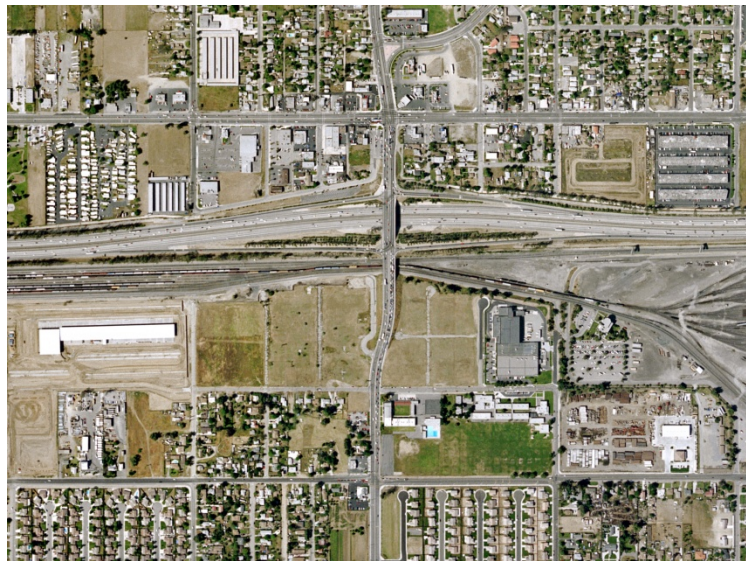


Interstate 10/Cedar Avenue Interchange Improvement

SAN BERNARDINO COUNTY, CALIFORNIA
DISTRICT 08 – SBD – 10, PM 17.8/19.3
EA# 08-1A8300
Project No. 0800000579

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



Prepared by the
State of California Department of Transportation

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



June 2013

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General Information About This Document

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SCH# 2012071091
08-SBD-010-PM 17.8/19.3
08-10-1A8300
Project No. 0800000579

Interstate 10/Cedar Avenue Interchange Project (PM 17.8/19.3): Improvements to
the Existing Interchange On- and Off-Ramps

**FINAL INITIAL STUDY (WITH MITIGATED NEGATIVE
DECLARATION)/ENVIRONMENTAL ASSESSMENT (WITH
FINDING OF NO SIGNIFICANT IMPACT)**

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

THE STATE OF CALIFORNIA
Department of Transportation

6/28/13

Date of Approval



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

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Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The County of San Bernardino (County), in cooperation with the California Department of Transportation (Caltrans) proposes capacity and operational improvements to the Interstate 10 (I-10)/Cedar Avenue interchange from postmile [PM] 17.8 to PM 19.3. The County, in cooperation with the California Department of Transportation District 8 (Caltrans), proposes widening the existing Cedar Avenue overcrossing, the Union Pacific railroad (UPRR) overhead, and Cedar Avenue from four to six lanes; and realigning and widening the I-10 on- and off-ramps to connect to the improved Cedar Avenue and to improve turning and storage capacity. On Cedar Avenue, the project limits extend from Bloomington Avenue on the north to approximately 400 feet (ft) south of Slover Avenue. The project limits on I-10 are 3,766 ft west and 3,780 ft east of the Cedar Avenue centerline. In addition, Slover Avenue would be improved 656 ft east and west of the centerline of Cedar Avenue. The project includes the following improvements: side-by-side dual left-turn lanes between the eastbound and the westbound ramps, retaining walls along the eastbound ramps and in various other locations, and extension of the I-10 Channel to accommodate the ramp widenings via reinforced concrete pipe or double reinforced concrete box. Sound walls 1 and 4 were determined to be both reasonable and feasible and are recommended for construction as part of the project. The project would require the acquisition of right-of-way (ROW).

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 project would have no effect on Coastal Zone; Farmlands and Timberlands; Wild and Scenic Rivers; Growth; Community Character and Cohesion; Environmental Justice; Archaeological and Historical Resources; Floodplain; Mineral Resources;

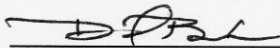
Natural Communities; Wetlands and Other Waters; Special-Status Plant Species; and Cumulative Impacts.

The project would have no significant effect on Utilities; Emergency Services; Visual and Aesthetics; Water Quality and Storm Water Runoff; Geology and Soils; Paleontological Resources; Land Use Planning; Recreation; Air Quality; and Noise.

The I-10/Cedar Avenue Interchange project would have no significantly adverse effect on Hydrology and Water Quality; Hazardous Wastes and Materials; Population and Housing; Public Services (Fire and Police Protection, Schools, Parks, and Other Public Facilities); Traffic and Transportation; Emergency Access; Animal Species (raptors); Threatened and Endangered Species (Delhi Sands flower-loving fly [DSF]); and Invasive Species, because the following mitigation measures would reduce potential effects to less than significant:

- A Traffic Management Plan and pedestrian/bicycle detour plan will be prepared, and a Public Awareness Campaign (PAC) will be implemented.
- The County of San Bernardino will adopt a landscape plan that is compatible with the *Route 10 Corridor Master Plan* and will incorporate the landscape plan into the final design of the I-10/Cedar Avenue Interchange project. The County will also be required to save existing mature trees and include potential aesthetic enhancements for retaining walls, medians, the I-10/Cedar Avenue interchange bridge structure, and other hardscape within the final design.
- The project area contains potentially recoverable habitat for the Delhi Sands flower-loving fly (DSF). To avoid adverse indirect effects to 8.7 acres (ac) of potentially recoverable DSF habitat, mitigation credits will be purchased.
- Bare soil will be landscaped with Caltrans-approved seed mix from locally adopted species to preclude the invasion of noxious weeds; construction equipment will be cleaned of mud and debris; trucks with loads carrying vegetation will be covered; and vegetative materials removed from the site will be disposed of in accordance with applicable laws and regulations.
- Compliance with the General Permit for De Minimus water discharges, or the individual permit from the Santa Ana Regional Water Quality Control Board.
- During construction, traffic will be temporarily rerouted, potentially resulting in a temporary increase in emergency response times in the immediate project area. A Transportation Management Plan (TMP) will be prepared to minimize or avoid short-term adverse project impacts during construction.

- Ensure that the selection of construction equipment is based on low-emission factors and be high energy-efficient; use electric- or diesel-powered equipment in lieu of gasoline-powered engines where feasible; shut off work equipment when not in use; construction activities be timed so as not to interfere with peak-hour traffic; and encourage ridesharing and transit incentives for the construction crew.
- The Uniform Relocation Assistance and Real Property Acquisitions Policies Act (Uniform Act) of 1970 provisions will be followed. Where acquisition and relocation are unavoidable, the provisions of the Uniform Act and the 1987 Amendments would be followed. Copies of the Uniform Act will be provided to all affected property owners.
- During the Plans, Specifications, and Estimates (PS&E) phase of the project and ongoing during construction, the County of San Bernardino will implement the following to protect the recreational values associated with Washington Alternative Middle School:
 - Exclusionary fencing during construction activities to limit the areas of disturbance.



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

6/28/13

Date

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CALIFORNIA DEPARTMENT OF TRANSPORTATION

FINDING OF NO SIGNIFICANT IMPACT (FONSI)

For

Interstate 10/Cedar Avenue Interchange Improvement Project

SBd – 10, PM17.8/19.3

The California Department of Transportation (Caltrans) has determined that the Alternative 2A will have no significant impact on the human environment. This Finding Of Significant Impact (FONSI) is based on the attached Environmental Assessment (EA) and the associated Technical Studies and design documents, which have been independently evaluated by Caltrans and determined to adequately and accurately discuss the need, environmental issues, and impact 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 the associated Technical Studies and design documents.

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

Notwithstanding any other provision of law, a claim arising under federal law seeking judicial review of the permit, license or approval issued by a federal agency for a highway or public transportation project shall be barred unless it is filed within 150 days after publication of a notice in the Federal Register announcing that the permit, license, or approval is final pursuant to the law under which agency action is taken, unless a shorter time is specified in the federal law pursuant to which judicial review is allowed.

6/28/13

Date



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

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Chapter 1 Proposed Project

1.1 Introduction

The County of San Bernardino (County), in cooperation with the California Department of Transportation (Caltrans), proposes capacity and operational improvements to the Interstate 10 (I-10)/Cedar Avenue interchange from Post Mile (PM) 17.8 to PM 19.3.

The project is subject to the California Quality Act (CEQA) of 1970, as amended (Public Resources Code [PRC] Section 21000et seq.), Caltrans is the Lead Agency for CEQA compliance, and the project is also subject to the National Environmental Policy Act (NEPA) of 1969. Effective July 1, 2007, Caltrans has been assigned environmental review and consultation responsibilities under NEPA pursuant to 23 U.S.C 237. As a result for this project, Caltrans is the Lead Agency for NEPA compliance.

The project would widen the existing Cedar Avenue overcrossing, the UPRR overhead, and Cedar Avenue from four to six lanes; and realign and widen the I-10 on- and off-ramps to connect to the improved Cedar Avenue and to improve turning and storage capacity. The project includes the following improvements: side-by-side dual left-turn lanes between the eastbound and the westbound ramps, retaining walls along the eastbound ramps and in various other locations, and extension of the I-10 Channel to accommodate the ramp widenings via reinforced concrete pipe or double reinforced concrete box. Sound walls 1 and 4 were determined to be both reasonable and feasible and are recommended for construction as part of the project. The project location and project limits are shown on Figure 1.1-1. Detailed conceptual plans are provided in Appendix I.

This project is included in the Southern California Association of Governments (SCAG) Fiscal Year (FY) 2012/2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and the 2013 Federal Transportation Improvement Program (FTIP) with Amendment 5 as RTP/Project ID 1830 and is proposed for funding with Measure I, Developer Fees, and local City and County funds.

The alternatives for the I-10/Cedar Avenue Interchange project are the No Build Alternative (Alternative 1) and the Build Alternative - Compact Diamond Interchange Alternative (Alternative 2A). The No Build Alternative (Alternative 1) would not

provide any improvements at the existing I-10/Cedar Avenue interchange or on Cedar Avenue. There would not be any project costs associated with the No Build Alternative other than ongoing maintenance costs to maintain the existing facility. The Build Alternative (Alternative 2A) would maintain the existing compact diamond configuration, and would reconstruct the interchange, widen the existing Cedar Avenue overcrossing from four to six lanes with left- and right-turn lanes; widen the Cedar Avenue UPRR overhead structure, construct sound walls and extend the I-10 Channel to accommodate the ramp widenings (details regarding the Project Alternatives can be found in Section 1.4 Alternatives Under Consideration). The estimated total project cost for Alternative 2A is \$61.9 million, which includes \$12.2 million for state ROW acquisition, \$9.3 million for support costs, and \$2.2 million for landscaping construction and support.

1.2 Purpose and Need

Existing Facilities

The Cedar Avenue interchange is in the community of Bloomington in unincorporated San Bernardino County on I-10 (PM 17.8 to PM 19.3). When this interchange was constructed in 1965, Cedar Avenue was a two-lane road serving what was predominantly a rural area.

Interstate 10

I-10 is one of the major freeways of the National Highway System. I-10 starts in California in the west and extends east to its terminus in Florida. The segment of I-10 in Southern California is a major regional transportation facility in Los Angeles and San Bernardino counties. It is a major east-west corridor between San Bernardino and the metropolitan areas in Los Angeles County.

The existing segment of I-10 in the project area is an eight-lane freeway with a divided median. Existing I-10 consists of eight 12 ft wide mixed-use lanes, 10 ft wide outside shoulders, and a variable width median through the Cedar Avenue interchange. The current daily traffic volume on the project segment of I-10 is approximately 187,500 vehicles.

The I-10/Sierra Avenue interchange is approximately 2.3 mi to the west, and the I-10/Riverside Avenue interchange is approximately 1.5 mi to the east of the I-10/Cedar Avenue interchange.

The exit ramp termini are controlled by traffic signals. None of the ramps in the existing interchange are metered. The existing I-10/Cedar Avenue interchange is fully landscaped. All plantings removed by the project would be replaced with new landscaping.

