.1.6-3, Existing Year 2015 Average Daily Traffic Volumes, shows the existing average daily traffic (ADT) volumes along SR-86.

Roadway Operations

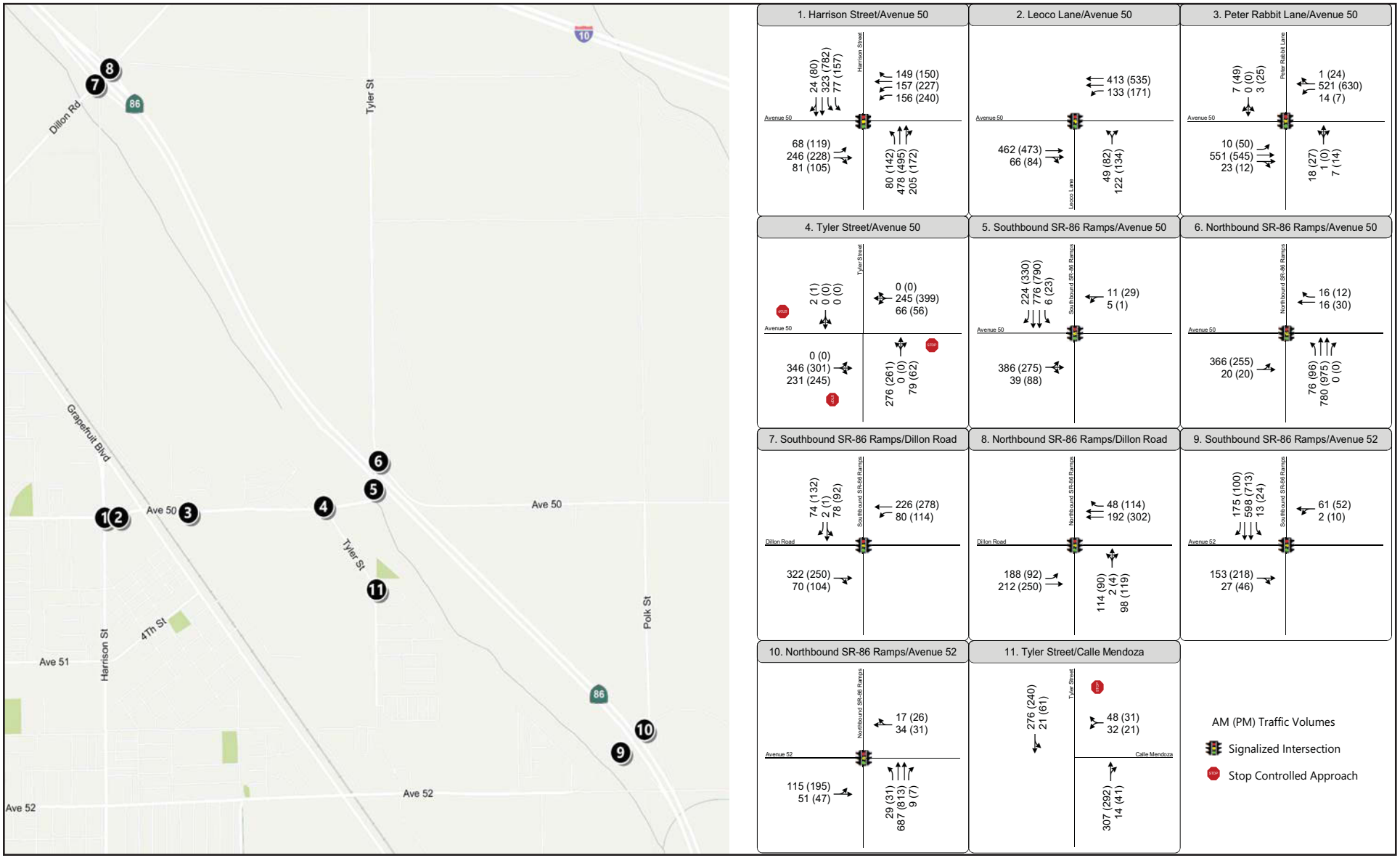
Table 2.1.6-4 presents the existing ADT volumes along Avenue 50 study roadway segments. All roadway segments currently operate at acceptable LOS C or better conditions using the capacity threshold identified in the General Plan Update Circulation Element.

Table 2.1.6-4: Existing Roadway Segment Analysis

Segment		Classification[1]	ADT	Capacity[2]	V/C	LOS[3]
1	Avenue 50: Low Water Crossing Between Tyler Street and SR-86	Major Arterial (2)	10,473	13,000[4]	0.81	D
2	Avenue 50: Between Leoco Lane and Peter Rabbit Lane	Primary Arterial (4)	16,203	37,400	0.43	A
3	Avenue 50: West of Harrison Street	Major Arterial (2)	10,144	13,000[4]	0.78	C

Notes:
1 Classification reflects future build-out of roadway segment from City of Coachella General Plan (2015).
2 Capacity from City of Coachella General Plan EIR Appendix 11.4 (2013), unless otherwise indicated.
3 LOS E represents at capacity operations.
4 Capacity is based on existing roadway condition and Riverside County Integrated Project General Plan's capacity thresholds for 2-lane Collector.

Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 16.



Source: State Route 86/Avenue 50 New Interchange Project Final Traff c Operations Report, November 2017.

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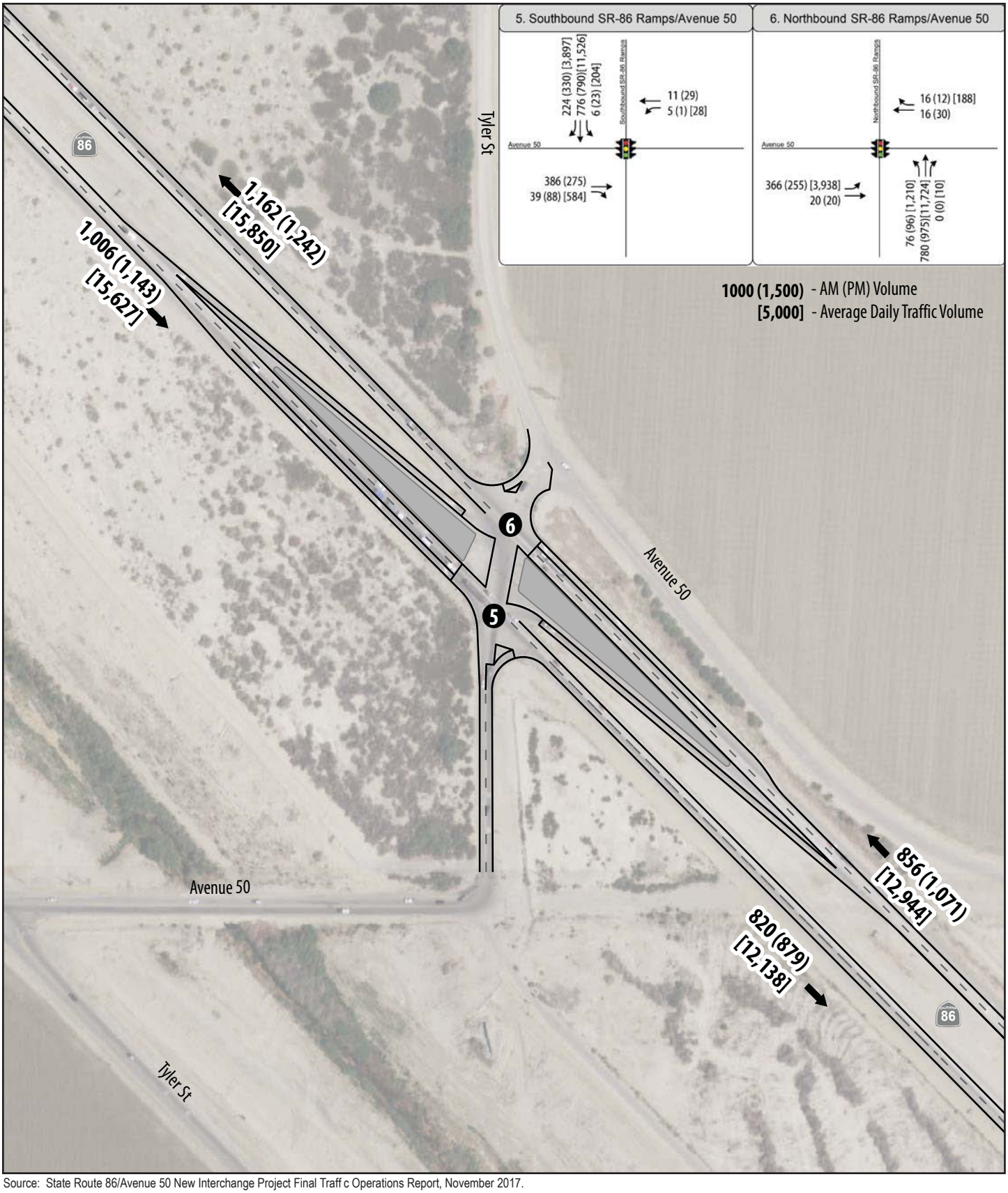
Existing Year 2015 Peak Hour Intersection Volumes

Figure 2.1.6-2



Source: State Route 86/Avenue 50 New Interchange Project Final Traff c Operations Report, November 2017.

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Existing Year 2015 Average Daily Traffic Volumes

Figure 2.1.6-3

Freeway Operations

Under existing conditions, SR-86 in the study area operates as a multi-lane highway with at-grade access points, rather than a freeway. Therefore, no freeway operations were analyzed in the existing condition. All movements along SR-86 were analyzed as intersection operations described below.

Intersection Operations

Existing traffic volumes, lane configurations, and signal timing information were utilized to evaluate traffic operations at the study intersections during the AM and PM peak hours. The results are summarized in Table 2.1.6-5. Under existing conditions, all study intersections operate acceptably at LOS D or better conditions during both AM and PM peak hours, with the exception of the Avenue 50/Tyler Street intersection, which operates at an unacceptable LOS F during both AM and PM peak hours.

Table 2.1.6-5: Existing Intersection LOS Summary

Intersection		Control	AM		PM	
			Delay	LOS	Delay	LOS
2	Avenue 50/Leoco Lane	Signal	7.1	A	8.3	A
3	Avenue 50/Peter Rabbit Lane	Signal	6.4	A	8.4	A
4	Avenue 50/Tyler Street	Side-street stop	**127.1**	**F**	**176.1**	**F**
5	Avenue 50/Southbound SR-86 Ramps	Signal	36.8	D	32.0	C
6	Avenue 50/Northbound SR-86 Ramps					
7	Dillon Road/Southbound SR-86 Ramps	Signal	9.9	A	10.5	B
8	Dillon Road/Northbound SR-86 Ramps	Signal	19.9	B	12.3	B
9	Avenue 52/Southbound SR-86 Ramps	Signal	16.3	B	19.3	B
10	Avenue 52/Northbound SR-86 Ramps					
11	Tyler Street/Calle Mendoza	Side-street stop	12.9	B	12.9	B

Bold text indicates unacceptable level of service.
Note: For signalized intersections, delay shows whole intersection weighted average control delay using methods (HCM 2010).
Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 17.

Traffic Safety Review

Collision data for July 2012 through June 2015 were reviewed for the SR-86 segment and ramps within the project limits. This evaluation consisted of collecting and reviewing SR-86 collision data contained in Traffic Accident Surveillance and Analysis System (TASAS) Table B and TASAS Selective Accident Retrieval (TSAR) provided by Caltrans. Table 2.1.6-6 shows the actual three-year collision rates with a comparison to the statewide average collision rates on similar facilities. The collision rates on SR-86 are higher than the statewide average for similar facilities.

Table 2.1.6-6: SR-86 Mainline Collision Rate

Location Description	Actual (per million vehicle miles for mainline, per million vehicles for ramp)			Average (per million vehicle miles for mainline, per million vehicles for ramp)		
	Total	Fatal	Fatal+ Injury	Total	Fatal	Fatal+ Injury
SR-86 Mainline (PM R19.5 – R21.5)	0.56	0.019	0.27	0.46	0.008	0.16
Source: Draft Project Report (June 2018), Page 17.						

Table 2.1.6-7 shows collision data by collision type. As shown, rear end was the most common collision type in the study area between July 2012 and June 2015. Hit object and sideswipe were the next most common collision types.

Table 2.1.6-7: SR-86 Mainline Collision Type

Collision Type	Percentage
Head-On	3.4%
Sideswipe	10.3%
Rear End	65.5%
Hit Object	13.8%
Overturn	3.4%
Not Stated	3.4%
Total	**100%**
Note: Numbers may not add up to 100 percent due to rounding.	
Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 19.	

Table 2.1.6-8 shows the primary collision factor for collisions in the study area between July 2012 and June 2015. Unsafe speed was the primary collision factor for the majority of the traffic collisions in the study area. The high incidence of rear ends collision types taken with the high incidence of speeding as the primary collision factor indicate that these collisions could be due to the at-grade intersections along SR-86 with local arterials such as Avenue 50. SR-86/Avenue 50 is the first signalized intersection along SR-86 south of the I-10 interchange. The only preceding opportunity to access the local street network is at the SR-86/Dillon Road interchange. Accordingly, vehicles approaching the existing SR-86/Avenue 50 intersection are approaching the first at-grade intersection configuration on SR-86, which in this instance is a fully signalized intersection. Vehicles traveling from the expressway segment of SR-86 north of Dillon Road would likely be traveling at higher speeds, which could result in rear-end collisions with vehicles stopped at the signalized intersection at SR-86/Avenue 50.

Table 2.1.6-8: SR-86 Mainline Primary Collision Factor

Primary Collision Factor	Percentage
Influence Alcohol	13.8%
Improper Turn	13.8%
Speeding	58.6%
Other Violations	13.8%
Total	**100%**
Note: Numbers may not add up to 100 percent due to rounding.	
Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 20.	

2.1.6.3 Environmental Consequences

2.1.6.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

Under this alternative, no reconstruction or improvements would be made to the existing SR-86/Avenue 50 intersection or the local roadway (Avenue 50 and Tyler Street). As a result, the No-Build Alternative would not result in temporary impacts related to traffic and circulation.

Alternatives 7 and 8 (Build Alternatives)

Construction of the project would result in temporary traffic effects related to the circulation of vehicles, bicyclists, and pedestrians in the project area. The project is anticipated to be constructed in two phases.

The first phase, constructing the Avenue 50 bridge over CVSC, is anticipated to take approximately 12 months. Since Avenue 50 and Tyler Street are constructed on new alignments, the existing Avenue 50 and Tyler Street would remain operational with exceptions of tie-in work conforming and joining existing pavements that need minimum traffic control; refer to Figure 2.1.6-4, Phase 1 Detour Map.

The duration of the time needed to complete construction of the re-alignment of Tyler Street from just south of the Calle Mendoza/Tyler Street intersection, north, to where existing Tyler Street turns toward Avenue 50 is estimated to be approximately one to three months of work. Therefore, construction-related traffic delays are anticipated to be minimal. Access to the local street network west of SR-86 would be continuously maintained. In conjunction with constructing the completion of the access to the new bridge across the CVSC from the existing portion of Avenue 50, which turns north and becomes Tyler Street, traffic control/flagging will be used to manage travel through this area. The duration of this construction activity is anticipated to be approximately one week. Following completion of this work, it is anticipated local traffic will be able to utilize the new bridge across the CVSC.

Construction of Phase 1 of this project will have no impacts on the operational performance of SR-86.

Local Street Operational Performance Between Phase 1 and Phase 2 of the Project

With the Avenue 50 Bridge widening in place under the Build scenario, the Avenue 50/Tyler Street/Magnolia intersection will be constructed with a traffic signal, which would improve the operations at this intersection from LOS F to acceptable LOS C during both AM and PM peak hours under year 2021 conditions. The additional capacity provided by the Avenue 50 Bridge project is expected to attract more traffic to the Avenue 50/SR-86 intersection, resulting in increased delays at this intersection. However, this at-grade intersection is proposed to upgrade to an interchange by Year 2025 as Phase 2 improvements of the project. All other study intersections would operate at acceptable LOS D or better conditions under the 2021 Build scenario.

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Phase 1 Detour Map

Figure 2.1.6-4

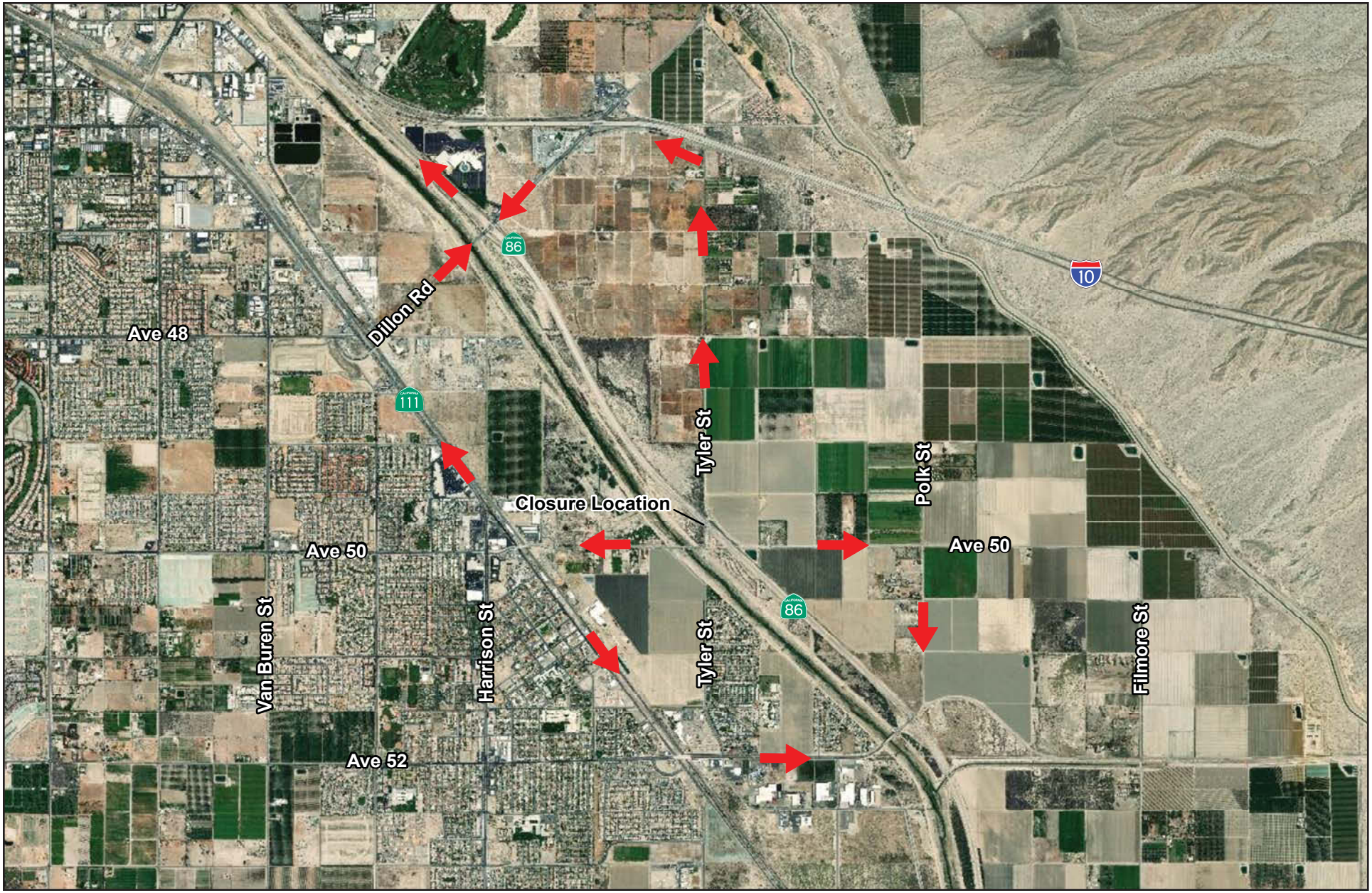
The second phase, constructing the SR-86/Avenue 50 interchange, is anticipated to take approximately 15 months. Full expressway and lane closures would be required during night times and on weekends to accommodate the following roadway and structure construction activities:

- Installation, moving and removal of k-rails;
- Striping and removal operations;
- Falsework erection and removal;
- Deck pouring;
- Placement of concrete pavement using rapid set concrete;
- Asphalt concrete pavement construction and overlay operations; and
- Utility work/traffic signal/lighting installations.

The existing SR-86/Avenue 50 at-grade intersection would remain operational during the interchange construction process with the exception of the work necessary to complete the new on- and off-ramps to northbound and southbound SR-86. Construction of realigned Tyler Street to realigned Avenue 50 is expected to result in a 10-day full closure at the intersection of Tyler Street and Avenue 50. A temporary detour pavement will be constructed in advance to manage traffic through this existing intersection during construction. Construction of the new alignment of Avenue 50 to the existing alignment of Avenue 50 at the eastern limits of the project with respect to Avenue 50, is expected to be accomplished through flagging only and is anticipated to be completed in 10 days. Completion of construction of the northbound on-ramp to SR-86, which will involve permanent removal of access to SR-86 via the existing Tyler Street/Avenue 50 intersection with northbound SR-86, is expected to be completed in one month. This part of Phase 2 construction will require a detour for traffic on Avenue 50 and for traffic on Tyler Street, to address access to northbound SR-86; refer to Figure 2.1.6-5, Phase 2 Detour Map. Completion of construction of the southbound off-ramp to Avenue 50, which will involve permanent removal of access to SR-86 via the existing Tyler Street/Avenue 50 intersection with southbound SR-86, is expected to be completed in one month. This part of Phase 2 construction, which will coincide with the construction related to the northbound on-ramp, will require a detour for traffic on Avenue 50, to address access to southbound SR-86. The respective detours related to construction of the new on-ramp to northbound SR-86 and construction of the new off-ramp from southbound SR-86 will be in place until the new interchange is open for traffic.

The existing sidewalk along Tyler Street, north and south of Calle Mendoza, will be protected in place and/or reconstructed to maintain connectivity between residential areas and Sierra Vista Park; refer to Table 2.1.6-23, Proposed Sidewalks.

As noted in Chapter 1.0 of this IS/EA, the project will include preparation and implementation of a Transportation Management Plan (TMP) during the Plans, Specifications, and Estimates (PS&E) phase. The Caltrans Transportation Management Plan Guidelines (TMP Guidelines) identifies the processes, roles, and responsibilities for preparing and implementing TMPs, as well as useful strategies for reducing congestion and managing work zone traffic impacts. The primary objective of the TMP is to maintain safe movement for vehicles, pedestrians, and bicyclists through the construction zone, as well as minimize traffic delays during the construction period.



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Phase 2 Detour Map

Figure 2.1.6-5

The TMP will include, but not be limited to, the following six major elements:

- Public information/public awareness campaign
- Traveler information strategies
- Incident management
- Construction strategies
- Demand management
- Alternate route strategies

With implementation of the TMP for the project, it is expected that adverse temporary effects related to traffic, pedestrian, and bicyclists will not occur.

2.1.6.3.2 Permanent Impacts

As noted above, the following scenarios are considered in the traffic analysis:

- Existing (2015) Conditions
- Opening Year 2021 No Build Conditions
- Opening Year 2021 With Phase 1 (One Build Alternative for Avenue 50 Bridge)
- Opening Year 2025 No Build Conditions
- Opening Year 2025 With Phase 2 (Two Build Alternatives for SR-86/Avenue 50 Interchange)
- Design Year 2045 No Build Conditions
- Design Year 2045 With Phase 1 & Phase 2 combined (Two Build Alternatives for SR-86/Avenue 50 Interchange)

Future traffic volumes and turn movements for all study scenarios for SR-86, Avenue 50, and Tyler Street are presented in this section of the IS/EA and/or in Figures 2.1.6-6 through 2.1.6-17.

Alternative 1 (No-Build Alternative)

Under this alternative for Opening Year 2021, no improvements would be made to the existing SR-86/Avenue 50 intersection or local roadway (Avenue 50 and Tyler Street) other than routine roadway maintenance. The No-Build Alternative assumes the completion of Phase 1 of the project (construction of Avenue 50 Bridge) for Opening Year 2025; however, Phase 2 improvements would not be constructed (SR-86/Avenue 50 interchange). Both Opening Year 2025 and Design Year 2045 scenarios assume background improvements over existing conditions.

Opening Year 2025 scenarios assume background improvements at the following locations:

- *Avenue 52 and SR-86 Southbound Ramps*. This location is assumed to be a part of a signalized diamond interchange with the SR-86 mainline grade separated from Avenue 52.

- *Avenue 52 and SR-86 Northbound Ramps*. This location is assumed to be part of a signalized diamond interchange with the SR-86 mainline grade separated from Avenue 52.

Design Year 2045 scenarios assume background improvements at the following locations:

- Avenue 50 and Peter Rabbit Lane. Avenue 50 is assumed to be a four-lane facility, with two through lanes in each direction. This assumption is consistent with the City's adopted General Plan, which classifies this segment of Avenue 50 as a four-lane Primary Arterial.

- Dillon Road and SR-86 Southbound Ramps with the SR-86 mainline grade separated from Dillon Road. Dillon Road is assumed to be a six-lane facility, with three through lanes in each direction. This assumption is consistent with the City's adopted General Plan, which classifies Dillon Road as a six-lane Major Arterial.

- Dillon Road and SR-86 Northbound Ramps with the SR-86 mainline grade separated from Dillon Road. Dillon Road is assumed to be a six-lane facility, with three through lanes in each direction. This assumption is consistent with the City's adopted General Plan, which classifies Dillon Road as a six-lane Major Arterial.

- Avenue 52 and SR-86 Southbound Ramps. This location is assumed to be a part of a signalized diamond interchange with the SR-86 mainline grade separated from Avenue 52.

- Avenue 52 and SR-86 Northbound Ramps. This location is assumed to be part of a signalized diamond interchange with the SR-86 mainline grade separated from Avenue 52.

Tables 2.1.6-9 through 2.1.6-13 show future levels of service for study area roadway segments and intersections for Opening Years 2021 and 2025, and Design Year 2045, respectively. As discussed previously, it should be noted that under the No-Build Alternative, SR-86 in the study area would remain as a multi-lane highway with at-grade access points, rather than a freeway. Since 2021 is opening year for the Avenue 50 Bridge, Avenue 50 roadway segments were not included as study locations for Freeway Interchange Opening Year 2025. In addition, Avenue 50 roadway segments were not included as study locations under Opening Year 2025. Therefore, no roadway segments were analyzed under year 2025 conditions.

Table 2.1.6-9: Opening Year 2021 Roadway Segment Analysis (Alternative 1)

	Segment	Classification[1]	ADT	Capacity[2]	V/C	LOS[3]
1	Avenue 50: Low Water Crossing Between Tyler Street and SR-86	Major Arterial (2)	**14,500**	**13,000[4]**	**1.12**	**F**
2	Avenue 50: Between Leoco Lane and Peter Rabbit Lane	Primary Arterial (4)	18,220	37,400	0.49	A
3	Avenue 50: West of Harrison Street	Major Arterial (2)	11,200	13,000[4]	0.86	D

Notes:
1 Classification reflects future build-out of roadway segment from City of Coachella General Plan (2015).
2 Capacity from City of Coachella General Plan EIR Appendix 11.4 (2013).
3 LOS E represents at capacity operations.
4 Capacity is based on existing roadway condition and Riverside County Integrated Project General Plan's capacity thresholds for 2-lane Collector.

Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 27.

Opening Year 2021: As shown in Table 2.1.6-9, Avenue 50 between Tyler Street and SR-86 would operate unacceptably at LOS F due to constrained capacity under Alternative 1. As shown in Figure 2.1.6-6 and Table 2.1.6-10, the majority of the study intersections would operate acceptably at LOS D or better during both AM and PM peak hours under Alternative 1, with the exception of: 1) the Avenue 50/Tyler Street intersection, which would remain as stop-controlled and operate at an unacceptable LOS F during both AM and PM peak hours; and 2) the SR-86/Avenue 50 intersection would remain as an at-grade signal and operate at LOS E and F during both AM and PM peak hours, respectively.