Cedar Avenue

Within the project limits, Cedar Avenue is currently a four-lane north-south primary arterial from Bloomington Avenue on the north to approximately 400 ft south of Slover Avenue. There are six major intersections along this segment of Cedar Avenue, from north to south, as follows:

- Bloomington Avenue
- Valley Boulevard
- Westbound I-10 ramps

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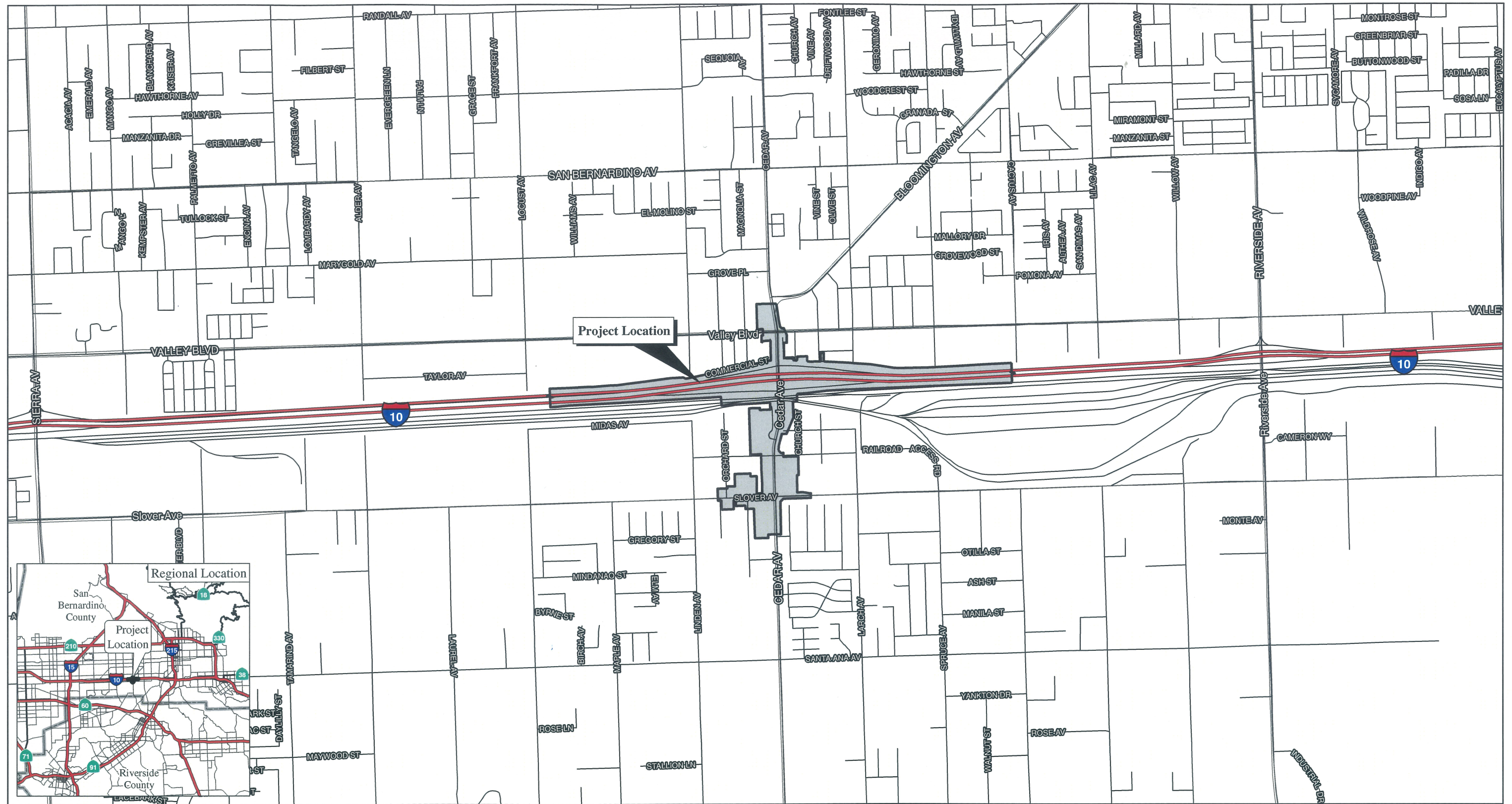


FIGURE 1.1-1

LEGEND

Project Location



0 750 1500
FEET

SOURCE: TBM (2008)

I:\m230\gis\Fig1.mxd (5/14/2010)

I-10 / Cedar Ave Interchange
Regional and Project Location

08-SBD-10 P.M. 17.8/19.3
EA# IA8300

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- Eastbound I-10 ramps
- Orange Street
- Slover Avenue

All of these intersections are currently signalized and are part of a coordinated traffic signal system. Cedar Avenue is a regionally important north-south route and is identified as a six-lane major arterial within the County of San Bernardino General Plan.

The cross-section of the existing Cedar Avenue overcrossing consists of four 12 ft wide through lanes, two 12 ft wide left turn lanes, and 10 ft wide right shoulders. Cedar Avenue is shown in the San Bernardino County General Plan Circulation Element as a Major Arterial. A Major Arterial is a six-lane road with a right-of-way width of 120 ft; with a 12 ft wide two-way continuous left-turn lane (bidirectional); six 12 ft wide through travel lanes; and a 10 ft wide shoulder and bike lane between the nearest travel lane and the curb on both sides of the cross-section. However, the right-of-way is not “Typical” and the width varies within the interchange area due to additional right- and left-turn lanes.

Structures

There are two existing bridge structures within the project limits.

- The first bridge is the Cedar Avenue overcrossing, which is a two-span steel-plate girder bridge with the following span arrangement: the northern span is approximately 127 ft, and the southern span is approximately 142 ft. There are four through traffic lanes and two side-by-side left-turn lanes in the middle on the existing overcrossing bridge. Type 4 concrete barrier rail with a 5 ft wide sidewalk is provided on both edges of the deck. Chain-link railing Type 4 was constructed on top of the concrete barrier rail. The existing bridge is founded on spread footing at the center bent and at the abutments. The existing overcrossing structure would be widened a minimum 53.38 ft on the east side with a 7 ft structure depth. The vertical clearance will be controlled by the existing bridge at approximately 25 ft. After widening, the minimum ultimate bridge width would be 147.4 ft.
- The second bridge is the Union Pacific Railroad (UPRR) Overhead, previously known as the Southern Pacific Railroad (SPRR) Overhead. This bridge was constructed in two phases separated by six years, as follows: the northern span of 72.8 ft was built by Caltrans in 1965, when the freeway interchange was

constructed, and is a reinforced concrete box girder structure using a 14 ft girder depth and supported on strutted abutments with a spread footing foundation. The bridge was lengthened in 1971, expanding it to the south, from a single-span structure to a three-span structure over railroad mainline and yard tracks. This modification was undertaken to accommodate the new Colton Railroad yard constructed by the SPRR. The lengthened segment was constructed using a reinforced concrete T-beam with a 3.5 ft girder depth. The total length of the two southerly spans is 85 ft. The width of this railroad bridge is 94 ft, and the curb-to-curb width is 82 ft. There are four through traffic lanes and two side-by-side left-turn lanes in the middle on the existing overcrossing bridge. Type 4 concrete barrier rail with a 5 ft wide sidewalk is provided on both edges of the deck. Chain-link railing Type 4 was constructed on top of the concrete barrier rail.

Project Background and History

A Project Study Report-Project Development Support (PSR-PDS) approved on November 2, 2001, for the I-10/Cedar Avenue Interchange project identified the need to improve the interchange of I-10/Cedar Avenue.

Project Purpose

The project purpose is to:

- Relieve existing traffic congestion
- Accommodate future projected traffic volumes at the I-10/Cedar Avenue interchange on-ramps and off-ramps
- Accommodate future projected traffic volumes on the project segment of Cedar Avenue
- Provide transportation improvements consistent with existing and planned local development and the County of San Bernardino General Plan Circulation Element
- Provide transportation improvements at the I-10/Cedar Avenue interchange that will meet or surpass the County's maximum allowable threshold for congestion of LOS E at the study intersections through 2030

Project Need

The I-10/Cedar Avenue Interchange project is needed to alleviate substantial traffic congestion and delays during the morning and afternoon peak periods and to accommodate projected future traffic volumes at the I-10/Cedar Avenue interchange. Cedar Avenue between Slover Avenue and Valley Boulevard currently experiences substantial traffic congestion and delays during the morning and afternoon peak

periods. As discussed in detail later, traffic forecasts indicate that congestion will worsen over time unless operational and capacity improvements to this interchange are made.

According to the United States Census the County's population is expected to rise by more than 80 percent (from 2000) to 3,076,000 persons by 2025. This population growth is expected to result in increased local and commuter traffic along I-10.

As indicated in the Traffic Operations Analysis (TOA) for the project (October 2003), the Supplement to the TOA (January 2009) that includes traffic analysis for existing 2008 conditions, and the Supplement to the TOA (December 2012) that includes analysis for existing 2012 conditions, traffic forecasts indicate that congestion within the project area will worsen over time unless operational and capacity improvements are made. Continuing development within the vicinity of the I-10 Corridor and anticipated population growth within San Bernardino County are expected to further increase traffic along I-10, the Cedar Avenue on- and off-ramps, and the study area intersections. Under current traffic demand, existing operating conditions on Cedar Avenue and the westbound ramps are characterized as LOS E for the a.m. peak hour and range from LOS C to LOS D for the p.m. peak hour, as shown in Table 1.1 below. Existing operating conditions on Cedar Avenue and the eastbound ramps range from LOS C to LOS D for the a.m. peak hour and range from LOS D to LOS E for the p.m. peak hour, also shown in Table 1.1. In 2036, all freeway segments in the study area are projected to operate at a range from LOS D to LOS F during both the a.m. and p.m. peak hours, as shown in Table 1.8 below. In addition, all freeway ramp junctions are projected to operate at a range from LOS D to LOS F during both the a.m. and p.m. peak hours, as shown in Table 1.9 below.

As shown in the Traffic Accident Surveillance and Analysis System (TASAS) data provided by Caltrans,¹ accident rates at ramps within the project limits are higher than the statewide average. Analysis of the data shows that most of the accidents are rear end and broadside collisions, which are generally associated with severe traffic congestion. Without the project, the incidences of these congestion-related accidents are expected to increase as traffic demand increases. Improvements to intersection capacity and ramp storage capacity resulting from the project are anticipated to relieve the amount of traffic backing up on the off-ramps, thereby reducing the

¹ Data includes accidents that occurred between October 1, 2006, and September 30, 2009.

accident rate at these locations. This would be an additional benefit of the project coincident with the stated project purpose and need. However, post project accident rates can only be verified after the project is completed, has been operating for some period of time, and accident data for that period of time becomes available.

When the Cedar Avenue/I-10 interchange was built, the surrounding land uses were predominantly agricultural. As development has occurred throughout San Bernardino County, including the area around the I-10/Cedar Avenue interchange, traffic volumes on local streets such as Cedar Avenue and on I-10 have increased substantially.

I-10 is the principal east/west circulation route for automobiles and trucks into and out of the Los Angeles Basin. I-10 currently handles 200,000 vehicles per day (vpd), with a projected traffic count of 251,582 vpd by 2030. Interchanges along I-10 throughout the Inland Empire were typically built at every 1 mi, with overcrossings or undercrossings approximately every 0.5 mi. On I-10 between Etiwanda Avenue and Pepper Avenue (includes the Cedar Avenue interchange); however, there are no midpoint grade separations for crossover traffic, and interchanges are spaced every 2 mi. The exception to the 2 mi spacing is between the Sierra Avenue and Citrus Avenue interchanges, which are 1 mi apart. The interchange spacing and lack of midpoint grade separations places extraordinary demand on the existing interchanges along this section of I-10, with 20 minute and longer delays in local cross-over traffic occurring during the p.m. peak hours.

Capacity, Transportation Demand, and Safety

The existing I-10/Cedar Avenue interchange is currently congested in the a.m. and p.m. peak periods. This congestion is projected to worsen over time. The County's population increased from approximately 682,000 persons in 1970 to approximately 1,689,000 persons in 2000, according to the United States Census. The County's population is expected to rise by more than 80 percent (from 2000) to 3,076,000 persons by 2025. Population is projected to grow at an annual rate of 3.2 percent, which is much faster than the regional average rate of 1.25 percent. An additional approximate 1,387,000 people are projected to populate San Bernardino County between 2000 and 2025. Attracted by the affordable new housing and the suburban living environment, many people have moved from Los Angeles and Orange Counties to San Bernardino County. This trend is expected to continue, and unless substantial improvements are implemented in the near future, traffic conditions are expected to worsen over time, resulting in increased commuting times, greater

commuter frustration, higher travel costs, and increased air pollution. In addition, poor LOS on I-10 is expected to result in adverse impacts on adjacent freeways and the local street network as motorists seek less congested alternate routes. The existing and future traffic conditions in the project study area are described below.

The existing and future with and without project traffic conditions in the project area were analyzed in detail in the TOA (October 2003), the Supplement to the TOA (January 2009), and the Supplement to the TOA (December 2012). The findings of these analyses related to existing and forecasted without project traffic conditions, and the potential benefits that would be provided by the I-10/Cedar Avenue Interchange project are summarized in this section.

LOS

Traffic conditions on most road facilities are analyzed using the principles and analysis methods in the *Highway Capacity Manual* (HCM, 2000 Edition). Chapter 16 of the HCM details analysis of signalized intersections based on measurements or forecasts of delay created by traffic controls for traffic using all approaches to the intersection. Transportation engineers describe the quality of traffic flow in terms of LOS on a scale ranging from A to F that describes the varying conditions on a road during a specific time interval. Figure 1.2-1 shows the relationship between LOS and seconds of delay for signalized intersections.

Freeway Mainline and Ramp Junction Standards and LOS

For operations on the I-10 mainline and in the ramp merge/diverge areas, Caltrans LOS standard is LOS E. Where this threshold is exceeded, Caltrans requires that improvements be identified to provide a satisfactory LOS. Table 1.1 shows the existing (2012) I-10 mainline LOS in the vicinity of the Cedar Avenue interchange. Table 1.2 shows the existing (2012) freeway ramp LOS.

Intersection Standard and LOS

For traffic signals at freeway ramp termini, Caltrans LOS D was used. Where this threshold is exceeded, Caltrans requires that improvements be identified to provide a satisfactory LOS. Because the remaining study area intersections are in unincorporated San Bernardino County, the County's LOS standard is applicable to the remaining signals. In San Bernardino County, LOS C is the minimum threshold for intersection operations.

Where this threshold is exceeded, the County requires that improvements be identified to provide a satisfactory LOS. Table 1.3 shows the 2008 intersection LOS for the study area intersections.