Table 2.1.6-10: Opening Year 2021 Intersection LOS Summary (Alternative 1)

Intersection		Control	AM		PM	
			Delay	LOS	Delay	LOS
2	Avenue 50/Leoco Lane	Signal	8.8	A	10.7	B
3	Avenue 50/Peter Rabbit Lane	Signal	7.6	A	9.5	A
4	Avenue 50/Tyler Street	Side-street stop	**621.4**	**F**	**653.4**	**F**
5 6	Avenue 50/Southbound SR-86 Avenue 50/Northbound SR-86	Signal	**79.8**	**E**	**80.6**	**F**
11	Tyler Street/Calle Mendoza	Side-street stop	15.3	C	14.9	B

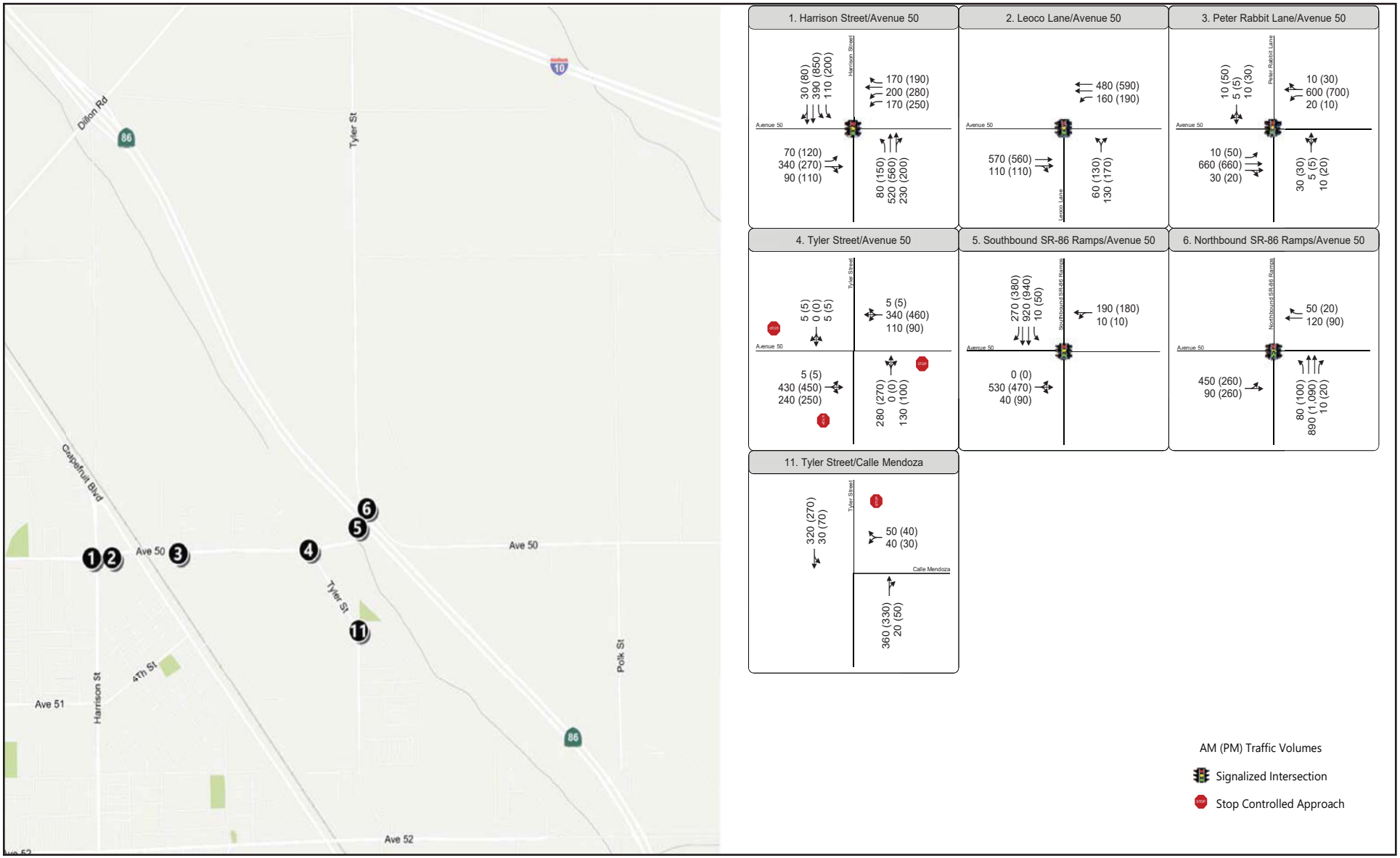
Bold text indicates unacceptable level of service.
Note: For signalized intersections, delay shows whole intersection weighted average control delay using methods (HCM 2010).
Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 29.

Opening Year 2025: As shown in Figure 2.1.6-7 and Table 2.1.6-11, all the study ramp terminal intersections would operate acceptably at LOS D or better conditions during both AM and PM peak hours under Alternative 1, with the exception of the SR-86/Avenue 50 intersection, which would remain as an at-grade signal and operate at LOS F during both AM and PM peak hours.

Table 2.1.6-11: Opening Year 2025 Intersection LOS Summary (Alternative 1)

Intersection		Control	AM		PM	
			Delay	LOS	Delay	LOS
5 6	Avenue 50/Southbound SR-86 Ramps Avenue 50/Northbound SR-86 Ramps	Signal	**162.2**	**F**	**182.2**	**F**
7	Dillon Road/Southbound SR-86 Ramps	Signal	12.1	B	26.8	C
8	Dillon Road/Northbound SR-86 Ramps	Signal	16.8	B	13.1	B
9	Avenue 52/Southbound SR-86 Ramps	Signal	12.6	B	9.7	A
10	Avenue 52/Northbound SR-86 Ramps	Signal	13.5	B	13.2	B

Bold text indicates unacceptable level of service.
Note: For signalized intersections, delay shows whole intersection weighted average control delay using methods (HCM 2010).
Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 39.



Source: State Route 86/Avenue 50 New Interchange Project Final Traffic Operations Report, November 2017.

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Opening Year 2021 (Alternative 1) Peak Hour Intersection Volumes

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Figure 2.1.6-6

Design Year 2045: As shown in Table 2.1.6-12, all roadway segments along Avenue 50 would operate at an acceptable LOS D or better under Alternative 1, with the exception of the Avenue 50 low water crossing between Tyler Street and SR-86, which would operate at LOS F. As shown in Figure 2.1.6-8 and Table 2.1.6-13, the majority of the study intersections would operate acceptably at LOS D or better conditions during both AM and PM peak hours under the No Build scenario, with the exception of 1) the Avenue 50/Tyler Street intersection, which would remain as stop-controlled and operate at an unacceptable LOS F during both AM and PM peak hours; and 2) the SR-86/Avenue 50 intersection, which would remain as an at-grade signal and operate at LOS F during both AM and PM peak hours.

Table 2.1.6-12: Design Year 2045 Roadway Segment Analysis (Alternative 1)

	Segment	Classification[1]	ADT	Capacity[2]	V/C	LOS[3]
1	Avenue 50: Low Water Crossing Between Tyler Street and SR-86	Major Arterial (2)	**30,570**	**13,000[4]**	**2.35**	**F**
2	Avenue 50: Between Leoco Lane and Peter Rabbit Lane	Primary Arterial (4)	26,270	37,400	0.70	C
3	Avenue 50: West of Harrison Street	Major Arterial (6)	15,370	56,000	0.27	A

Notes:
1 Classification reflects future build-out of roadway segment from City of Coachella General Plan (2015)
2 Capacity from City of Coachella General Plan EIR Appendix 11.4 (2013).
3 LOS E represents at capacity operations.
4 Capacity is based on existing roadway condition and Riverside County Integrated Project General Plan's capacity thresholds for 2-lane Collector.

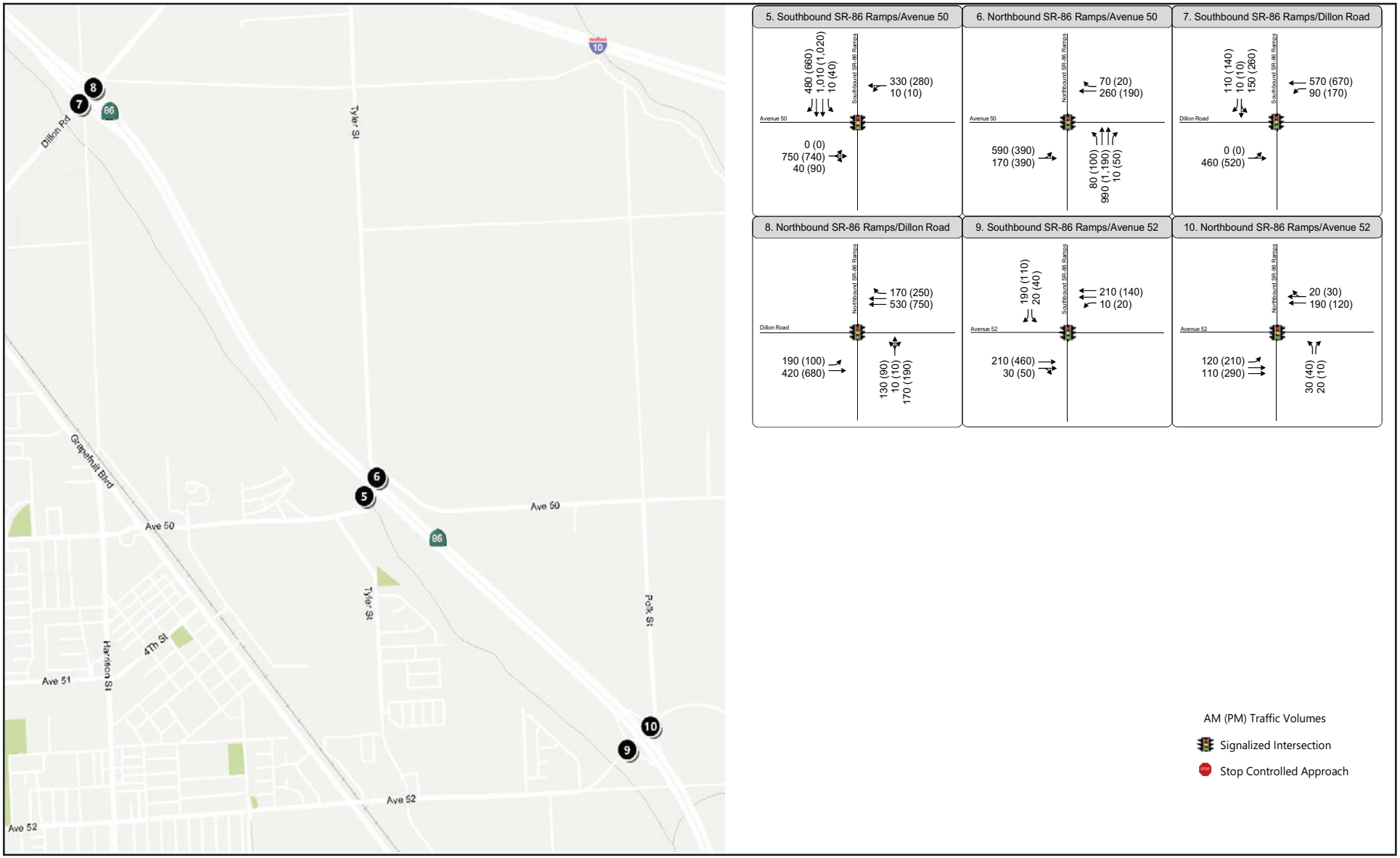
Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 49.

Table 2.1.6-13: Design Year 2045 Intersection LOS Summary (Alternative 1)

Intersection		Control	AM		PM	
			Delay	LOS	Delay	LOS
2	Avenue 50/Leoco Lane	Signal	14.0	B	30.9	C
3	Avenue 50/Peter Rabbit Lane	Signal	8.9	A	8.7	A
4	Avenue 50/Tyler Street	Side-street stop	**1,817.2**	**F**	**877.2**	**F**
5	Avenue 50/Southbound SR-86 Ramps	Signal	**450.8**	**F**	**431.7**	**F**
6	Avenue 50/Northbound SR-86 Ramps					
7	Dillon Road/Southbound SR-86 Ramps	Signal	12.4	B	32.1	C
8	Dillon Road/Northbound SR-86 Ramps	Signal	31.2	C	18.2	B
9	Avenue 52/Southbound SR-86 Ramps	Signal	11.3	B	10.3	B
10	Avenue 52/Northbound SR-86 Ramps	Signal	10.1	B	9.0	A
11	Tyler Street/Calle Mendoza	Side-street stop	20.4	C	18.8	C

Bold text indicates unacceptable level of service.
Note: For signalized intersections, delay shows whole intersection weighted average control delay using methods (HCM 2010).

Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 52.



Source: State Route 86/Avenue 50 New Interchange Project Final Traff c Operations Report, November 2017.

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Opening Year 2025 (Alternative 1) Peak Hour Intersection Volumes

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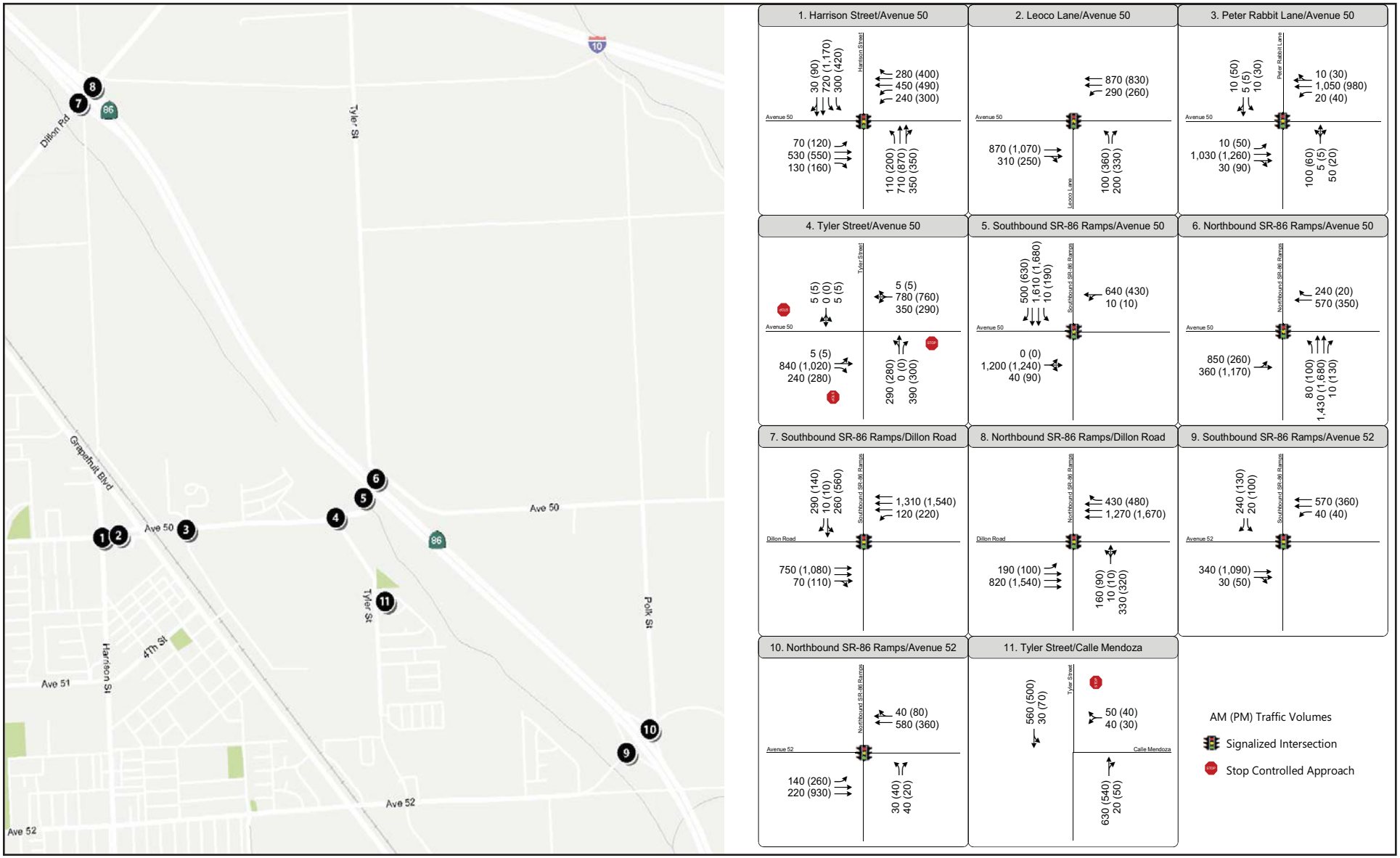
Figure 2.1.6-7



Source: State Route 86/Avenue 50 New Interchange Project Final Traff c Operations Report, November 2017.

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Design Year 2045 (Alternative 1) Peak Hour Intersection Volumes

Figure 2.1.6-8

Alternatives 7 and 8 (Build Alternatives)

Tables 2.1.6-14 through 2.1.6-22 show future levels of service under the Build Alternatives for study area roadway and freeway segments and intersections for Opening Years 2021 (Phase 1) and 2025 (Phase 2), and Design Year 2045, respectively. As discussed previously, SR-86 in the study area would remain as a multi-lane highway with at-grade access points, rather than a freeway by 2021. Therefore, SR-86 mainline segments were not included as study locations under 2021 conditions. The ramp terminal intersections at Dillon Road and Avenue 52 were also not included as study locations under 2021 conditions. In addition, Avenue 50 roadway segments were not included as study locations under Opening Year 2025.

Table 2.1.6-14: Opening Year 2021 (Phase 1)
Roadway Segment Analysis (Build Alternatives)

Segment		Classification[1]	ADT	Capacity[2]	V/C	LOS[3]
1	Avenue 50: Bridge Between Tyler Street and SR-86	Major Arterial (6)	16,480	56,000	0.29	A
2	Avenue 50: Between Leoco Lane and Peter Rabbit Lane	Primary Arterial (4)	18,960	37,400	0.51	A
3	Avenue 50: West of Harrison Street	Major Arterial (2)	11,260	13,000[4]	0.87	D

Notes:
1 Classification from City of Coachella General Plan Update (2015).
2 Capacity from City of Coachella General Plan EIR Appendix 11.4 (2013).
3 LOS E represents at capacity operations.
4 Capacity is based on existing roadway condition and Riverside County Integrated Project General Plan's capacity thresholds for 2-lane Collector.

Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 28.

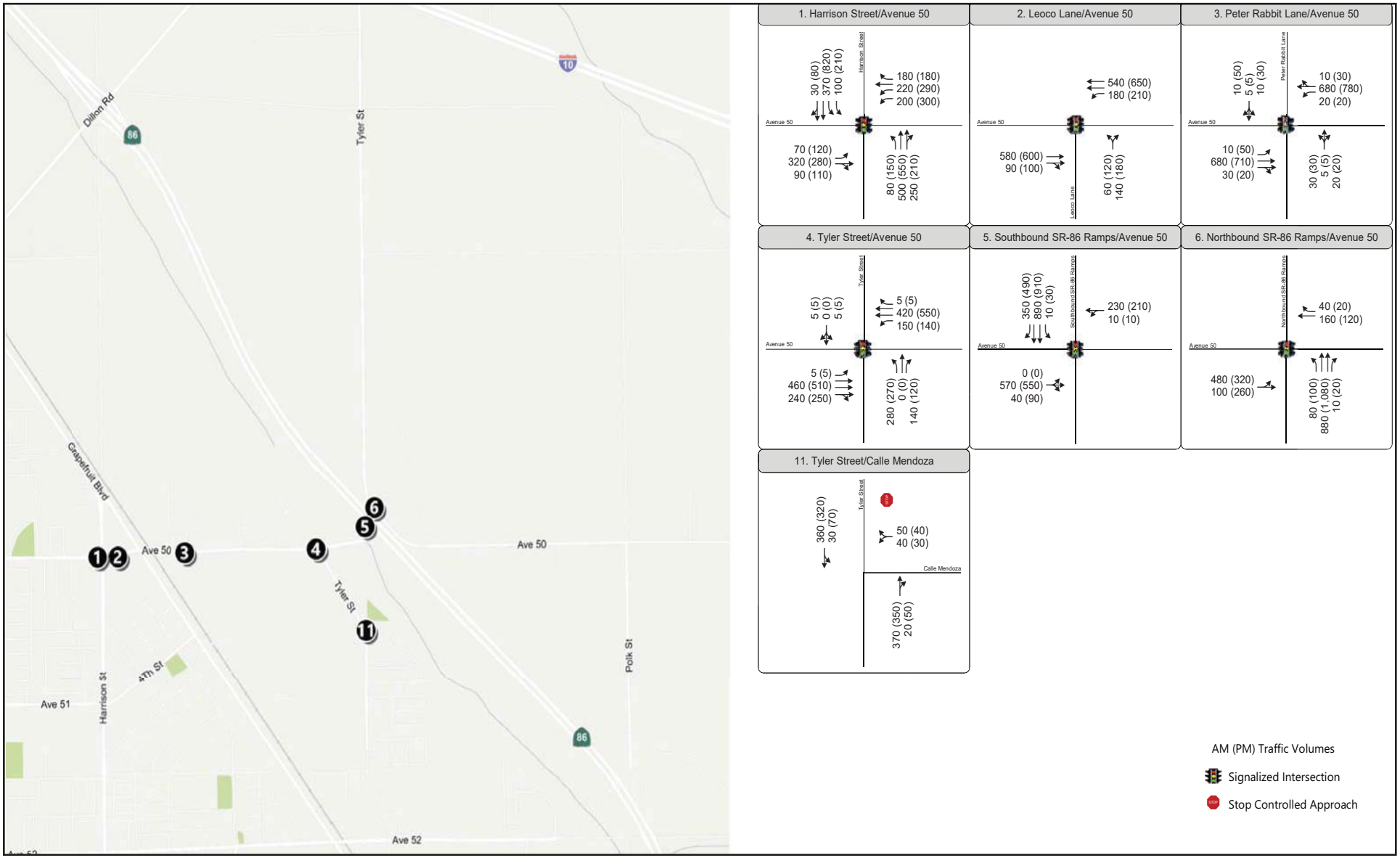
Opening Year 2021 (Phase 1): As shown in Table 2.1.6-14, all the roadway segments along Avenue 50 would operate at acceptable LOS D or better conditions under the Build Alternatives. As shown in Figure 2.1.6-9 and Table 2.1.6-15, the study area intersections would operate acceptably at LOS D or better during both AM and PM peak hours under the Build Alternatives, with the exception of the SR-86/Avenue 50 intersection, which would remain as an at-grade signal and operate at LOS F during both AM and PM peak hours.

Table 2.1.6-15: Opening Year 2021 (Phase 1)
Intersection LOS Summary (Build Alternatives)

Intersection		Control	AM		PM	
			Delay	LOS	Delay	LOS
2	Avenue 50/Leoco Lane	Signal	8.8	A	10.4	B
3	Avenue 50/Peter Rabbit Lane	Signal	9.1	A	12.0	B
4	Avenue 50/Tyler Street	Signal	28.2	C	23.0	C
5	Avenue 50/Southbound SR-86	Signal	**95.5**	**F**	**96.8**	**F**
6	Avenue 50/Northbound SR-86					
11	Tyler Street/Calle Mendoza	Side-street stop	16.2	C	16.0	C

Bold text indicates unacceptable level of service.
Note: For signalized intersections, delay shows whole intersection weighted average control delay using methods (HCM 2010).

Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 29.



Source: State Route 86/Avenue 50 New Interchange Project Final Traffic Operations Report, November 2017.

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Opening Year 2021 Phase 1 (Build Alternatives) Peak Hour Intersection Volumes

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Figure 2.1.6-9

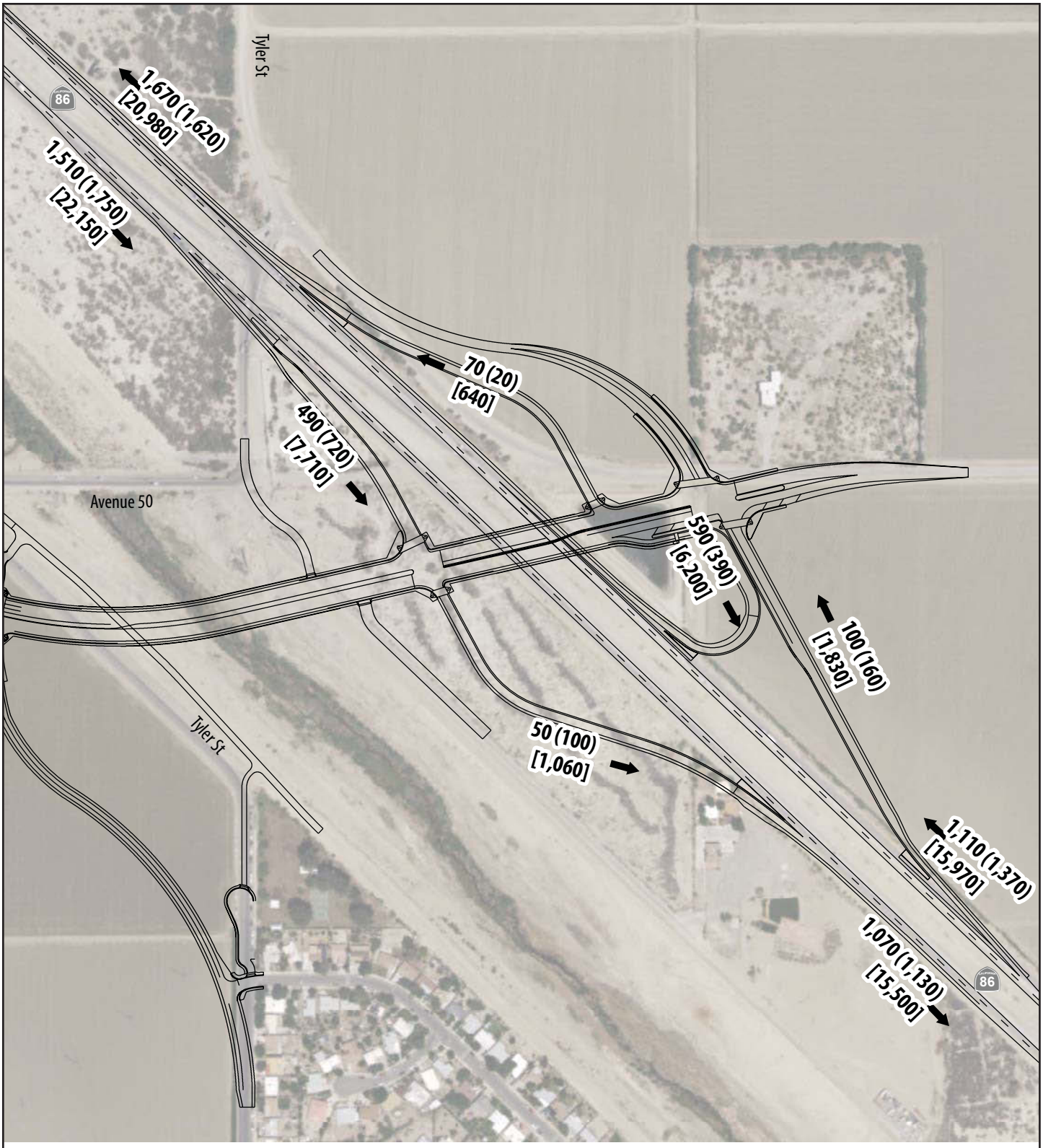
With the Avenue 50 Bridge widening in place under the Build Alternatives, the Avenue 50/Tyler Street intersection would be constructed with a traffic signal, which would improve the operations at this intersection from LOS F without the project to an acceptable LOS C during both AM and PM peak hours under year 2021. Prior to the construction of Phase 2 (for approximately 24 months), the additional capacity provided by the new Avenue 50 bridge is expected to attract more traffic using the Avenue 50/SR-86 intersection and result in higher delay at this intersection. As shown in Tables 2.1.6-10 and 2.1.6-15, during the AM peak hour, the travelers on Avenue 50/SR-86 intersection would experience a 95.5 seconds delay (an increase of 15.7 seconds) resulting in an LOS F. In the PM peak hour, the delay will be 96.8 seconds (an increase of 16.2 seconds) resulting in an LOS F. However, this at-grade intersection is proposed to upgrade to an interchange by Year 2025 as Phase 2 improvements of the project. As shown in Table 2.1.6-17, below, Phase 2 improvements would reduce delay time to 16.1 seconds in the AM (an improvement of 79.4 seconds) resulting in an improved LOS B and 22.8 seconds in the PM (an improvement of 60.1 seconds) resulting in an improved LOS C at the Avenue 50/Southbound SR-86 Ramps. At the Avenue 50/Northbound SR-86 Ramps, delays would be reduced to 11.9 seconds in the AM (an improvement of 83.6 seconds) and 16.0 seconds in the PM (an improvement of 80.8 seconds), both resulting in an improved LOS B. All other study intersections would operate at acceptable LOS C or better conditions under the Build Alternatives in 2021.

Opening Year 2025 (Phase 2): Under the Build Alternatives, a portion of SR-86, between Avenue 52 and Dillon Road, would be converted from an at-grade signalized intersection into a grade-separated full interchange which would eliminating cross traffic. As shown in Figures 2.1.6-10 and 2.1.6-11 and Table 2.1.6-16, all study freeway locations along SR-86 would operate at acceptable LOS C or better under both Build Alternatives. As shown in Figures 2.1.6-12 and 2.1.6-13 and Tables 2.1.6-17 and 2.1.6-18, the two ramp terminal intersections at SR-86 and Avenue 50 would improve from LOS F without the project to an acceptable LOS C or better during both AM and PM peak hours under both Build Alternatives. All other study intersections would operate at acceptable LOS B conditions under the Build Alternatives.