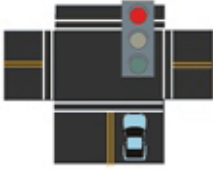

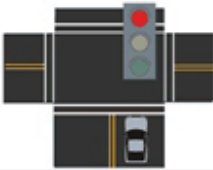
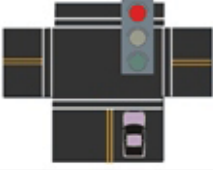
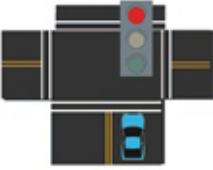
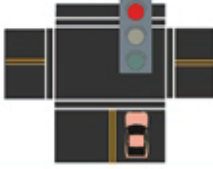
Summary of LOS for Existing Conditions

Field observations indicate that the existing inadequate queuing space between the I-10 ramps and between the westbound ramps and Valley Boulevard results in substantial congestion during both the a.m. and p.m. peak hours. As shown in Tables 1.1, 1.2, and 1.3, all but two freeway segments, all but two ramp junctions, and all but two intersections in the study area currently operate at satisfactory LOS.

Intersection level of service analysis for the year 2008 was included in the January 2009 supplement. Recent peak hour count data on Cedar Avenue were provided by the San Bernardino County Department of Public Works, and are included in the December 2012 Supplement. As shown in Table 1.4, volumes on Cedar Avenue in the vicinity of the study intersections have declined since 2008. Therefore, it can be concluded that the study intersections in 2012 continue to operate at similar levels of service, to that of 2008.

LEVELS OF SERVICE

for Intersections with Traffic Signals

Level of Service	Delay per Vehicle (seconds)
A	 ≤10
B	 11-20
C	 21-35
D	 36-55
E	 56-80
F	 >80

Factors Affecting LOS of Signalized Intersections

Traffic Signal Conditions:

- Signal Coordination
- Cycle Length
- Protected left turn
- Timing
- Pre-timed or traffic activated signal
- Etc.

Geometric Conditions:

- Left- and right-turn lanes
- Number of lanes
- Etc.

Traffic Conditions:

- Percent of truck traffic
- Number of pedestrians
- Etc.

FIGURE 1.2-1

I-10/Cedar Avenue Interchange

Levels of Service

08-SBD-10 K.P. 28.6/31.0 (P.M. 17.8/19.3)
EA# 1A8300

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

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Table 1.1 Existing (2012) I-10 Mainline LOS

Segment of I-10 Mainline	Lanes			AM Peak Hour			PM Peak Hour		LOS
	Mixed ¹	HOV ¹	Cap. ²	Volume ³	Density (pc/mi/l _n)	LOS ⁴	Volume	Density (pc/mi/l _n)	
Eastbound									
Sierra Avenue on-ramp to Cedar Avenue off-ramp	4	0	9,400	6461	24.4	C	8607	39.5	E
Cedar Avenue off-ramp to Cedar Avenue on-ramp	4	0	9,400	5783	21.1	C	7392	29.9	D
Cedar Avenue on-ramp to Riverside Avenue off-ramp	4	0	9,400	6687	25.7	C	8172	35.7	E
Westbound									
Riverside Avenue on-ramp to Cedar Avenue off-ramp	4	0	9,400	8190	35.8	E	6693	25.7	C
Cedar Avenue off-ramp to Cedar Avenue on-ramp	4	0	9,400	7565	31	D	5872	21.5	C
Cedar Avenue on-ramp to Sierra Avenue off-ramp	4	0	9,400	8884	42.4	E	6646	25.4	C

Source: *Supplement to the Traffic Operations Analysis* (December 2012).

¹ Per HCM Exhibit 23-2, the capacity of a mixed-flow lane is 2,350 PCE per hour, assuming a free-flow speed of 110 kph. The capacity of an HOV lane is 1,600 PCE per hour.

² Cap.: capacity of the I-10 mainline in vehicles per hour.

³ All volumes are in PCE.

⁴ LOS criteria are provided in the HCM and are based on density, expressed in terms of passenger cars per mile per lane (pc/mi/l_n).

* Freeway is overcapacity during peak 15-minute period.

Cap. = capacity

kph = kilometers per hour

HCM = Highway Capacity Manual

LOS = level of service

HOV = high-occupancy vehicle

pc/mi/l_n = passenger car per mile per lane

I-10 = Interstate 10

PCE = passenger car equivalents

Table 1.2 Existing (2012) Freeway Ramp LOS

	Type ¹	AM Peak Hour				PM Peak Hour			LOS
		Ramp Volume ²	Speed (kph) ³	Density (pc/mi/l _n)	LOS ⁴	Ramp Volume	Speed (kph)	Density (pc/mi/l _n)	
Eastbound									
Cedar Avenue off-ramp	1 off	678	90	32.0	D	1215	--	43.2	E
Cedar Avenue on-ramp	1 on	904	95	27.7	C	780	93	32.1	D
Westbound									
Cedar Avenue off-ramp	1 off	624	90	38.5	E	822	89	33.6	D
Cedar Avenue on-ramp	1 on	1318	--	36.8	E	774	95	27.0	C

Source: *Supplement to the Traffic Operations Analysis* (January 2009 and December 2012).

¹ Ramp Types: 1 on = single lane (at the gore point) on-ramp

1 off = single lane (at the gore point) off-ramp

² All volumes are in PCE.

³ Speed: the speed in the ramp influence area in kph.

⁴ LOS criteria are provided in the HCM and are based on density, expressed in pc/mi/l_n and speed in the ramp influence area.

* Freeway is overcapacity during peak 15-minute period.

-- Speed cannot be calculated when freeway is overcapacity.

HCM = Highway Capacity Manual

kph = kilometers per hour

LOS = level of service

pc/mi/l_n = passenger car per mile per lane

PCE = passenger car equivalents

Table 1.3 2008 Intersection LOS

Intersection	AM Peak Hour			PM Peak Hour		
	V/C	Delay	LOS	V/C	Delay	LOS
1. Cedar Avenue/Bloomington Avenue	0.55	16.4	B	0.63	10.2	B
2. Cedar Avenue/Valley Boulevard	0.78	27.7	C	0.88	27.6	C
3. Cedar Avenue/I-10 westbound ramps	1.01	31.0	F*	0.79	18.2	B
4. Cedar Avenue/I-10 eastbound ramps	0.88	21.8	C	1.02	44.3	F*
5. Cedar Avenue/Orange Street	0.71	17.8	B	0.60	10.4	B
6. Cedar Avenue/Slover Avenue	0.66	22.7	C	0.68	21.8	C

Source: *Supplement to the Traffic Operations Analysis* (January 2009).

Notes:

* LOS exceeds LOS standard

Delay = Average control delay in seconds

I-10 = Interstate 10

LOS = Level of service

V/C = Volume/capacity ratio

Table 1.4 Bi-Directional Peak Hour Counts on Cedar Avenue

Cross Street	Recent Data			2008 Data		% Change from 2008	
	AM Peak Hour	PM Peak Hour	Year	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Bloomington Ave	1,725	1,952	2010	1,856	2,198	-7.1%	-11.2%
Valley Blvd	3,366	3,446	2011	3,380	3,921	-0.4%	-12.1%
Slover Ave	1,721	1,642	2012	1,756	1,827	-2.0%	-10.1%

2016 Conditions without the I-10/Cedar Avenue Interchange Project

Tables 1.5, 1.6, and 1.7 show the forecasted LOS for the study area I-10 mainline segments, ramp junctions, and intersections for 2016 without the I-10/Cedar Avenue Interchange project. As shown in these tables, in 2016, all but four freeway segments and all but three ramp junctions are forecast to operate at acceptable LOS without the I-10/Cedar Avenue Interchange project. All but three intersections in the study area are projected to operate at satisfactory LOS in 2016 without the I-10/Cedar Avenue Interchange project. Queues for all but four movements are projected to exceed the available queuing space in 2016 without the I-10/Cedar Avenue Interchange project.

2036 Conditions without the I-10/Cedar Avenue Interchange Project

Tables 1.8 to 1.11 show the 2036 conditions without the I-10/Cedar Avenue Interchange project for the I-10 mainline segments, ramps, and intersections. As shown in Table 1.8, all westbound I-10 mainline segments in the study area are projected to operate at LOS F during the a.m. peak hour and all but the eastbound segment between the Cedar Avenue off-ramp and on-ramp, which is projected to

operate at LOS E, during the p.m. peak hour in 2036 without the project. All eastbound I-10 mainline segments in the a.m. peak hour and all westbound I-10 mainline segments in the p.m. peak hour in the study area are projected to operate at LOS D in 2036 without the project. As shown in Table 1.9, four freeway ramp junctions in the study area are projected to operate at LOS F during the a.m. and p.m. peak hours in 2036 without the project. As shown in Tables 1.10 and 1.11, all but five of the intersections in the study area are projected to operate at satisfactory LOS in 2036 without the I-10/Cedar Avenue Interchange project. Queues for all but four movements are projected to exceed the available queuing space in 2030 without the project. As discussed in the December 2012 Supplement, the volumes at the study intersections in 2036 will be lower than the prior forecast for 2030. Therefore, the previous queuing analysis for 2030 also applies to the currently 2036 queuing analysis.

Table 1.5 2016 No Project Alternative Mainline LOS

Freeway Segment	Lanes			AM Peak Hour			PM Peak Hour		
	Mixed ¹	HOV ²	Cap. ³	Volume ⁴	Density (pc/mi/ln)	LOS ⁵	Volume	Density (pc/mi/ln)	LOS
Eastbound									
Sierra Avenue on-ramp to Cedar Avenue off-ramp	4	0	9,400	6634	25.4	C	8854	42.0	E
Cedar Avenue off-ramp to Cedar Avenue on-ramp	4	0	9,400	5958	22.0	C	7624	31.4	D
Cedar Avenue on-ramp to Riverside Avenue off-ramp	4	0	9,400	6877	26.7	D	8400	37.6	E
Westbound									
Riverside Avenue on-ramp to Cedar Avenue off-ramp	4	0	9,400	8488	38.4	E	6908	26.9	D
Cedar Avenue off-ramp to Cedar Avenue on-ramp	4	0	9,400	7843	33.0	D	6054	22.4	C
Cedar Avenue on-ramp to Sierra Avenue off-ramp	4	0	9,400	9168	45.6	F	6837	26.5	D

Source: *Supplement to the Traffic Operations Analysis* (December 2012, AECOM).

¹ Per HCM Exhibit 23-2, the capacity of a mixed-flow lane is 2,350 PCE per hour, assuming a free-flow speed of 110 kph.

² The capacity of an HOV lane is 1,600 PCE per hour.

³ Cap.: Mainline capacity in vehicles per hour.

⁴ All volumes are in PCE.

⁵ LOS criteria are provided in the HCM and are based on density, expressed in terms of pc/mi/ln.

* Freeway is overcapacity during peak 15-minute period.

Cap. = capacity

HCM = Highway Capacity Manual

HOV = high-occupancy vehicle

kph = kilometers per hour

LOS = level of service

pc/mi/ln = passenger car per mile per lane

PCE = passenger car equivalents

Table 1.6 2016 No Project Alternative Ramp LOS

	Type ¹	AM Peak Hour				PM Peak Hour			
		Ramp Volume ²	Speed ³ (kph)	Density (pc/mi/ln)	LOS ⁴	Ramp Volume	Speed (kph)	Density (pc/mi/ln)	LOS
Eastbound									
Cedar Avenue off-ramp	1 off	676	89	32.6	D	1229	--	44.2	E
Cedar Avenue on-ramp	1 on	919	94	28.4	D	776	--	32.8	D
Westbound									
Cedar Avenue off-ramp	1 off	645	--	39.8	E	854	--	34.6	D
Cedar Avenue on-ramp	1 on	1325	--	37.8	F	783	94	27.7	C

Source: *Supplement to the Traffic Operations Analysis* (December 2012, AECOM).

¹ Ramp Types:

1 on = on-ramp with single lane at the gore point

1 off = off-ramp with single lane at the gore point

² All volumes are in PCE.

³ Speed: speed in the ramp influence area in kph.

⁴ LOS criteria are provided in the HCM and are based on density, expressed as pc/mi/ln and speed in the ramp influence area.

* Freeway is overcapacity during peak 15-minute period.

-- Speed cannot be calculated when freeway is overcapacity.

HCM = Highway Capacity Manual

kph = kilometers per hour

LOS = level of service

PCE = passenger car equivalents

pc/mi/ln = passenger car per mile per lane

Table 1.7 2016 No Project Alternative Intersection LOS

Intersection	AM Peak Hour			PM Peak Hour		
	V/C	Delay	LOS	V/C	Delay	LOS
1. Cedar Avenue/Bloomington Avenue	0.57	13.8	B	0.67	9.5	A
2. Cedar Avenue/Valley Boulevard	0.80	27.3	C	0.95	30.3	C
3. Cedar Avenue/I-10 westbound ramps	1.04	32.2	F*	0.91	23.7	C
4. Cedar Avenue/I-10 eastbound ramps	1.10	48.7	F*	1.18	63.3	F*
5. Cedar Avenue/Orange Street	0.71	13.4	B	0.67	8.5	A
6. Cedar Avenue/Slover Avenue	0.73	24.4	C	0.82	26.7	C

Source: *Supplement to the Traffic Operations Analysis* (December 2012, AECOM).