Table 2.1.6-16: Opening Year 2025 (Phase 2)
Freeway Analysis Summary (Build Alternatives)

Segment	Type	Build Alternative 7				Build Alternative 8			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Density[1]	LOS	Density[1]	LOS	Density[1]	LOS	Density[1]	LOS
Northbound SR-86									
NB Mainline south of Avenue 50	Basic	10.5	A	11.1	B	10.5	A	11.1	B
Avenue 50 Off-ramp	Diverge	15.5	B	16.2	B	15.5	B	16.2	B
Avenue 50 Loop On-ramp	Merge	16.8	B	15.6	B	16.8	B	15.6	B
Avenue 50 Slip On-ramp	Merge	18.8	B	16.0	B	18.8	B	16.0	B
Mainline (Avenue 50 to Dillon Road)	Basic	15.8	B	13.1	B	15.8	B	13.1	B
Dillon Road Off-ramp	Diverge	21.3	C	18.1	B	21.3	C	18.1	B
Southbound SR-86									
Dillon Road On-ramp	Merge	16.0	B	18.5	B	16.0	B	18.5	B
Mainline (Dillon Road to Avenue 50)	Basic	13.2	B	15.8	B	13.2	B	15.8	B
Avenue 50 Off-ramp	Diverge	18.8	B	22.0	C	18.8	B	22.0	C
Avenue 50 Slip On-ramp	Merge	11.9	B	12.7	B	11.9	B	12.7	B
Mainline north of Avenue 50	Basic	9.4	A	10.2	A	9.4	A	10.2	A

Bold text indicates unacceptable operations.
Note:
1 Density was reported in number of vehicles per lane per mile.
Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 38.



Source: State Route 86/Avenue 50 New Interchange Project Final Traff c Operations Report, November 2017.

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Opening Year 2025 Phase 2 (Alternative 7) Mainline Traffic Volume Forecasts

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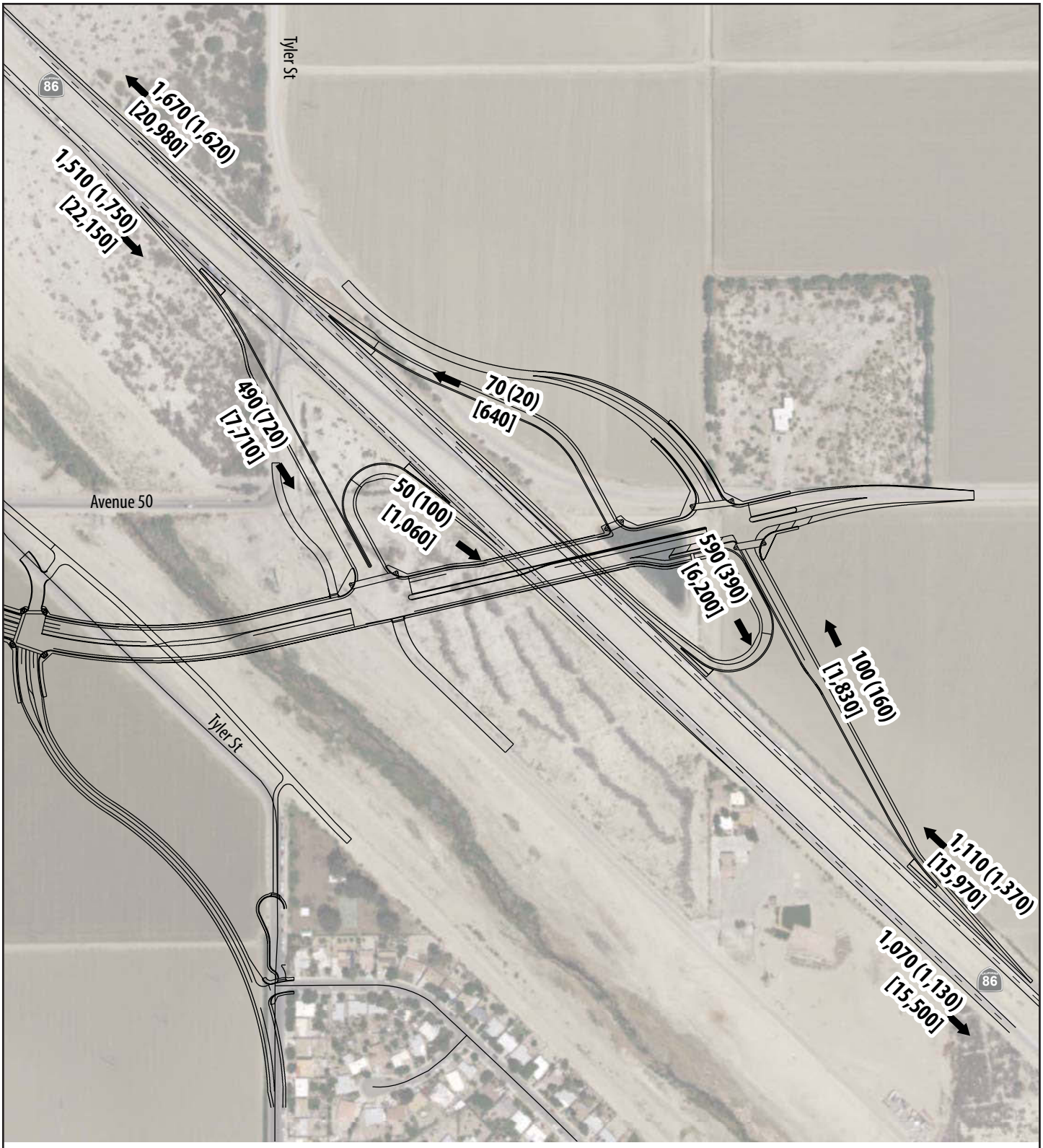
Figure 2.1.6-10



Source: State Route 86/Avenue 50 New Interchange Project Final Traff c Operations Report, November 2017.

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Opening Year 2025 Phase 2 (Alternative 8) Mainline Traffic Volume Forecasts

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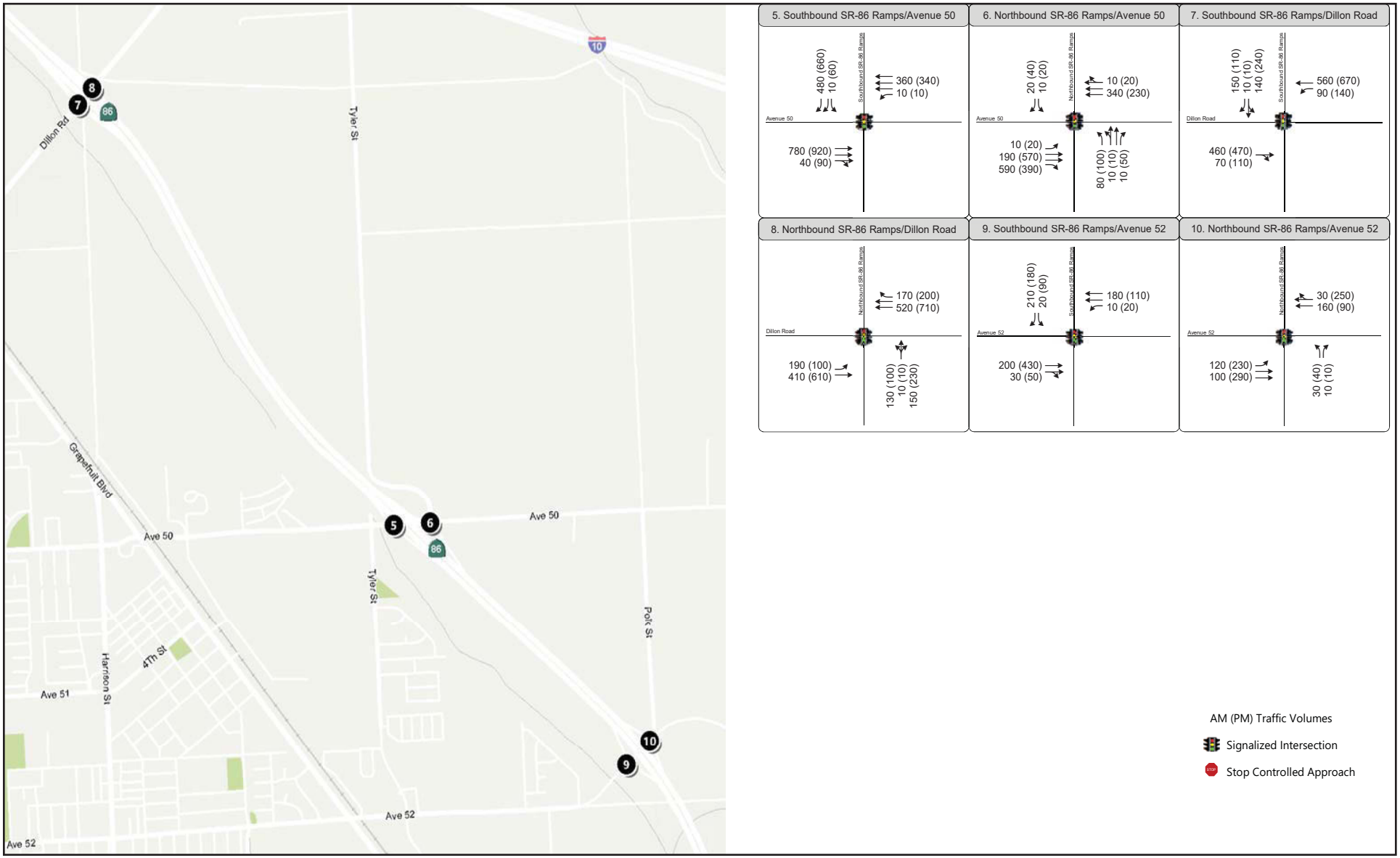
Figure 2.1.6-11



Source: State Route 86/Avenue 50 New Interchange Project Final Traff c Operations Report, November 2017.

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Opening Year 2025 (Alternative 7) Peak Hour Intersection Volumes

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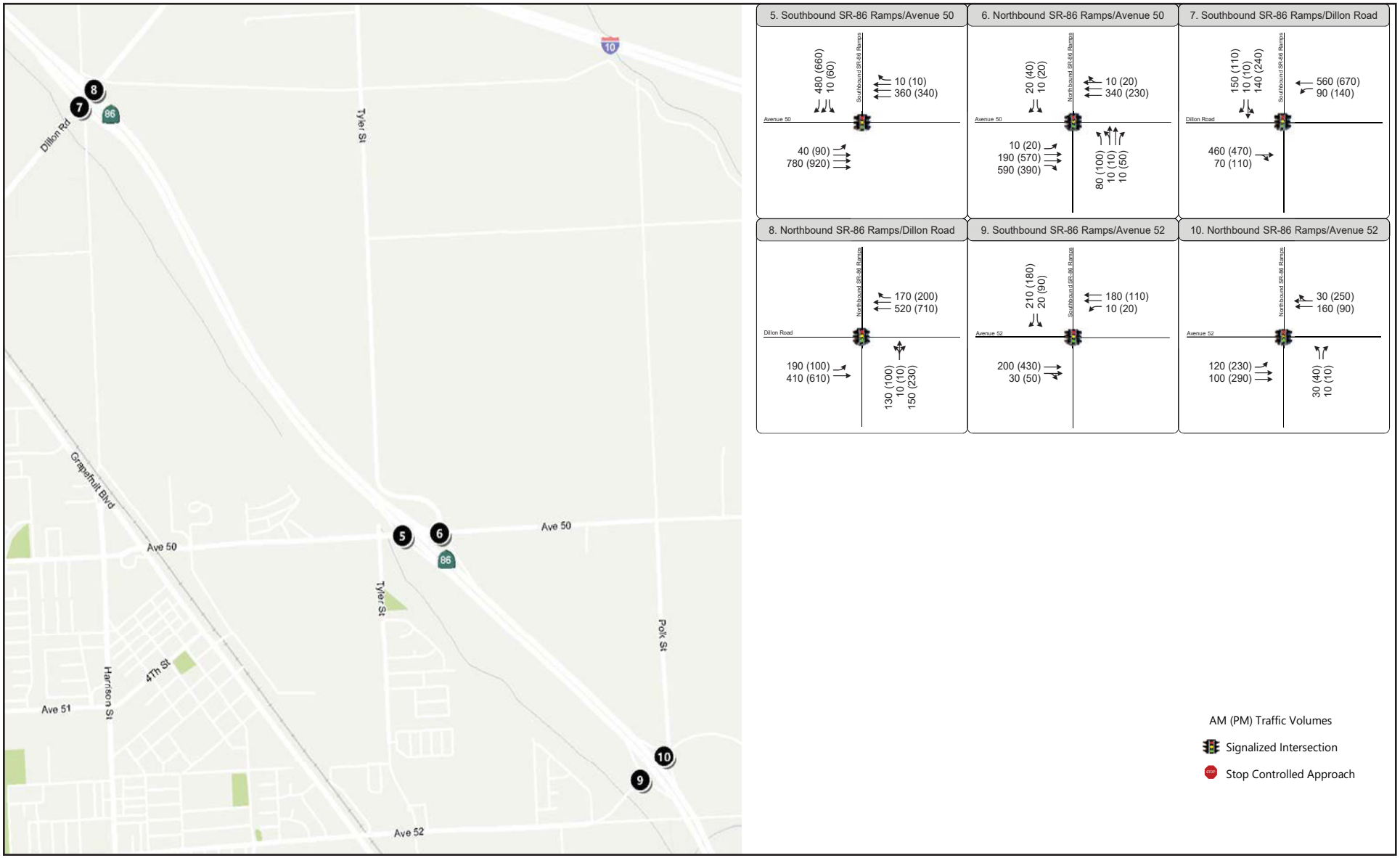
Figure 2.1.6-12



Source: State Route 86/Avenue 50 New Interchange Project Final Traff c Operations Report, November 2017.

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STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

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Opening Year 2025 (Alternative 8) Peak Hour Intersection Volumes

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Figure 2.1.6-13

Table 2.1.6-17: Opening Year 2025 (Phase 2) Intersection LOS Summary (Build Alternative 7)

Intersection		Control	AM		PM	
			Delay	LOS	Delay	LOS
5	Avenue 50/Southbound SR-86 Ramps	Signal	16.1	B	22.8	C
6	Avenue 50/Northbound SR-86 Ramps	Signal	11.9	B	16.0	B
7	Dillon Road/Southbound SR-86 Ramps	Signal	11.9	B	19.6	B
8	Dillon Road/Northbound SR-86 Ramps	Signal	15.9	B	17.0	B
9	Avenue 52/Southbound SR-86 Ramps	Signal	13.6	B	13.2	B
10	Avenue 52/Northbound SR-86 Ramps	Signal	13.9	B	12.8	B
Note: For signalized intersections, delay shows whole intersection weighted average control delay using methods (HCM 2010).						
Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 39.						

Table 2.1.6-18: Opening Year 2025 (Phase 2) Intersection LOS Summary (Build Alternative 8)

Intersection		Control	AM		PM	
			Delay	LOS	Delay	LOS
5	Avenue 50/Southbound SR-86 Ramps	Signal	15.5	B	19.9	B
6	Avenue 50/Northbound SR-86 Ramps	Signal	11.9	B	16.2	B
7	Dillon Road/Southbound SR-86 Ramps	Signal	11.9	B	19.6	B
8	Dillon Road/Northbound SR-86 Ramps	Signal	15.9	B	17.0	B
9	Avenue 52/Southbound SR-86 Ramps	Signal	13.6	B	13.2	B
10	Avenue 52/Northbound SR-86 Ramps	Signal	13.9	B	12.8	B
Note: For signalized intersections, delay shows whole intersection weighted average control delay using methods (HCM 2010).						
Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 40.						

Design Year 2045: As shown in Table 2.1.6-19 below, all study area roadway segments along Avenue 50 would operate at acceptable LOS D or better conditions under the Build Alternatives. With the increased capacity provided by the project, Avenue 50 would expect an increase in traffic demand. However, the study area roadway segments would accommodate the traffic demand increase and still operate at LOS D or better under both Build Alternatives.

Table 2.1.6-19: Design Year 2045 Roadway Segment Analysis (Build Alternatives)

Segment		Classification[1]	ADT	Capacity[2]	V/C	LOS[3]
1	Avenue 50: Bridge Between Tyler Street and SR-86	Major Arterial (6)	32,350	56,000	0.58	A
2	Avenue 50: Between Leoco Lane and Peter Rabbit Lane	Major Arterial (4)	31,240	37,400	0.84	D
3	Avenue 50: West of Harrison Street	Major Arterial (6)	16,930	56,000	0.30	A
Notes: 1 Classification from City of Coachella General Plan Update (2015). 2 Capacity from City of Coachella General Plan EIR Appendix 11.4 (2013). 3 LOS E represents at capacity operations.						
Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), p. 50.						

As shown in Figures 2.1.6-14 and 2.1.6-15 and Table 2.1.6-20, all study locations along SR-86 would operate at an acceptable LOS D or better under both Build Alternatives by 2045.

Table 2.1.6-20: Design Year 2045 Freeway Analysis Summary (Build Alternatives)

Segment	Type	Build Alternative 7				Build Alternative 8			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Density[1]	LOS	Density[1]	LOS	Density[1]	LOS	Density[1]	LOS
Northbound SR-86									
NB Mainline south of Avenue 50	Basic	13.5	B	16.8	B	13.5	B	16.8	B
Avenue 50 Off-ramp	Diverge	19.2	B	23.1	C	19.2	B	23.1	C
Avenue 50 Loop On-ramp	Merge	22.2	C	22.5	C	22.2	C	22.5	C
Avenue 50 Slip On-ramp	Merge	25.2	C	23.5	C	25.2	C	23.5	C
Mainline (Avenue 50 to Dillon Road)	Basic	22.2	C	20.1	C	22.2	C	20.1	C
Dillon Road Off-ramp	Diverge	28.5	D	26.3	C	28.5	D	26.3	C
Southbound SR-86									
Dillon Road On-ramp	Merge	21.6	C	24.3	C	21.6	C	24.3	C
Mainline (Dillon Road to Avenue 50)	Basic	18.5	C	21.3	C	18.5	C	21.3	C
Avenue 50 Off-ramp	Diverge	25.1	C	28.2	D	25.1	C	28.2	D
Avenue 50 Slip On-ramp	Merge	17.6	B	18.0	B	17.6	B	18.0	B
Mainline north of Avenue 50	Basic	14.6	B	15.0	B	14.6	B	15.0	B

Note:
1 Density was reported in number of vehicles per lane per mile.

Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), Page 51.

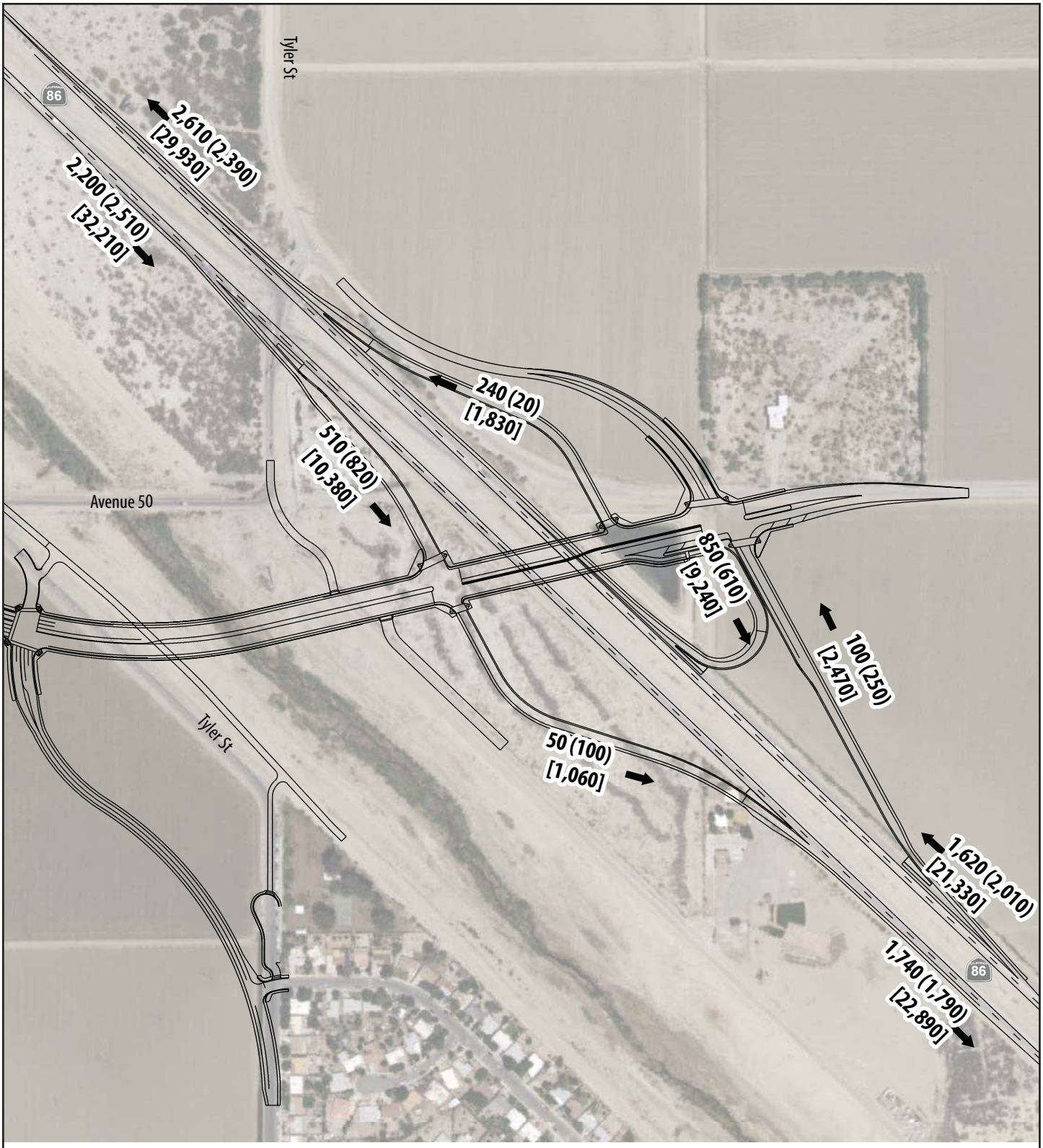
As shown in Figures 2.1.6-16 and 2.1.6-17 and Tables 2.1.6-21 and 2.1.6-22 below, both the Avenue 50/Tyler Street and SR-86/Avenue 50 intersections would improve from LOS F without the project to an acceptable LOS C or better during both AM and PM peak hours under both Build Alternatives.

Table 2.1.6-21: Design Year 2045 Intersection LOS Summary (Build Alternative 7)

Intersection		Control	AM		PM	
			Delay	LOS	Delay	LOS
2	Avenue 50/Leoco Lane	Signal	19.0	B	50.0	D
3	Avenue 50/Peter Rabbit Lane	Signal	10.4	B	12.6	B
4	Avenue 50/Tyler Street	Signal	34.0	C	33.0	C
5	Avenue 50/Southbound SR-86 Ramps	Signal	13.9	B	31.6	C
6	Avenue 50/Northbound SR-86 Ramps	Signal	8.2	A	15.9	B
7	Dillon Road/Southbound SR-86 Ramps	Signal	12.8	B	25.9	C
8	Dillon Road/Northbound SR-86 Ramps	Signal	24.6	C	29.3	C
9	Avenue 52/Southbound SR-86 Ramps	Signal	12.4	B	22.0	C
10	Avenue 52/Northbound SR-86 Ramps	Signal	10.0	B	14.4	B
11	Tyler Street/Calle Mendoza	Side-street stop	18.5	C	24.0	C

Bold text indicates unacceptable level of service.
Note: For signalized intersections, delay shows whole intersection weighted average control delay using methods (HCM 2010).

Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), Page 53.



Source: State Route 86/Avenue 50 New Interchange Project Final Traff c Operations Report, November 2017.

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Design Year 2045 (Alternative 7) Mainline Traffic Volume Forecasts

NOT TO SCALE

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Figure 2.1.6-14

Source: State Route 86/Avenue 50 New Interchange Project Final Traff c Operations Report, November 2017.

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STATE ROUTE 86/AVENUE 50 NEW INTERCHANGE PROJECT

Design Year 2045 (Alternative 8) Mainline Traffic Volume Forecasts

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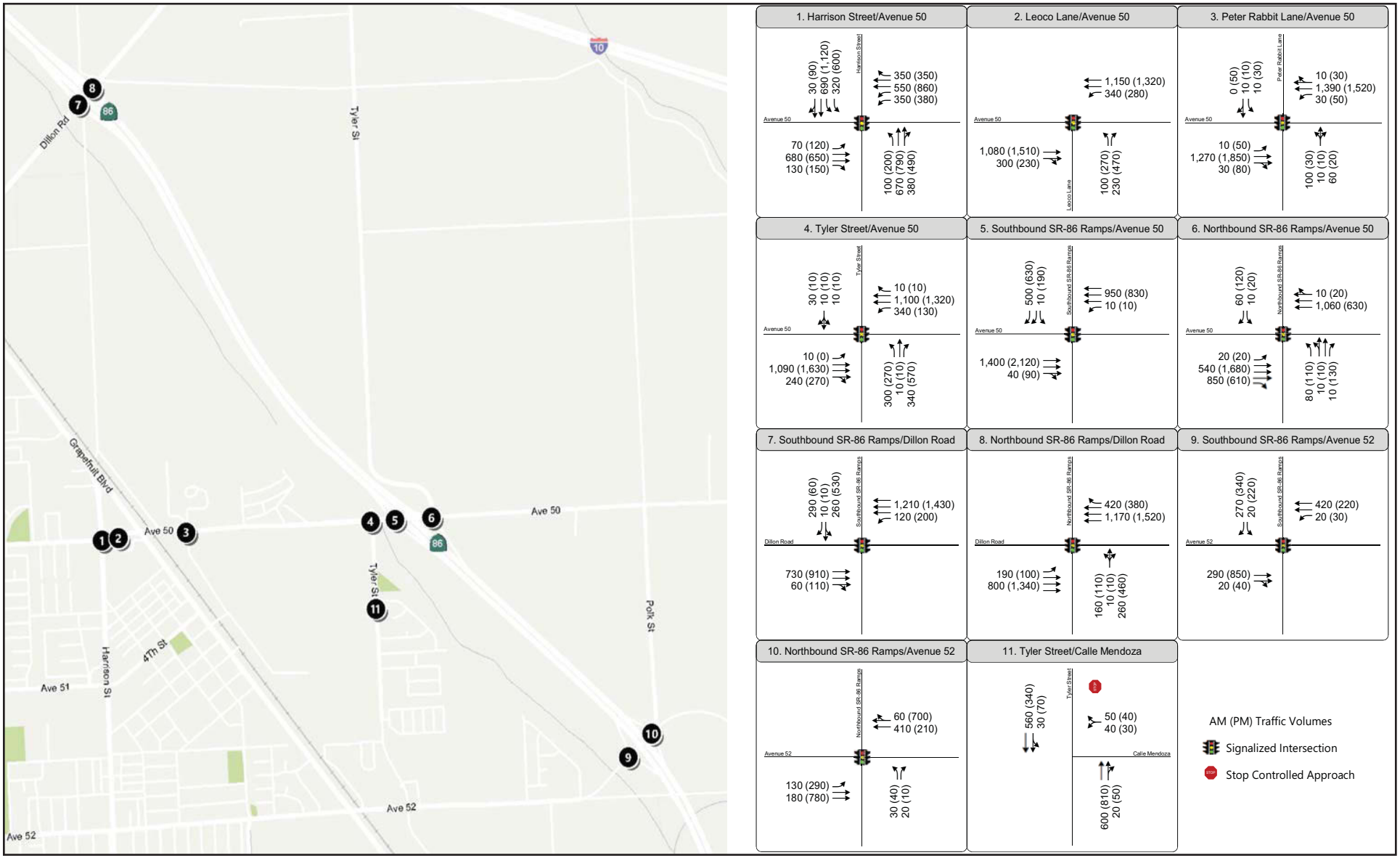
Figure 2.1.6-15



Source: State Route 86/Avenue 50 New Interchange Project Final Traff c Operations Report, November 2017.