Notes:

* LOS F exceeds LOS standard

LOS = Level of Service

Delay = Average control delay in seconds

V/C = Volume/capacity ratio

Table 1.8 2036 No Project Alternative Mainline LOS

Freeway Segment	Lanes			AM Peak Hour			PM Peak Hour		
	Mixed ¹	HOV ²	Cap. ³	Volume ⁴	Density (pc/mi/ln)	LOS ⁵	Volume	Density (pc/mi/ln)	LOS
Eastbound									
Sierra Avenue on-ramp to Cedar Avenue off-ramp	4	0	9,400	7501	30.6	D	10088	59.4	F
Cedar Avenue off-ramp to Cedar Avenue on-ramp	4	0	9,400	6830	26.4	D	8787	41.3	E
Cedar Avenue on-ramp to Riverside Avenue off-ramp	4	0	9,400	7827	32.9	D	9540	50.5	F
Westbound									
Riverside Avenue on-ramp to Cedar Avenue off-ramp	4	0	9,400	9982	57.5	F	7984	34.1	D
Cedar Avenue off-ramp to Cedar Avenue on-ramp	4	0	9,400	9234	46.4	F	6968	27.3	D
Cedar Avenue on-ramp to Sierra Avenue off-ramp	4	0	9,400	10593	70.4	F	7796	32.7	D

Source: *Supplement to the Traffic Operations Analysis* (December 2012, AECOM).

¹ Per HCM Exhibit 23-2, the capacity of a mixed-flow lane is 2,350 PCE per hour, assuming a free-flow speed of 110 kph.

² The capacity of an HOV lane is 1,600 PCE per hour.

³ Cap.: mainline capacity in vehicles per hour.

⁴ All volumes are in PCE.

⁵ LOS criteria are provided in the HCM and are based on density, expressed as pc/mi/ln.

* Freeway is overcapacity during peak 15-minute period.

Cap. = capacity

LOS = level of service

HCM = Highway Capacity Manual

PCE = passenger car equivalents

HOV = high-occupancy vehicle

pc/mi/ln = passenger car per mile per lane

kph = kilometers per hour

Table 1.9 2036 No Project Alternative Ramp LOS

	Type ¹	AM Peak Hour				PM Peak Hour			
		Ramp Volume ²	Speed ³ (kph)	Density (pc/mi/ln)	LOS ⁴	Ramp Volume	Speed (kph)	Density (pc/mi/ln)	LOS
Eastbound									
Cedar Avenue off-ramp	1 off	670	--	36.0	E	1301	--	49.4	F
Cedar Avenue on-ramp	1 on	996	--	31.9	D	753	--	36.4	F
Westbound									
Cedar Avenue off-ramp	1 off	748	--	46.9	F	1016	--	39.7	E
Cedar Avenue on-ramp	1 on	1359	--	32.6	F	829	--	31.1	D

Source: *Supplement to the Traffic Operations Analysis* (December 2012, AECOM).

¹ Ramp Types:

1 on = on-ramp with single lane at the gore point

1 off = off-ramp with single lane at the gore point

² All volumes are in PCE.

³ Speed: speed in ramp influence area.

⁴ LOS criteria are provided in the HCM and are based on density, expressed as pc/mi/ln and speed in the ramp influence area.

* Freeway is overcapacity during peak 15-minute period.

HCM = Highway Capacity Manual

kph = kilometers per hour

LOS = level of service

PCE = passenger car equivalents

pc/mi/ln = passenger car per mile per lane

Table 1.10 2036 No Project Alternative Intersection LOS

Intersection	AM Peak Hour			PM Peak Hour		
	V/C	Delay	LOS	V/C	Delay	LOS
1. Cedar Avenue/Bloomington Avenue	0.60	11.0	B	0.63	8.8	A
2. Cedar Avenue/Valley Boulevard	0.72	22.2	C	1.01	48.3	F*
3. Cedar Avenue/I-10 westbound ramps	0.91	25.3	C	1.01	44.2	F*
4. Cedar Avenue/I-10 eastbound ramps	1.21	77.7	F*	1.13	61.5	F*
5. Cedar Avenue/Orange Street	0.66	6.5	A	0.76	8.2	A
6. Cedar Avenue/Slover Avenue	0.92	34.4	C	1.06	69.2	F*

Source: *Supplement to the Traffic Operations Analysis* (December 2012, AECOM).

Notes:

* LOS F exceeds LOS standard.

Delay = Average control delay in seconds

I-10 = Interstate 10

LOS = Level of Service

V/C = Volume/capacity ratio

Table 1.11 2030 No Project Alternatives Queuing Analysis

Approach	Left Turn			Through Movement			Right Turn		
	Dist. Avail. (m)	Queue Length (m)		Dist. Avail. (m)	Queue Length (m)		Dist. Avail. (m)	Queue Length (m)	
		AM	PM		AM	PM		AM	PM
Cedar Avenue/Valley Boulevard									
Northbound	80	10	40	130	90	180	30	0	10
Westbound	110	60	80	160	20	40			
Cedar Avenue/I-10 westbound ramps									
Northbound	90	70	70	90	20	190			
Southbound				130	120	90	130	10	20
Westbound	140	110	140				140	100	150
Cedar Avenue/I-10 eastbound ramps									
Northbound				280	80	100	160	30	40
Southbound	90	260	150	90	30	20			
Eastbound	140	160	180				140	170	190

Source: *Traffic Operations Analysis* (LSA Associates, Inc. October 21, 2003).

Notes:

Dist. Avail.: distance available for queuing vehicles.

Bold numbers: queuing traffic that exceeds the available queuing distance.

I-10 = Interstate 10

m = meter

Safety

Traffic Accident Surveillance & Analysis System (TASAS) data for the I-10 mainline and the Cedar Avenue interchange were provided by Caltrans for accidents that occurred between October 1, 2006, and September 30, 2009. This data, which is summarized in Table 1.12, shows collision rates for the project segment of I-10. Table 1.12 also summarizes the locations where the accidents occurred and the numbers and types of accidents and compares the actual accident rates with statewide average accident rates for each location.

The three-year accident history indicates that accidents occur at a higher rate than the statewide average rate for similar facilities at the interchange ramps, except at the westbound Cedar Avenue entrance ramp. The accident rates for the mainline segment between PM 17.8 to PM 19.3 are comparable to the statewide average rates shown in Table 1.12. Analysis of the TASAS data shows that most of the accidents are rear-end and broadside collisions, which are generally associated with severe traffic congestion.

Table 1.12 TASAS Accident Rate from October 1, 2006, to September 30, 2009

Location	Accident Rates (Per Million Vehicles Miles)					
	Actual			Statewide Average		
	Fatality	F+I	Total	Fatality	F+I	Total
Eastbound						
Mainline	0	0.22	0.70	0.01	0.32	1.02
Cedar Avenue exit ramp	0.000	0.59	3.00	0.004	0.42	1.20
Cedar Avenue entrance ramp	0.000	0.70	1.07	0.002	0.260	0.75
Westbound						
Mainline	0.000	0.17	0.50	0.010	0.32	1.02
Cedar Avenue exit ramp	0.000	1.31	3.41	0.004	0.42	1.20
Cedar Avenue entrance ramp	0.000	0.11	0.74	0.002	0.26	0.75

Source: TASAS 2010.

F + I = Fatal accidents plus injury accidents.

Total = Fatal, plus injury, plus non-injury accidents.

Table 1.13 summarizes accident data for Cedar Avenue from San Bernardino County for the period from January 1, 2006, to December 31, 2008. This table shows the locations where the accidents occurred, the primary factors contributing to the accidents, and the types of collisions that occurred. The County data is not as detailed as Caltrans data, so it is not possible to provide a comparison of actual and average accident rates for Cedar Avenue.

The improvements to the intersection capacity, relief of traffic backing up on the exit ramps, and the synchronization of the traffic lights on Cedar Avenue would contribute to conditions that are anticipated to reduce the accident rates on this segment of the I-10 mainline and the project segment of Cedar Avenue. However, post project accident rates can only be verified after the project is completed, has been operating for some period of time, and accident data for that period of time becomes available.

Roadway Deficiencies

At the I-10/Cedar Avenue Interchange, existing operational conflicts are evident, as Cedar Avenue is a primary access route to Bloomington Middle School, Washington Alternative Middle School, and a freight facility. The traffic study conducted for the project indicates that Cedar Avenue will experience high intense traffic demand. Without the project, a majority of the study intersections will exceed the County's maximum allowable threshold for congestion of LOS C. Heavy queuing conditions caused by the deficient traffic circulation, maneuverability, and capacity at the ramp

Table 1.13 Primary Collision Factors and Types of Collisions on Local Streets

Location	Primary Collision Factor		Type of Collision	
Cedar Ave & Bloomington Ave	Improper Turning	7.14%	Sideswipe	7.14%
	Other Hazardous Movement	7.14%	Broadside	7.14%
	Other than Driver	7.14%	Other	7.14%
	Traffic Signals and Signs	28.57%	Broadside	28.57%
	Unsafe Lane Change	7.14%	Sideswipe	7.14%
	Unsafe Speed	35.71%	Rear-End	35.71%
	Wrong Side of Road	7.14%	Broadside	7.14%
Cedar Ave & Valley Blvd	Auto ROW Violation	2.94%	Sideswipe	2.94%
	Improper Turning	5.88%	Sideswipe	5.88%
	Other Hazardous Movement	2.94%	Head-On	2.94%
	Pedestrian ROW Violation	2.94%	Vehicle-Pedestrian	2.94%
	Traffic Signals and Signs	23.53%	Broadside	17.65%
			Head-On	5.88%
			Broadside	2.94%
Cedar Ave & I-10 Westbound Ramps	Unsafe Lane Change	29.41%	Sideswipe	26.47%
	Unsafe Speed	26.47%	Rear-End	26.47%
	Unsafe Starting or Backing	5.88%	Rear-End	5.88%
	Other than Driver	12.50%	Rear-End	12.50%
	Traffic Signals and Signs	12.50%	Sideswipe	12.50%
	Unsafe Speed	12.50%	Rear-End	12.50%
	Traffic Signals and Signs	25.00%	Sideswipe	12.50%
		Broadside	12.50%	
Cedar Ave & I-10 Eastbound Ramps	Driving Under Influence	12.50%	Rear-End	12.50%
	Unsafe Starting or Backing	12.50%	Rear-End	12.50%
	Traffic Signals and Signs	12.50%	Broadside	12.50%
	Improper Turning	14.29%	Broadside	14.29%
	Unsafe Speed	14.29%	Rear-End	14.29%
	Unknown	14.29%	Broadside	14.29%
	Unsafe Speed	14.29%	Rear-End	14.29%
Cedar Ave & Orange St	Traffic Signals and Signs	28.57%	Broadside	28.57%
	Driving Under Influence	7.69%	Sideswipe	7.69%
	Auto ROW Violation	7.69%	Broadside	7.69%
	Unsafe Speed	7.69%	Rear-End	7.69%
	Unsafe Starting or Backing	7.69%	Rear-End	7.69%
	Auto ROW Violation	7.69%	Head-On	7.69%
	Traffic Signals and Signs	7.69%	Broadside	7.69%
	Unsafe Lane Change	7.69%	Sideswipe	7.69%
	Unsafe Speed	23.08%	Rear-End	23.08%
	Auto ROW Violation	7.69%	Broadside	7.69%
Cedar Ave & Slover Ave	Traffic Signals and Signs	7.69%	Broadside	7.69%
	Unsafe Speed	7.69%	Rear-End	7.69%
	Driving Under Influence	8.33%	Rear-End	8.33%
	Improper Turning	16.67%	Hit Object	8.33%
			Sideswipe	8.33%
			Broadside	8.33%
			Sideswipe	8.33%
Cedar Ave & Slover Ave	Unsafe Lane Change	8.33%	Sideswipe	8.33%
	Unsafe Speed	50%	Hit Object	8.33%
			Rear-End	41.67%

Source: San Bernardino County, 2009.

I-10 = Interstate 10

ROW = right-of-way

intersections will result in traffic backing up on the I-10 freeway, which subsequently causes undesirable conditions in the merge/diverge area of the I-10/Cedar Avenue interchange.

The project would improve the mobility on Cedar Avenue by widening the existing four-lane facility to a six-lane arterial with dedicated left-turn lanes. As part of the project, the existing entrance and exit ramps would be widened to enhance the capacity and turning maneuverability.

Social Demands/Economic Development

According to the Bloomington Planning Area of the County Land Use Plan (February 2007), the land uses surrounding the interchange include General Commercial and Community Industrial. Existing land uses adjacent to Cedar Avenue and Slover Avenue in the vicinity of the interchange consist mainly of residential and commercial uses.

Alternative 2A, the Preferred Alternative, would require seven full parcel acquisitions consisting of three residential parcels and four commercial parcels (one parcel, Assessor's Parcel Number [APN] 0257-013-013, is vacant). As shown later in Figure 2.1-1, the three residential parcels are zoned for General Commercial development. Full property acquisitions of these three residential parcels would result in the conversion of current residential land uses to commercial land uses, if the parcels were to be sold and developed as commercial properties after completion of the project. Please refer to Section 2.3 of this document for additional discussion on the effect of residential displacement resulting from the I-10/Cedar Avenue Interchange project. Since the five displaced residential structures can be relocated to available housing within the same area, implementation of the project would have no impact on social demands within the area of Bloomington.

Alternative 2A, the Preferred Alternative, would also result in the full acquisitions of three commercial businesses. As discussed in Section 2.3 of this document, these commercial businesses can be relocated to other nonresidential properties available within the same area. Therefore, implementation of the project would have no impact on economic development.

The area around the I-10/Cedar Avenue interchange is semiurbanized and is forecast to be built out to the ultimate condition as described in the San Bernardino County General Plan (March 2007). The General Plan identifies anticipated growth and

needed infrastructure improvements for this area. The I-10/Cedar Avenue Interchange project would provide roadway capacity that meets future traffic demand based on land use plans. The County does not have a growth management ordinance.¹

The project is consistent with the San Bernardino General Plan Circulation Element (March 2007). Cedar Avenue is identified as a six-lane Major Arterial.

Legislation

There are no legislative mandates associated with the project.