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Design Year 2045 (Alternative 7) Peak Hour Intersection Volumes

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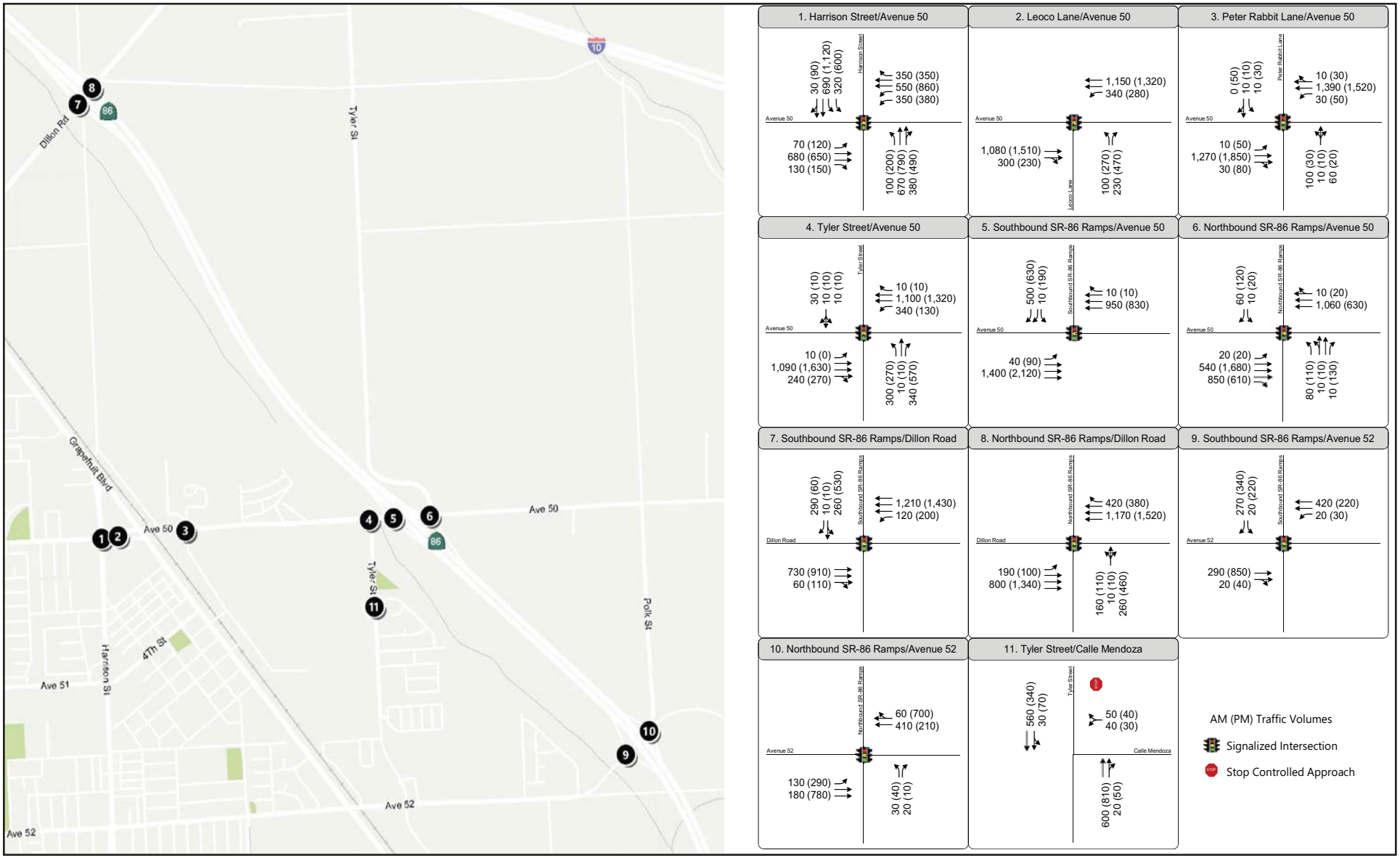
Figure 2.1.6-16



Source: State Route 86/Avenue 50 New Interchange Project Final Traff c Operations Report, November 2017.

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Design Year 2045 (Alternative 8) Peak Hour Intersection Volumes

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Figure 2.1.6-17

Table 2.1.6-22: Design Year 2045 Intersection LOS Summary (Build Alternative 8)

Intersection		Control	AM		PM	
			Delay	LOS	Delay	LOS
2	Avenue 50/Leoco Lane	Signal	19.0	B	50.0	D
3	Avenue 50/Peter Rabbit Lane	Signal	10.4	B	12.6	B
4	Avenue 50/Tyler Street	Signal	34.0	C	33.0	C
5	Avenue 50/Southbound SR-86 Ramps	Signal	13.7	B	20.8	B
6	Avenue 50/Northbound SR-86 Ramps	Signal	10.9	B	16.5	B
7	Dillon Road/Southbound SR-86 Ramps	Signal	12.8	B	25.9	C
8	Dillon Road/Northbound SR-86 Ramps	Signal	24.6	C	29.3	C
9	Avenue 52/Southbound SR-86 Ramps	Signal	12.4	B	22.0	C
10	Avenue 52/Northbound SR-86 Ramps	Signal	10.0	B	14.4	B
11	Tyler Street/Calle Mendoza	Side-street stop	18.5	C	24.0	C

Bold text indicates unacceptable level of service.
Note: For signalized intersections, delay shows whole intersection weighted average control delay using methods (HCM 2010).
Source: Fehr & Peers, SR-86/Avenue 50 New Interchange Project Final Traffic Operations Report (November 2017), Page 54.

Pedestrian and Bicycle Facilities

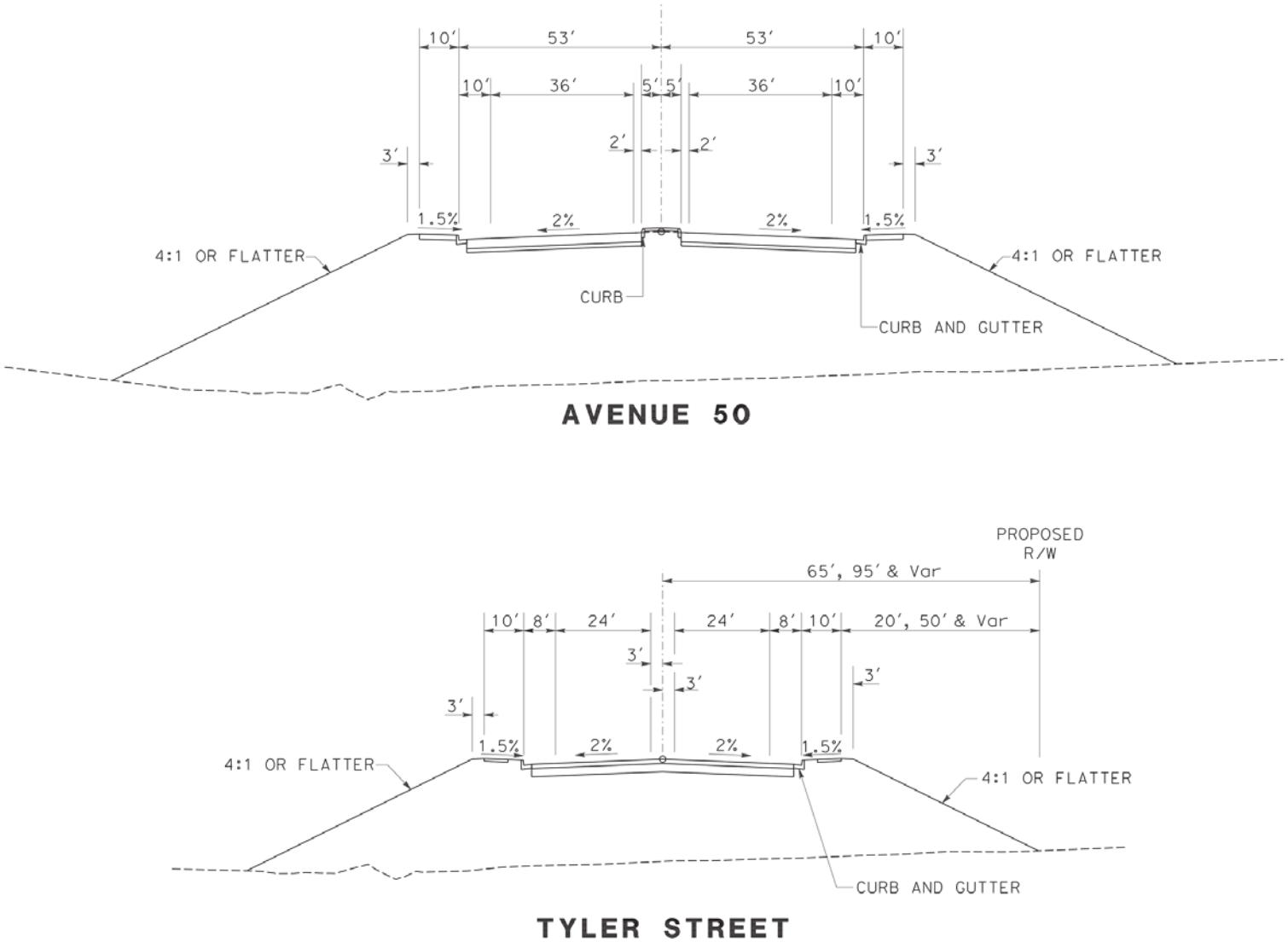
The project would include facilities intended to promote connectivity for system linkages related to pedestrian and bicycle movement. As shown in Table 2.1.6-23, Proposed Sidewalks, the project proposes sidewalk along both sides of Avenue 50 through project boundaries. In addition, the existing sidewalk along the easterly side of Tyler Street south of CVSC (adjacent to existing residences and Sierra Vista Park) would be protected in place and/or reconstructed to maintain connectivity between residential areas and Sierra Vista Park.

Table 2.1.6-23: Proposed Sidewalks

Location	Length (feet)	Width (feet)
Avenue 50*	2,800	10
Tyler Street (North)	200	10
Tyler Street (South)	200	10

*Six feet, two inches on bridges.

As noted above, there are no existing bicycle facilities within site boundaries along Avenue 50 or Tyler Street. As show in Table 2.1.6-24, Proposed Bicycle and Low Speed Electric Vehicle Lanes, along Avenue 50 through the project site, the project would provide a 10-foot wide shoulder, shared and striped as a Class II lane for bicycle and low speed electric vehicle (LSEV) use. A 7-foot-wide bike/LSEV lane would be provided between the through lanes and right-turn-only lanes, to ensure that bicyclists and LSEV drivers can safely cross ramp intersections. Refer to Figures 2.1.6-18, Proposed Typical Bicycle and Pedestrian Facilities, 2.1.6-19, Alternative 7 Proposed Bike Lanes, and 2.1.6-20, Alternative 8 Proposed Bike Lanes.



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Proposed Typical Bicycle and Pedestrian Facilities

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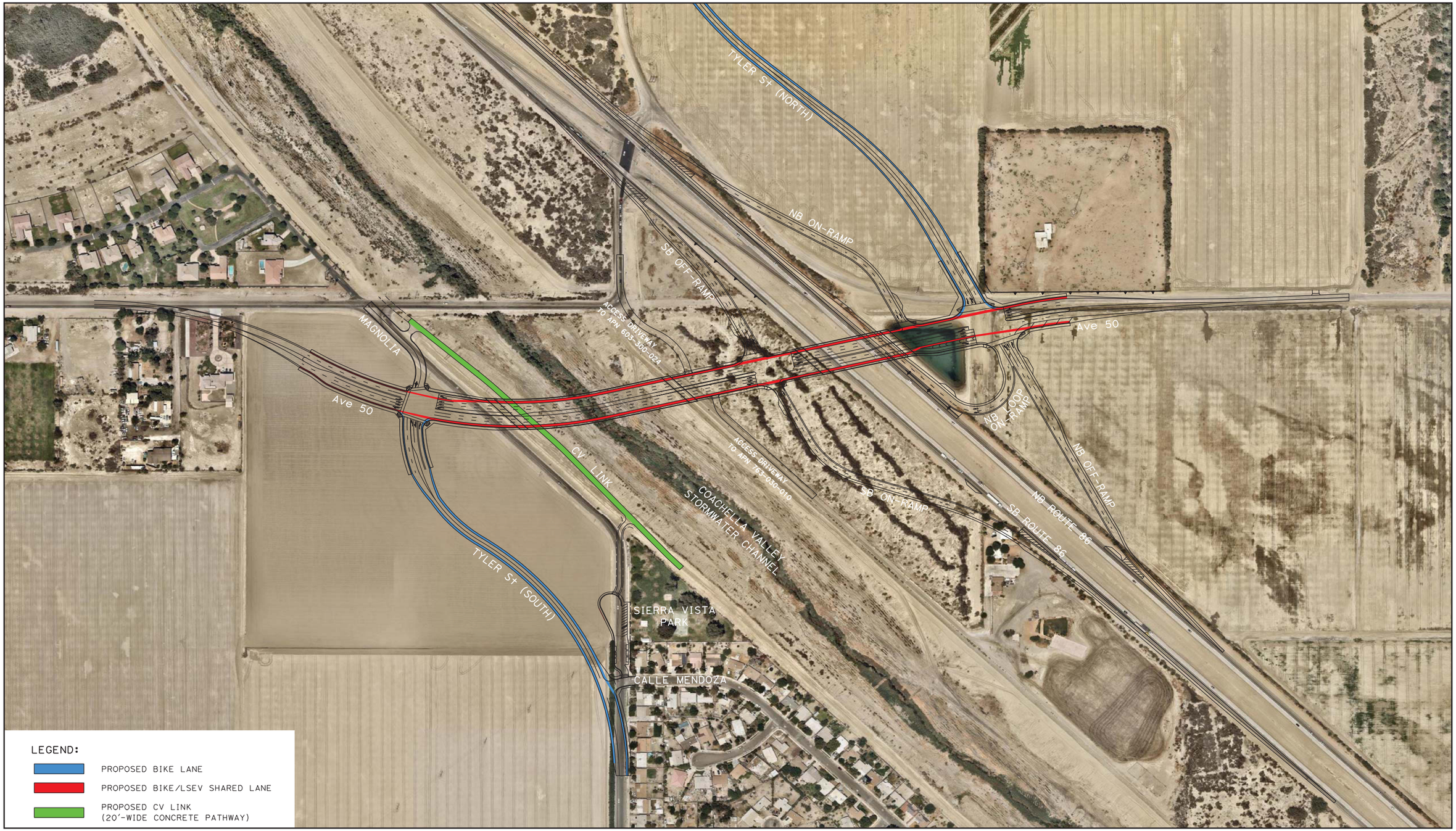
Figure 2.1.6-18