Modal Interrelationships and System Linkages

Intermodal Facilities

Transit services in San Bernardino County and the Bloomington community are provided by Omnitrans. Route 29 extends from the Kaiser Hospital on Sierra Avenue north of I-10, east on Valley Boulevard to south of I-10, terminating at Bloomington High School west of Cedar Avenue. The nearest access to this route from Cedar Avenue is at Valley Boulevard north of I-10 and Slover Avenue south of I-10. An additional route, Route 19, also services the community of Bloomington. Route 19 extends from the intersection of Sierra Avenue and San Bernardino Avenue north of I-10, east on San Bernardino Avenue, Olive Street, C Street, Barton Road, Redlands Boulevard, and ends at the intersection of State Street and Orange Avenue near the Redlands Mall. Service is offered Mondays through Saturdays on approximately 1-hour headways.

Three MetroLink lines serve San Bernardino County. The nearest MetroLink stations for the San Bernardino to Los Angeles line are in Rialto (261 Palm Avenue) and Fontana (Orange Street and Sierra Avenue). The nearest MetroLink stations for the Inland Empire-Orange County line are in San Bernardino (1204 Third Street) and Riverside (4066 Vine Street). The nearest MetroLink station for the Riverside line is in Riverside. MetroLink is operated by the Southern California Regional Rail Authority (SCRRA), which provides transit services to the Counties of Orange, San Bernardino, Ventura, Riverside, San Diego, and Los Angeles.

Ontario International Airport is a commercial service airport in the City of Ontario, approximately 12 mi west of the I-10/Cedar Avenue interchange. Rialto Municipal

¹ Telephone Conversation with Jim Squire, Supervising Planner, County of San Bernardino Land Use Services, October 15, 2008.

Airport is a general aviation airport in the City of Rialto, approximately 6.5 mi northeast of the I-10/Cedar Avenue interchange. Both airports are north of I-10.

I-10 starts in California in the west, extends east to its terminus in Florida, and is a major east-west transcontinental connecting link from California to Florida. In California, I-10 serves as a major east-west corridor to and from San Bernardino County and the metropolitan areas in Los Angeles County. The I-10/Cedar interchange provides a connecting link between I-10 and the community of Bloomington and other areas located north and south of I-10 in the project area. There are no parallel or contiguous transportation facilities that could reduce traffic demand at the I-10/Cedar Avenue interchange, which could offset the need for improvements to this interchange. Route 29 has two bus stops within the project limits. The first is at Valley/Cedar and the second at Orange/Cedar.

Regional and System Planning

The segment of I-10 in the project area was added to the State Highway System in 1931. I-10 is part of the Rural and Single Interstate Routing System with a minimum 17 ft vertical clearance.

The I-10/Cedar Avenue Interchange project is consistent with the Caltrans Transportation Concept Report (TCR). The TCR proposes to add two managed lanes and two mixed flow lane in the future to the corridor, and the typical section will include a ten (10) foot left shoulder, one 12 foot managed lane, a two foot buffer, and five mixed flow lanes in each direction. The I-10/Cedar Avenue Interchange project would be constructed at its ultimate location with asphalt concrete (AC) paving tying it to the existing freeway section.

The I-10/Cedar Avenue Interchange project is also consistent with the RTP and is programmed in the FTIP.

Road construction outside existing state ROW would be included in the construction contract for the project to properly tie into existing improvements and to interconnect the traffic signals. Areas outside the state ROW are included in this environmental review. Any road construction outside the state ROW would be subject to the applicable AASHTO or County standards.

The project is consistent with the San Bernardino General Plan Circulation Element (March 2007). Cedar Avenue is identified as a six-lane Major Arterial within the San

Bernardino County General Plan. This project proposes to widen Cedar Avenue to its General Plan cross-section to assist with traffic flow associated with the I-10 ramps.

Air Quality Improvements

Transportation control measures such as ramp metering on the eastbound and westbound on-ramps would be included as part of the project. The purpose of the project is to relieve traffic congestion, and the project is not anticipated to generate any additional traffic at the interchange. Long-term emissions would improve as a result of enhanced traffic flow due to the interchange improvements under the I-10/Cedar Avenue Interchange project. The I-10 Route Concept Fact Sheet includes the planned addition of one HOV lane in each direction adjacent to the I-10 median, which would also reduce congestion on the I-10 in the project area.

The existing transit services in San Bernardino County and the Bloomington community are provided by Omnitrans, which connects areas on Valley Boulevard to south of I-10, including Bloomington Middle School, located at Cedar Avenue and Orange Street, and Bloomington High School, located at the northwest corner of Laurel Avenue and Santa Ana Avenue. Omnitrans and MetroLink will serve to provide alternate forms of public transportation, which help reduce the number of motor vehicles within the community of Bloomington.

Although the project would not provide designated bike lanes, a shoulder width that is adequate to accommodate a Class II bike lane would be provided within the project limits.

Transportation demand management offered through San Bernardino Associated Governments (SANBAG) will reduce traffic congestion and improve air quality within the project area by offering incentives for alternative forms of transportation (see page 46 regarding TDM incentives).

Independent Utility and Logical Termini

Federal regulations (23 Code of Federal Regulations [CFR] 771.111 [f]) require that “independent utility” and “logical termini” be established for a transportation improvement project evaluated under the National Environmental Policy Act (NEPA). The following discusses the specific criteria listed in 23 CFR 771.111(f) and how the I-10/Cedar Avenue Interchange project meets these criteria:

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

Cedar Avenue is a regionally important north/south route through the community of Bloomington in unincorporated San Bernardino County. It is currently a four-lane arterial (two lanes in each direction) north and south of the I-10/Cedar Avenue interchange; the section between the ramp terminal intersections is also four lanes.

The project would widen the roadway to six through lanes through the interchange. The northerly terminus is the point north of Valley Boulevard (the closest arterial north of the interchange) where Cedar Avenue would transition from six lanes to four lanes, and the southerly terminus is south of Slover Avenue (the closest arterial south of the interchange), where Cedar Avenue would transition from six lanes to four lanes. This provides logical termini by widening Cedar Avenue through the ramp terminal intersections before transitioning back to a four-lane section north of Valley Boulevard and south of Slover Avenue. On I-10, the improvement limits also provide logical termini by establishing easterly and westerly limits based on the maximum length of the required on-ramp and off-ramp modifications.

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

The project has independent utility, as it would improve traffic conditions on Cedar Avenue and the ramps connecting I-10 to Cedar Avenue. These improvements would benefit the traveling public even if no additional improvements are made to either Cedar Avenue or I-10.

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

The project would not restrict consideration of alternatives to improve Cedar Avenue north and south of I-10 (i.e., alternatives to widen Cedar Avenue on one or both sides of the road would not be precluded). The project would not restrict consideration of alternatives to improve I-10 because the project is consistent with the route concept for I-10.

1.3 Project Description

This section describes the action and the design alternatives that were developed by a multidisciplinary team to achieve the project purpose and need while avoiding or minimizing environmental impacts. The alternatives are Alternative 1 (No Build

Alternative) and Alternative 2A (Compact Diamond Interchange Alternative – the Preferred Alternative).

The County, in cooperation with Caltrans and FHWA, proposes improvements to the I-10/Cedar Avenue interchange. As stated above, the project proposes to widen the Cedar Avenue overcrossing, the UPRR Overhead, and Cedar Avenue from four to six lanes. Project limits extend from Valley Boulevard on the north to approximately 400 ft south of Slover Avenue. The project limits on I-10 are 3,766 ft west and 3,780 ft east of the Cedar Avenue centerline. In addition, Slover Avenue, identified as a 6 lane arterial by the County General Plan, would be improved 656 ft east and west of the centerline of Cedar Avenue. The project would require the acquisition of ROW.

The County, in cooperation with Caltrans, prepared a PSR-PDS for the I-10/Cedar Avenue Interchange project that was approved on November 2, 2001. The PSR-PDS identified the need to improve the interchange of I-10/Cedar Avenue. Economic, industrial, and population growth in the vicinity of this interchange has resulted in a substantial increase in traffic volumes on Cedar Avenue, including the segment crossing I-10. Existing and planned developments have resulted in concerns regarding traffic volumes and traffic backups on the I-10 off-ramps.

A Draft Project Report documented the PDT recommendation of consideration of Alternative 2A, the Build Alternative, which would widen the on- and off-ramps at the Cedar Avenue interchange using the existing tight diamond configuration.

The project is included in the adopted 2011 FTIP for engineering, ROW, and construction of the I-10/Cedar Avenue interchange improvements and widening Cedar Avenue from four to six lanes between Valley Boulevard and Slover Avenue (Project ID: 1830, I-10 AT CEDAR AVE. BETWEEN SLOVER AND VALLEY – RECONSTRUCT I/C – WIDEN FROM 4-6 LANES WITH LEFT AND RIGHT TURN LANES. ADD AUX LANE ON E/B ON AND OFF RAMPS.)

Funding sources for the project include County Measure I program and federal (Surface Transportation Program [STP]) funds. The estimated cost of Alternative 2A, including ROW acquisition, is \$61.9 million, which includes \$12.2 million for ROW acquisition. Construction is expected to be funded with federal and county local matching funds. The costs of the project through the Project Approval and Environmental Document (PA&ED) phase are completely funded by the County. The plans, specifications, and estimates (PS&E) phase will be funded with federal STP

monies through SANBAG and a County local match. Construction is scheduled for fiscal year 2013/2014.

Road construction outside Caltrans ROW for I-10 will be included in the project construction contract to properly tie into existing improvements and to interconnect the traffic signals. Areas outside Caltrans ROW are included within Caltrans environmental review. Construction outside the state ROW will be subject to the applicable American Association of State Highway and Transportation Officials (AASHTO) or County standards.

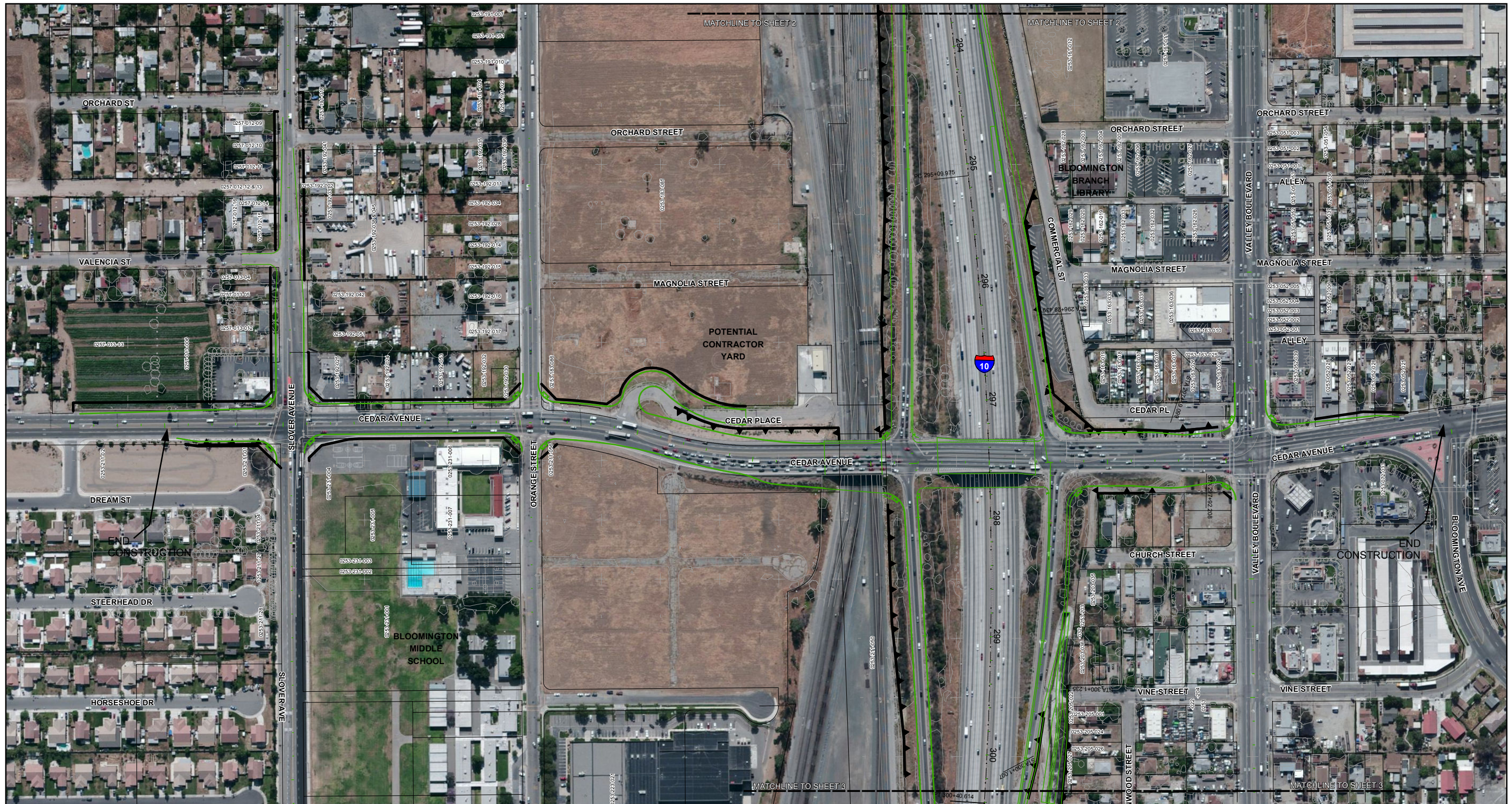
1.4 Alternatives Under Consideration

The alternatives for the I-10/Cedar Avenue Interchange project are the No Build Alternative (Alternative 1) and a Compact Diamond Interchange Alternative (Alternative 2A). The conceptual improvement plan for the I-10/Cedar Avenue interchange is shown in Figure 1.4-1.

The project proposes increasing road capacity for consistency with local and regional transportation plans and improving road geometrics within the project limits. The capacity of the existing on- and off-ramps would be increased; the I-10/Cedar Avenue overcrossing and overhead would be widened and improved to match the ultimate ROW cross-sections in the County's General Plan Circulation Element; Cedar Avenue would be widened and improved to match the improved overcrossing geometrics; and Slover Avenue would be widened within the project limits, consistent with the SCAG Regional Transportation Plan (RTP). Cedar Avenue is identified as a Major Highway in the County General Plan Circulation Element. A Major Highway is defined in the Circulation Element as a six-lane road with continuous left-turn lanes, two-way left-turn lanes, through lanes, and paved shoulder to the curb. The ultimate ROW width on this segment of Cedar Avenue would be 104 ft. Slover Avenue, which is also identified as a Major Highway within the County's Circulation Element, would be widened to four lanes within the project limits, with dual left-turn lanes at southbound Cedar Avenue.

Build Alternative – Alternative 2A – Compact Diamond Interchange Alternative (Preferred Alternative)

The I-10/Cedar Avenue Interchange project, from PM 17.8 to PM 19.3 between Slover Avenue and Valley Boulevard, would reconstruct the interchange, widen the existing Cedar Avenue overcrossing from four to six lanes with left- and right-turn lanes; widen the Cedar Avenue UPRR overhead structure,



Legend





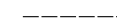



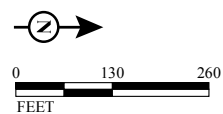
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|---|---------------------------------------|--|--------------------|
|  | Alternative 2A Curbs/Edge of Pavement |  | Proposed Soundwall |
|  | Existing Geometrics |  | Retaining Wall |
|  | Proposed Roadway Geometrics |  | I-10 Centerline |
|  | Proposed ROW | | |
|  | Parcel Boundaries / Existing ROW | | |

FIGURE 1.4-1
Sheet 1 of 3

I-10/Cedar Avenue Interchange
Alternative 2A (Preferred Alternative)
08-SBD-10 K.P. 28.6/31.0 (P.M. 17.8/19.3)
EA# 1A8300



SOURCE: LAN ENGINEERING; Bing (c. 2009)

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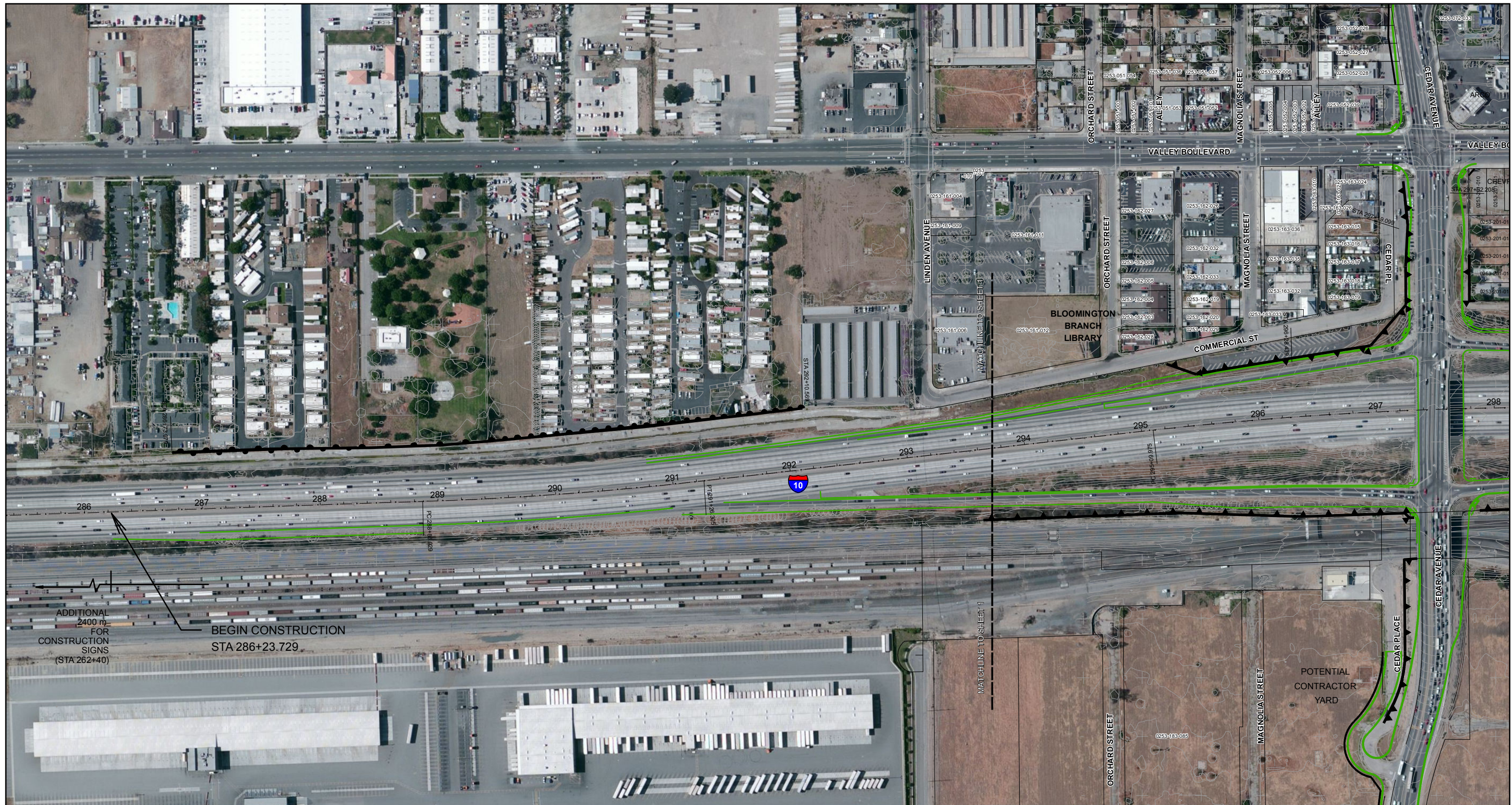
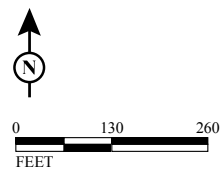


FIGURE 1.4-1
Sheet 2 of 3

- Legend
- Alternative 2A Curbs/Edge of Pavement
 - Existing Geometrics
 - - - Proposed Roadway Geometrics
 - Proposed ROW
 - Parcel Boundaries / Existing ROW
 - ▲— Proposed Soundwall
 - ▲— Retaining Wall
 - - - I-10 Centerline



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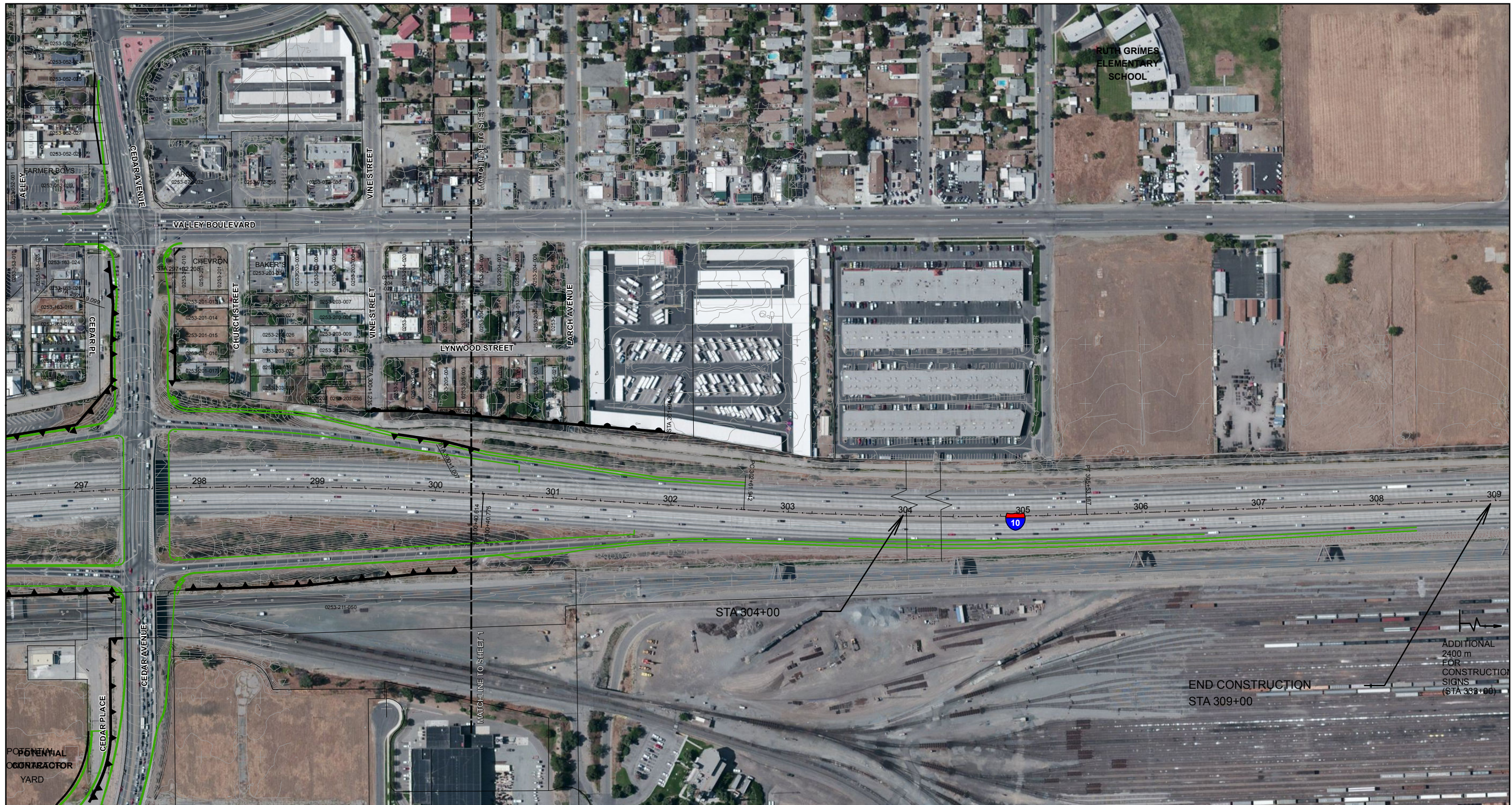
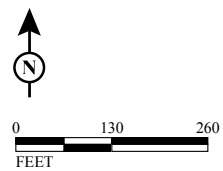


FIGURE 1.4-1
Sheet 3 of 3

- | | | | |
|--|---------------------------------------|--|--------------------|
| | Alternative 2A Curbs/Edge of Pavement | | Proposed Soundwall |
| | Existing Geometrics | | Retaining Wall |
| | Proposed Roadway Geometrics | | I-10 Centerline |
| | Proposed ROW | | |
| | Parcel Boundaries / Existing ROW | | |



SOURCE: LAN ENGINEERING; Bing (c. 2009)

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I-10/Cedar Avenue Interchange Project
Alternative 2A (Preferred Alternative)

08-SBD-10 K.P. 28.6/31.0 (P.M. 17.8/19.3)
EA# 1A8300

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construct sound walls, extend the I-10 Channel to accommodate the ramp widenings.

On Cedar Avenue, the project limits extend from Bloomington Avenue on the north to approximately 400 ft south of Slover Avenue. The project limits on I-10 are 3,766 ft west and 3,780 ft east of the Cedar Avenue centerline. In addition, Slover Avenue would be improved 656 ft east and west of the centerline of Cedar Avenue, and in the process of widening Cedar Avenue, the UPRR overcrossing shall also be widened. Detailed concept plans for Alternative 2A (Compact Diamond Interchange Alternative) - the Preferred Alternative, including plans, profiles, and typical cross-sections, are provided in Appendix I.

The Build Alternative would maintain the existing compact diamond configuration for the improvements. The existing exit ramps would be widened to four lanes at the intersection with Cedar Avenue. The existing single-lane entrance ramps would be widened to three lanes, including an HOV preferential lane. The entrance ramps would be designed to incorporate ramp metering.

In addition, the project would:

- Widen Cedar Avenue to include an additional through lane in each direction from Valley Boulevard to approximately 400 ft south of Slover Avenue
- Provide side-by-side dual left-turn lanes between the eastbound and westbound ramps
- Widen the Cedar Avenue overcrossing and overhead structures
- Widen Slover Avenue to four lanes, with dual left-turn lanes at the Cedar Avenue intersection between 656 ft east and west of the Cedar Avenue

Retaining walls will be constructed along the eastbound ramps to avoid encroachment onto the railroad ROW. Retaining walls are also proposed in various locations to minimize the ROW impacts along Cedar Avenue.

All fill will be obtained from an environmentally approved off-site source. The designated staging area is in a graded lot identified as the potential contractor yard in Figure 1.4-1, located within the APE in the west of Cedar Avenue between the UPRR and north of Orange Avenue.

Nonstandard Mandatory and Advisory Design Features

A Mandatory Design Exception Fact Sheet was approved by Caltrans Headquarters Design Coordinator on June 9, 2005, for three nonstandard mandatory design features that were identified for Alternative 2A during preparation of the PR phase.