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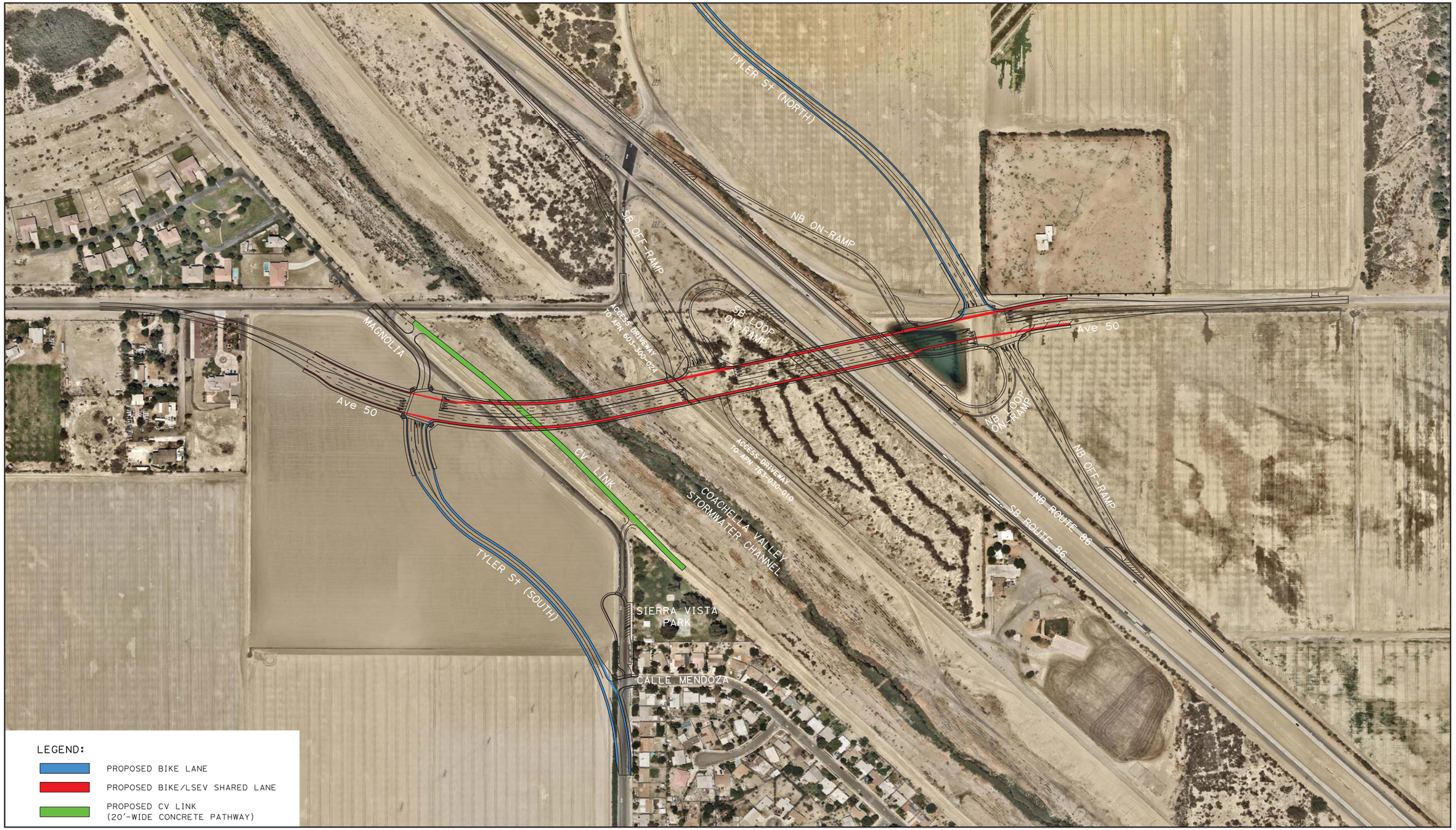
Alternative 7 Proposed Bike Lanes

Figure 2.1.6-19

Back of 11x17 figure.



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Alternative 8 Proposed Bike Lanes

Figure 2.1.6-20

Back of 11x17 figure.

Table 2.1.6-24: Proposed Bicycle and Low Speed Electric Vehicle Lanes

Location	Length (feet)	Width (feet)	Type
Avenue 50 east of Tyler Street (North) Intersection*	2,400	10	Class II
Avenue 50 west of Tyler Street (North) Intersection	400	5	Class II
Tyler Street (North)	2,500	8	Class II
Tyler Street (South)	1,600	5 to 8	Class II

*At the intersections, a 7-foot-wide bike/LSEV lane would be provided between the through lanes and right-turn-only lanes to accommodate both LSEVs and bicycles (in-lieu of a standard 4-foot bicycle only lane).

The project site includes a future alignment of the planned Coachella Valley (CV) Link project. CV Link is a planned public CVAG multi-modal transportation pathway that would be constructed along the western side of the CVSC within the project area; refer to Figure A-1 of Appendix A. The CV Link Master Plan identifies all proposed public access points to the CV Link facility. The project is located within the southern portion of Segment 9 and the northern portion of Segment 10 of CV Link, which will include an access point to CV Link from the cul-de-sac adjacent to where Sierra Vista Park is located, and a second access point south of the existing Avenue 50 off of what will be an extension of Magnolia (see Figure 2.1.6-20, above). In addition to the access points from near Sierra Vista Park and from the extension of Magnolia, the design elements for Phase 1 of the project would include construction of slope protection, which includes a flat 20-foot pavement/ramp per CV Link design standards and specifications along the southern riverbank of the CVSC within the project area (approximately 1,425 linear feet). Figure A-2 of Appendix A, CV Link Proposed Improvements, shows the improvements relative to CV Link. Figure A-3 of Appendix A, CV Link Proposed Concrete Slope Protection Detail, is a focused graphic detailing the specific improvement limits and dimensions relative to CV Link.

Following completion of Phase 1 of the project, the slope protection and the concrete pavement would be consistent and match the remainder of Segments 9 and 10 of CV Link when it is constructed.

The project would result in beneficial permanent effects related to bicycle and pedestrian movement within the study area, as it would provide non-motorized facilities in areas where limited facilities exist. As such, transportation connectivity would be enhanced as a result of these improvements, as envisioned in the General Plan Land Use goals and policies. The Build Alternatives would be designed and constructed in compliance with regulations included in the 1990 Americans with Disabilities Act (ADA), as required for federal-aid projects. The Build Alternatives both include planned access and mobility of non-motorized vehicles and pedestrians. These accommodations are consistent with the General Plan, in which Avenue 50 within the study area is proposed as a “Major Arterial with Bicycle Facility.” Design facilities for both Build Alternatives would be fully accessible as described in the Caltrans’ Design Information Bulletin 82-03 “Pedestrian Accessibility Guidelines for Highway Projects,” and allows Americans with Disabilities Act-compatible crossings. The project would further result in beneficial pedestrian/bicycle improvements through the construction of access ramps and slope protection/pavement beneath the Avenue 50 bridge over CVSC, to accommodate the planned CV Link multi-modal pathway. The planned 50-mile CV Link facility would serve as an alternative transportation corridor for bicycles, pedestrians, and LSEVs. The project would also include a pathway connecting the northerly terminus of the Tyler Street cul-de-sac (adjacent to Sierra Vista Park) with the planned CV Link alignment.

2.1.6.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required.

2.1.7 Visual/Aesthetics

2.1.7.1 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]).

2.1.7.2 Affected Environment

This section is based on the Visual Impact Assessment for State Route 86/Avenue 50 New Interchange Project (VIA) (May 2018).

The project location and setting provide context for determining the type and severity of changes to the existing visual environment. The terms visual character and visual quality are used to further describe the existing environment. Visual character includes attributes such as form, line, color, texture, and is used to describe, not evaluate. A change in visual character cannot be described as having good or bad attributes until it is compared with the viewer response to that change. If there is public preference for the established visual character of a regional landscape and resistance to a project that will contrast that character, then changes in the visual character can be evaluated. Visual quality is evaluated by identifying the vividness, intactness, and unity present in the project corridor. FHWA states that this method should correlate with public judgments of visual quality well enough to predict those judgments. This approach is particularly useful in highway planning because it does not presume that a highway project is necessarily an eyesore. This approach to evaluating visual quality can also help identify specific methods for mitigating each adverse impact that may occur as a result of a project. The project setting is also referred to as the corridor or project corridor which is defined as the area of land that is visible from, adjacent to, and outside of the highway right-of-way (ROW), and is determined by topography, vegetation, and viewing distance.

The project is located on SR-86 between Avenue 52 and Dillon Road in the City of Coachella, Riverside County, California. The project is located in the eastern portion of the Coachella Valley, an extensive (approximately 10-mile wide) and moderately flat expanse oriented in a generally northwest to southeast direction, with a gentle gradient from San Gorgonio Pass (approximately 2,600 feet above mean sea level [msl]) to the Salton Sea (surface 227 feet below msl) to the southeast. The Coachella Valley and the Salton Sea are part of the greater Salton Trough that includes a portion of the Colorado Desert Geomorphic Province. The Coachella Valley is surrounded by the Santa Rosa Mountains (Toro Peak, 8,715 feet above msl) approximately seven miles to the southwest, and the San Jacinto Mountains (San Jacinto Peak, 10,834 feet above msl) to the northwest. The northeastern part of the valley is defined by the Little San Bernardino Mountains (up to 5,267 feet above msl) located approximately two

miles to the northeast.[1] The landscape is characterized by agricultural land, lower density development, and mountainous ridgelines to the south, west, and southwest. The land use within the corridor is primarily rural desert agricultural and vacant land, but also includes areas of suburban developed uses. The project site does not include any officially designated or eligible State scenic highways.[2]

The project corridor is defined as a visual assessment unit (VAU) for analysis of the project. A VAU is typically defined by the limits of a particular viewshed and will often correspond to a place or district that is commonly known among local viewers. One VAU (VAU1) was selected for analysis of the project based on the homogenous character of the project site and since all land uses within the VAU are within similar proximity to the project site and have similar views to the project site. Geographic features that form this VAU include ridgelines associated with the Joshua Tree National Park to the north/east, Santa Rosa Mountains to the south, San Jacinto Mountains to the west, and eastern foothills of the San Bernardino National Forest to the northwest. These ridgelines and sloping hills visually contrast with the relatively flat form of the Coachella Valley, allowing for more distant views.

The project site is located between the foothills of Joshua Tree National Park to the north/east, and the Santa Rosa Mountains to the south. The developed area of the City of Coachella is located to the west/southwest, residential uses are positioned to the south and west, and agricultural land is situated to the north, east, and southwest of the project site. The Coachella Valley Stormwater Channel (CVSC) traverses through the project site in a north-south direction. The project site is approximately 60 to 80 feet below msl. VAU1 is defined mainly by undeveloped land and agricultural uses in the Coachella Valley with surrounding views of the hillsides and ridgelines of Joshua Tree National Park to the north/east, eastern foothills of the San Bernardino National Forest to the northwest, Santa Rosa Mountains to the south, and San Jacinto Mountains to the west. Vegetation within the area generally consist of arrowhead scrub, saltbrush scrub, ornamental vegetation, and agricultural land. These various vegetation types generally vary in color (brown/yellow and green) and height (from grasses to shrubs). Some flowering species existing within the area.

Five Key Views were selected to assess the existing visual character of the project site and surrounding area, and to determine the potential aesthetic impact that may result from implementation of the project. Each Key View location is described in detail below and depicted on Figure 2.1.7-1, Key View Locations Map. Figures 2.1.7-2a through 2.1.7-6b provide a photograph of existing conditions, and with-project conditions, at each respective Key View from various vantage points. A description of the five Key Views is provided below.

- *Key View 1* (refer to Figure 2.1.7-2a and Figure 2.1.7-2b) is located in the western portion of VAU1, along Avenue 50 near residential uses to the west of the project site. Key View 1 represents a typical view from eastbound Avenue 50 motorists and bicyclists, as well as views from residential uses along Avenue 50. Key View 1 depicts the realignment and widening of Avenue 50, and the SR-86/Avenue 50 interchange.

[1] City of Indio, College of the Desert Indio Educational Center Draft Environmental Impact Report, October 7, 2011.

[2] California Department of Transportation, California Scenic Highway Mapping System, http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm, accessed May 22, 2018.

- *Key View 2* (refer to Figure 2.1.7-3a and Figure 2.1.7-3b) is located in the south-central portion of VAU1 along Tyler Street. Key View 2 represents a typical view from northbound Tyler Street motorists, bicyclists, and pedestrians, as well as from Sierra Vista Park visitors. Key View 2 depicts the realignment and widening of Tyler Street associated with the project, and implementation of the future Coachella Valley Link (CV Link) connector within the project limits.

- *Key View 3* (refer to Figure 2.1.7-4a and Figure 2.1.7-4b) is located in the southern portion of VAU1 along Tyler Street, near the southernmost limits of the project site. Key View 3 represents a typical view from northbound Tyler Street motorists, bicyclists, and pedestrians, as well as a general view from residences located along Tyler Street. Key View 3 depicts the realignment and widening of Tyler Street associated with the project, and implementation of the future CV Link connector within the project limits.

- *Key View 4* (refer to Figure 2.1.7-5a and Figure 2.1.7-5b) is located in the southeastern portion of VAU1 along SR-86, to the southeast of the SR-86/Avenue 50 interchange. Key View 4 represents a typical view from northbound SR-86 motorists. Key View 4 depicts the SR-86/Avenue 50 interchange overcrossing structure and new SR-86/Avenue 50 interchange.

- *Key View 5* (refer to Figure 2.1.7-6a and Figure 2.1.7-6b) is located in the eastern portion of VAU1 along Avenue 50, to the east of the project site. Key View 5 represents a typical view from westbound Avenue 50 motorists. Key View 5 depicts the new SR-86/ Avenue 50 interchange overcrossing structure, and the widening/realigned Avenue 50.

2.1.7.3 Environmental Consequences

2.1.7.3.1 Temporary Impacts

Alternative 1 (No-Build Alternative)

Project improvements would not occur under the No-Build Alternative; therefore, the No-Build Alternative would not result in temporary impacts related to visual character and aesthetics.

Alternatives 7 and 8 (Build Alternatives)

The project would require staging areas to allow for construction activities and the storage of equipment. Construction vehicle access and staging of construction materials would be visible from motorist traveling along the project site as well as residents located in the project vicinity. However, views of construction-related activities and equipment/vehicles would be temporary in nature. The project would be required to comply with Caltrans Standard Specifications for Construction, which would minimize visual impacts through the use of opaque temporary construction fencing that would be situated around the staging areas. Thus, the potential visual impacts during construction of both Build Alternatives would not be adverse.