1. Intersection Spacing

The minimum standard for intersection spacing on mainline freeways is 410 ft. Alternative 2A proposes to maintain the existing nonstandard intersection spacing at the following locations:

- Valley Boulevard to the westbound exit ramp, with a proposed intersection spacing of 345 ft
- Westbound entrance ramp to eastbound exit ramp, with a proposed intersection spacing of 326 ft
- Westbound exit ramp to eastbound entrance ramp, with a proposed intersection spacing of 331.2 ft
- Westbound entrance ramp to Valley Boulevard, with a proposed intersection spacing of 397.5 ft

Alternative 2A does not propose to reconfigure the existing compact diamond interchange at the I-10/Cedar Avenue location. Alternative 2A proposes only to widen the existing bridge structure, the overhead, and some of the access ramps. Therefore, the mandatory minimum standard would not apply to Alternative 2A because the interchange itself would not be reconfigured as part of this Alternative.

Alternative 2A would add lanes to the existing overcrossing and ramps, which would affect how the intersection operates, although the interchange would not be reconfigured. Based on the traffic study and the supplement to the traffic study (January 2009) prepared for the *Draft PR*, the additional capacity from the added lanes on Cedar Avenue and the on- and off-ramps would not have an adverse effect on the operation of this interchange.

Existing physical constraints that prohibit the reconfiguration of the existing interchange are the location of the UPRR tracks south of I-10 and the location of Valley Boulevard north of I-10. It is not possible to shift the interchange to the south because of the railroad tracks; shifting the interchange to the north would require shifting Valley Boulevard approximately 377 ft north, which would involve major construction, substantial ROW acquisition, significant potential environmental impacts, and increased project costs.

Although the mandatory minimum spacing standard does not apply to Alternative 2A, the *Draft PR* considered the reconfiguration of the interchange to meet this standard. However, as described above, there are substantial constraints in the project area that prohibit the reconfiguration of this interchange.

2. Superelevation

The *Highway Design Manual* (HDM) requires an exit ramp superelevation of 3 percent. Alternative 2A proposes a 2 percent superelevation on the eastbound Cedar Avenue exit ramp.

Alternative 2A proposes to use the existing ramp alignment for the proposed widening of this exit ramp. The existing superelevation on the existing eastbound Cedar Avenue exit ramp is 1.5 percent. The existing horizontal curve extends into the Cedar Avenue intersection, where the cross slope is controlled by the existing profile of Cedar Avenue. The existing superelevation of this exit ramp was constructed to properly transition from the exit ramp to the profile of Cedar Avenue. Alternative 2A proposes to improve the superelevation of this ramp to 2 percent, but further improving it to 3 percent is not possible without changing the profile of Cedar Avenue. Further, a 3 percent superelevation on this ramp would result in a low spot, which may create a drainage problem along the outside shoulder.

Alternative 2A also proposes a -2 percent superelevation instead of the required 6 percent for the curve at the westbound exit ramp.

3. Stopping Sight Distance

Alternative 2A proposes a nonstandard 279 ft stopping sight distance (SSD) on Cedar Avenue instead of the standard 312 ft SSD. The SSD occurs on the vertical curve on Cedar Avenue between Orange Boulevard and the railroad overhead. As the vertical curve is at a grade sag, lighting will be provided. Lighting is incorporated in Alternative 2A to improve the headlight sight distance at this location.

Advisory Design Exceptions

Alternative 2A proposes three design exceptions to advisory design standards related to vertical curve lengths, curb ramps, and slopes. These exceptions to the advisory design standards were approved by Caltrans on May 24, 2005.

Value Analysis Study Report

A *Value Analysis Study Report* (March 2006) was conducted to focus on alternatives and possible modifications to the project alternatives that would improve operations,

maintain or improve safety, and reduce project costs. Two key findings from the value analysis process were incorporated in the proposed Build Alternative, as follows:

- **Investigate the Feasibility of Constructing Retaining Walls Using MSE or Other Construction Methods.** This finding recommended investigating the feasibility of using an MSE or other alternate types of construction (e.g., crib walls) at selected project locations. This recommendation would result in a cost reduction of approximately \$139,000 in total project costs.
- **Flatten the Roadway Profile of a Portion of Cedar Avenue that is South of the Railroad Bridge and Extends to the Orange Street Intersection.** This finding recommended reducing the 7–7.5 percent grade on a segment of Cedar Avenue to 6 percent, in order to reduce roadway construction costs.

Utilities

Several overhead and underground utility lines run along the project segment of Cedar Avenue. These existing utility facilities would need to be relocated or protected in place to allow for the proposed street widening under Alternative 2A. Based on the preliminary utility verification research and mapping conducted for the *Draft PR*, the following utility facilities are located along the project segment of Cedar Avenue:

- Cable television (Adelphia)
- Electric (Southern California Edison)
- Fiber optic (Caltrans, Level 3, Wiltel, and WorldCom)
- Natural gas (Southern California Gas Company)
- Irrigation lines (Caltrans)
- Oil (KM Petroleum)
- Storm drain systems
- Telephone (SBC)
- Water lines (fire hydrants and valves, West San Bernardino County Water District [WSBCWD])

No high-risk facilities are known to exist in the project limits. The only low-risk facilities are the natural gas and oil pipelines. No violations of Caltrans utility access policy are known at this time. No substantial utility relocations are anticipated as a result of Alternative 2A.

Irrigation Systems

Irrigation work would consist of new irrigation systems as required for establishment of the replacement planting and would include connecting the existing irrigation controllers to the Fiber Optic system within this area. The irrigation system will adhere to the Caltrans I-10 Corridor Master Planting Plan. The County has no plans to provide reclaimed water in the project area at this time. However, irrigation systems for the project would be designed to accommodate the use of reclaimed water should it become available in the future. Irrigation crossovers would be provided for all ramps and at both overcrossing abutments. A spare supply line and irrigation conduits would be provided in the widened overcrossing bridge structure.

Noise Barriers

A *Noise Analysis* (February 2005) was prepared for the project. The recommendations in the Noise Analysis regarding noise attenuation for Alternative 2A are described below.

As discussed in the Noise Analysis, the two sound walls described in Table 1.13 were determined to be reasonable and feasible. These sound walls are incorporated into the project description. The locations of these sound walls are shown later on Figure 2.14-2.

Table 1.13 Preliminary Reasonable and Feasible Sound Walls

SW No.	Height (ft)	Length (ft)	Number of Benefited Residences	Cost
1	14	1,759	20	\$507,056
	16	1,759	22	\$577,808
4	14	777	7	\$224,202

Source: *Noise Analysis* (LSA Associates, Inc., February 2005).

ft = feet

SW = sound wall

Nonmotorized and Pedestrian Features

Alternative 2A includes the provision of sufficient shoulder width varying from 6 to 10 ft within the project segments of Cedar Avenue and Slover Avenue. The proposed width for the Class II bike lanes exceeds Caltrans standard of 5 ft and includes a 2 ft gutter. The Class II bike lanes would allow bicyclists to cross over I-10 on the widened segments of Cedar Avenue and Slover Avenues. All pedestrian facilities,

including sidewalks, access ramps, and crosswalks would be designed consistent with the requirements of the Americans with Disabilities Act (ADA).

On-Site Drainage

I-10 Mainline and Ramps

The I-10 mainline and ramp improvements under Alternative 2A would affect the existing entrance and exit ramp drainage inlets. The drainage system on I-10 consists of several catch basins and pipe systems that collect and convey runoff to a storm drain mainline system located in the median of I-10. Alternative 2A would require the relocation of drainage inlets along the ramps to accommodate the improvements. The runoff for each ramp was calculated, and the existing shoulder capacities were analyzed to conform to Caltrans design criteria for a maximum flooded shoulder width and placement of relocated drainage inlets.

I-10 Channel

The existing I-10 Channel crossing the project site would be extended to accommodate the widening of Cedar Avenue and the ramp widenings. The extension would be accomplished via extension of the existing 14 ft diameter reinforced concrete pipe or with a double 9.5 ft x 8.5 ft reinforced concrete box channel.

Off-Site Drainage

Area North of I-10

The northern drainage area slopes southeast and is generally bounded by San Bernardino Avenue on the north and Valley Boulevard on the south. Runoff from this area is collected by seven existing catch basins along Cedar Avenue and Valley Boulevard, which is then conveyed to the existing 66 inch diameter storm drain system in Vine Avenue. Two additional catch basins would be constructed at Cedar Avenue and Bloomington Avenue by the San Bernardino County Department of Transportation in conjunction with or in advance of the I-10/Cedar Avenue Interchange Project. These two catch basins were assumed to be in place when the capacity of the existing storm drain system was analyzed for Alternative 2A.

The boundary of this northern drainage area extends west to Linden Avenue and east to Vine Avenue. The drainage areas between Larch and Vine Avenues currently drain southwest and are collected and conveyed south by an existing 66 inch diameter storm drain system to the I-10 Channel.

Area South of I-10

There are minimal existing drainage facilities in the area south of the project segment of I-10 because most of the upstream flows are intercepted by drainage systems in the I-10 ROW and north of I-10. There is an existing drainage system in Park Street east of Cedar Avenue that discharges flows to Cedar Avenue.

An additional drainage system in Cedar Avenue at Slover Avenue appears to collect and convey flows from north of Slover Avenue to the south. This drainage structure would conflict with the improvements and would be relocated under Alternative 2A.

Detailed hydrology calculations for Alternative 2A indicated that the street improvements could contain the 100-year flood runoff within the project ROW limits and that there would be little impact related to runoff outside the project limits.

Cost Estimates

The estimated total project cost for Alternative 2A is \$61.9 million, which includes \$12.2 million for state ROW acquisition, \$9.3 million for support costs, and \$2.2 million for landscaping construction and support.

Right-of-Way Acquisition

The project requires ROW acquisition along Cedar Avenue and Slover Avenue. As shown in Table 1.14, Alternative 2A would result in the partial acquisition of 13 parcels and the full acquisition of 7 parcels. The anticipated full and partial acquisitions under Alternative 2A are shown in detail later on Figure 2.3-1. These properties would become part of the permanent ROW for the I-10/Cedar Avenue interchange. The full acquisitions of seven parcels would require the relocation of the existing uses on those parcels. The partial acquisitions would not require the relocation of the existing land uses on those parcels.

In addition to the full and partial acquisitions listed in Table 1.14, the project would result in the elimination of existing stairway on the slope, west of Cedar Avenue (southwest corner of Cedar Avenue and Valley Boulevard), and the use of County ROW that is currently used for parking, as follows:

- 20 parking spaces located in the existing County-owned ROW along the east side of Cedar Place, west of Cedar Avenue and at the southwest corner of Valley Boulevard and Cedar Avenue would be relocated. All 20 parking spaces would be relocated within the same area along the east side of Cedar Place.

Table 1.14 Properties Impacted by Full and Partial Acquisitions

APN	Existing Land Use	Size of Acquisition (Square Feet)
Full Acquisitions		
0253-192-024	SFR	24,000
0253-192-025	Retail/Commercial	19,905
0253-192-053	Residential/Commercial	25,887
0257-013-004	SFR	7,050
0257-013-005	SFR	6,750
0257-013-012 ¹	Commercial/Market/Residential	93,093
0257-013-013	Commercial/Market/Residential	93,450
Partial Acquisitions		
0253-052-025	SFR	46
0253-052-026	SFR	1,237
0253-052-027	SFR	889
0253-052-028	Commercial/service garage	1,352
0253-171-016	Vacant (industrial)	15,878
0253-192-030	Vacant (SFR)	2,900
0253-192-032	Vacant (SFR)	1,291
0253-192-037	SFR	181
0253-192-038	Residential/Commercial	1,302
0253-201-018	Vacant (Commercial)	263
0253-211-056	Vacant (Commercial)	14,661
0253-231-006	Public	1,027
0257-211-001	Vacant (SFR)	2,072

Source: AECOM (March 2012) and San Bernardino County Department of Public Works (May 2009).

¹ Acquisition of this parcel would displace one residential structure and one nonresidential structure.

APN = Assessor's Parcel Number

SFR = single-family residential

- 4 parking spaces would be removed from the County-owned ROW adjacent to the Farmer Boys restaurant on the northwest corner of Valley Boulevard and Cedar Avenue

In addition to these permanent property acquisitions, the construction of Alternative 2A would also require temporary construction easements (TCEs) adjacent to the project ROW for slope and wall construction. After project construction is complete the area within each TCE would be restored to its original condition and returned to the property owner. A total of 27 TCEs are required for the project. The areas anticipated to be required for the TCEs are described in Table 1.15 and shown later in Figure 2.3-1.

Alternative 2A would also require a permanent easement on the railroad property for an aerial easement, as summarized in Table 1.16.

Table 1.15 Summary of TCEs for Project Construction

APN	Existing Use	Area Required for Easement (sf)	Purpose for TCE
0253-205-001	SFR	176	Sound wall construction
0253-205-024	Vacant (SFR)	611	Sound wall construction
0253-205-026	SFR	472	Sound wall construction
0253-205-025	SFR	554	Sound wall construction
0253-205-028	SFR	542	Sound wall construction
0253-205-029	SFR	530	Sound wall construction
0253-205-023	SFR	518	Sound wall construction
0253-205-021	SFR	509	Sound wall construction
0253-205-022	Vacant (SFR)	405	Sound wall construction
0253-205-027	Vacant (SFR)	1,145	Sound wall construction
0235-241-007	Vacant (Commercial)	625	Sound wall construction
0252-161-008	Office/Commercial	1,335	Sound wall construction
0252-161-011	Residential/Commercial	788	Sound wall construction
0252-161-012	Mobile Home Park/Commercial	3,250	Sound wall construction
0252-161-036	Vacant (Commercial)	866	Sound wall construction
0252-161-054	Motel/Commercial	1,123	Sound wall construction
0252-161-057	Mobile Home Park/Commercial	890	Sound wall construction
0252-161-058	Mobile Home Park/Commercial	2,400	Sound wall construction
0252-161-061	Mobile Home Park/Commercial	3,207	Sound wall construction
0253-201-015	SFR	552	Sound wall construction
0253-201-016	SFR	555	Sound wall construction
0253-201-017	SFR	558	Sound wall construction
0257-012-014	SFR	502	Construction
0257-012-015	SFR	984	Construction
Southern Pacific Transportation Company		10,618	Retaining wall construction
Southern Pacific Transportation Company		7,564	Retaining wall construction
Southern Pacific Transportation Company		43,761	Overhead widening

Source: AECOM (March 2012).

APN = Assessor's Parcel Number

sf = square feet

SFR = single-family residential

TCE = temporary construction easements

Table 1.16 Summary of Permanent Easements

Property Owner	Area Required for Easement (sf)	Purpose of Easement
Southern Pacific Transportation Company	10,734	Aerial Easement

Source: AECOM (March 2012).

sf = square feet

Transportation System Management and Transportation Demand Management Alternatives

The purpose of the I-10/Cedar Avenue Interchange project is to relieve existing traffic congestion, accommodate future projected traffic volumes at the interchange ramps and the project segment of Cedar Avenue, accommodate projected future traffic improvements in the area, and provide improvements consistent with the County

General Plan Circulation Element that meet or surpass the County's maximum allowable threshold of LOS E at the study area intersections through 2030. A separate Transportation Systems Management (TSM) Alternative was not developed because there is substantial existing transit service (rail and bus) provided in this part of the County.

Although Transportation System Management measures alone could not satisfy the purpose and need of the project, the following Transportation System Management measures have been incorporated into the Build Alternative for this project:

- Installation of ramp meters at the westbound and eastbound on-ramps
- Acceleration and deceleration lanes on the eastbound on- and off-ramps
- HOV preferred lane on the westbound and eastbound on-ramps

Transportation Demand Management (TDM) focuses on regional strategies for reducing the number of vehicle trips and vehicle miles traveled (VMT) as well as increasing vehicle occupancy. It facilitates higher vehicle occupancy or reduces traffic congestion by expanding a traveler's choice in terms of travel method, travel time, travel route, travel costs, and the quality and convenience of the travel experience.

TDM strategies that would provide alternate forms of transportation and reduce the number of occupants per vehicle and the number of VMT in the project area are discussed below. The project would provide Class II bike lanes, which would include a shoulder width varying from 6 to 10 feet within the project limits. There is an existing park-and-ride lot located in the northwest quadrant of the I-10/Cedar Avenue interchange. SANBAG offers three programs in order to encourage employees to carpool, vanpool, ride the bus, ride MetroLink, bicycle, walk, or telecommute. These programs include:

1. The Inland Empire Commuter Services (IECS) Program is designed to assist employers located within San Bernardino County with the coordination of rideshare programs. IECS provides technical assistance/services and continuing education and organizes special events and workshops educating employers on congestion management and air quality issues. In addition to these services, IECS also helps to match potential rideshare commuters with their prospective carpool or vanpool.
2. The Option Rideshare program offers employees a financial incentive of \$2.00 in gift certificates for each day they rideshare to work during a 3-month period.

3. Members of the Team Ride program are eligible to receive unlimited discounts at more than 500 local restaurants and other entertainment and service venues located within the Inland Empire. In addition, participants of the Team Ride program are also eligible for special promotions and prize drawings.

Existing transit services in the project area are provided by Omnitrans, which connects areas on Valley Boulevard to destinations south of I-10, including Washington Alternative School and Bloomington Middle School, located in the vicinity of Cedar Avenue and Orange Street.

Other Project Features

California Highway Patrol Enforcement Areas

Alternative 2A includes California Highway Patrol (CHP) enforcements areas on the eastbound and westbound on-ramps.

Maintenance Vehicle Pull-out Areas

There would be a maintenance vehicle pull-out area installed on the left side of each ramp where the landscape areas are located.

Park-and-Ride Facility

There is an existing parking lot that was at one time a State-owned park-and-ride facility located along the south side of Commercial Street in the northwest quadrant of the I-10/Cedar Avenue interchange. All park and ride signs have been removed and the site is closed to public use.

Railroad Involvement

The UPRR mainline and yard tracks are located along the south side of the project segment of I-10. Alternative 2A proposes widening the railroad bridge on the east side of the existing structure. To facilitate the widening of the railroad overhead structure, the adjacent track on each side of pier number 3 would be temporarily realigned.

Construction Timing and Phasing

Construction of the I-10/Cedar Avenue Interchange project would be initiated after completion of the environmental and PR processes, as shown in Table 1.17.

Project construction would be staged to maintain local traffic through the interchange during construction. In addition, a Traffic Management Plan, to be finalized during

Table 1.17 Project Schedule

Action	Timeline
Approval of the PSR	November 2001
Begin PA/ED	June 2002
Approved PA/ED	June 2013
PS&E	August 2013
ROW certification	September 2013
Advertise and Award	December 2013
Complete project construction	December 2014

Source: *Final Project Report* (May 2013)

PA/ED = Project Approval/Environmental Documentation

PS&E = Plans, Specifications, and Estimates

PSR = Project Study Report

final design, would be implemented during the construction of the project. The widening of the bridge structure on Cedar Avenue over I-10 would be constructed in two phases, allowing the existing bridge to remain open to through traffic while the widening is under construction. The existing ramps would remain open during construction because the widening would take place on the outside of these existing ramps. Construction at the intersections would be phased to minimize disruptions to traffic.

Title VI Considerations

Curb ramps would be provided at all the intersections of Cedar Avenue and the I-10 ramps under Alternative 2A. Curb ramps exist at some of the intersections within the project limits. All pedestrian facilities, including sidewalks, access ramps, and crosswalks would be designed consistent with requirements of the ADA. Existing public transit stops in the project area would be maintained. Access to shopping, schools, hospitals, and recreational areas would be improved under Alternative 2A based on the improved operation of the I-10/Cedar Avenue interchange.

No Build Alternative (Alternative 1)

The No Build Alternative includes only those improvements along I-10 that are currently planned or programmed. Planned improvements in the general vicinity of the project include improving the existing I-10 interchanges at Citrus Avenue, Cherry Avenue, and Riverside Avenue; construction of an I-10/Cypress Avenue overcrossing; and widening Slover Avenue, including the intersection with Cedar Avenue. On I-10, there is a project to add one HOV lane in each direction between Haven Avenue in Ontario and Ford Street in Redlands. These improvements would do little in the way of providing adequate LOS and operational conditions at the I-10/

Cedar Avenue interchange and would primarily serve the existing traffic demands on the facilities they are improving. These improvements are assumed to occur under the No Build Alternative and as part of the background conditions for the Build Alternative.

The No Build Alternative would not provide any improvements at the existing I-10/ Cedar Avenue interchange or on Cedar Avenue. The No Build Alternative would not relieve existing traffic congestion and would not accommodate forecasted future traffic volumes through this interchange. The No Build Alternative would not be consistent with future traffic improvements in the area. Under the No Build Alternative, traffic congestion would worsen, which could contribute to adverse air quality effects associated with the operation of I-10 and Cedar Avenue.

Comparison of Alternatives

Table 1.18 provides a comparison of the No Build (Alternative 1), and Alternative 2A (Preferred Alternative).

After the Public circulation period, all comments were considered, and Caltrans selected a preferred alternative and will make the final determination of the project's effect on the environment. In accordance with CEQA, as no immitigable significant adverse impacts were identified Caltrans approved a Mitigated Negative Declaration for the project. Similarly, as Caltrans determined the action does not significantly impact the environment, Caltrans, as assigned by FHWA, issued a Finding of No Significant Impact (FONSI) in accordance with NEPA.

For the reasons listed in the section below, the PDT identified Alternative 2A as the Preferred Alternative.

Identification of a Preferred Alternative

Major criteria used for identification of the Preferred Alternative included whether the goals of the project purpose would be met, level of service (LOS), constructability, environmental impacts, and cost.

All comments received during the 30-day public review of the Draft IS/EA have been considered. After comparing and weighing the benefits and impacts of the studied alternatives, the Project Development Team (PDT) selected Alternative 2A as the Preferred Alternative.

Alternative 2A was the only build alternative analyzed in the Draft IS/EA. In comparison with the No Build Alternative (Alternative 1), it is the only alternative that meets the purpose and need and the project's objectives. Other alternatives were considered during the Draft IS/EA, however were withdrawn from further consideration due to reasons discussed below.

Alternatives Considered but Eliminated from Further Discussion
Other Build Alternatives

In addition, four other Build Alternatives were considered by the PDT. These alternatives were eliminated from further consideration and are not evaluated in this environmental document due to their high costs, physical geometric constraints, and/or traffic disruptions associated with the widening of the existing overcrossing. Another Build Alternative was developed for consideration

Table 1.18 Comparison of Alternatives

Environmental Issue	No Build Alternative (Alternative 1)	Preferred Alternative (Alternative 2A)
Relocations	No change to existing condition of site. No property acquisitions or relocations would occur.	The Preferred Alternative (Alternative 2A) would result in 7 full parcel acquisitions and 13 partial parcel acquisitions.
Traffic and Transportation/ Pedestrian and Bicycle Facilities	The No Build Alternative (Alternative 1) would not provide any improvements at the existing I-10/Cedar Avenue interchange or on Cedar Avenue. Therefore, traffic operations at this interchange, on Cedar Avenue, and on the project segment of I-10 would continue as they currently exist and would worsen over time. The No Build Alternative (Alternative 1) would not provide adequate LOS and operational conditions at the I-10/ Cedar Avenue interchange in 2014 (opening year) and 2030 (design year). The No Build Alternative (Alternative 1) would not be consistent with future traffic improvements in the area.	The Preferred Alternative (Alternative 2A) would improve traffic operations at the I-10/Cedar Avenue interchange and would not have any permanent adverse impacts on traffic in the area. All intersections in the study area are projected to operate at satisfactory LOS in 2009 under Alternative 2A and would be consistent with future traffic improvements in the area.
Visual and Aesthetics	No change in the aesthetic condition of the site or views of the site from off-site vantage points would occur.	Long-term visual impacts would include changes in views. The Preferred Alternative (Alternative 2A) would result in the removal of ornamental vegetation, including the removal of approximately 150 mature trees, which are primarily eucalyptus. A total of 80 of the estimated 150 trees to be removed are located in the southwest quadrant of the interchange along the eastbound off-ramp. In addition, Alternative 2A would introduce such urban elements as sound walls, retaining walls, and the replacement overcrossing into the existing environment.
Water Quality and Storm Water Runoff	The No Build Alternative (Alternative 1) would not result in changes to existing volumes and quality of runoff generated from the project area.	The implementation of the Preferred Alternative (Alternative 2A) would result in a minor increase in impervious area, which would result in a minor increase in the velocity and/or volume of downstream flow. No substantial hydraulic changes or erosion would occur during operation.
Noise	The No Build Alternative (Alternative 1) would result in noise levels that exceed the NAC at many of the same receptors as Alternatives 5 and 6. The NAC are currently exceeded at many of these receptors under existing conditions, and these receptors would continue to be adversely impacted under the No Build Alternative in the future.	Under the Preferred Alternative (Alternative 2A), 52 receptors would approach or exceed the NAC under the future worst-case traffic conditions. Therefore, noise abatement measures must be considered. Sound Barrier No. 1 was determined to be reasonable and feasible at 14 to 16 ft in height and 1,759 ft in length. Sound Barrier No. 4 was determined to be reasonable and feasible at 10 to 14 ft in height and 777 ft in length. The final decision on noise barriers will be made upon completion of project design and public involvement processes.
Cost	There would be no construction and no final design and construction costs.	The estimated cost to construct the Preferred Alternative (Alternative 2A) is \$61.9 million.

ft = feet
I-10 = Interstate 10

LOS = level of service
NAC = Noise Abatement Criteria

after these three alternatives were eliminated from further consideration. That last alternative was also eliminated from further consideration after detailed review by the PDT. These alternatives are described briefly below. All four of these alternatives are discussed in detail in the PSR and PR but are not evaluated in detail in this environmental document.

Alternative 2B (Cloverleaf and Hook Ramp Combination)

Alternative 2B proposed a new westbound loop ramp in the northeast quadrant of the interchange. To accommodate this loop ramp layout and to provide sufficient intersection spacing, the existing westbound off-ramp would be realigned into a hook off-ramp and connected to Vine Street. The improvements in the other three interchange quadrants under Alternative 2A, would be the same under Alternative 2B. This alternative was eliminated from further consideration and is not evaluated in this environmental document for the following reasons:

- Additional improvement would be required on Valley Boulevard
- The different ramp terminal locations of the westbound ramps are not preferable
- The major ROW acquisition would result in a prohibitively high cost

Alternative 2C (Type L-9, Partial Cloverleaf)

Alternative 2C proposed a partial cloverleaf interchange that would be similar to Alternative 2B. However, Alternative 2C would differ from Alternative 2B based on an eastbound loop on-ramp at the southwest quadrant of the interchange. This alternative was eliminated from further consideration and is not evaluated in this environmental document for the following reasons:

- Additional improvement would be required on Valley Boulevard
- The different ramp terminal locations of the westbound ramps are not preferable
- The major ROW acquisition would result in a prohibitively high cost

Therefore, this alternative was eliminated from further consideration and is not evaluated in this environmental document.

Alternative 2D (Single Point Interchange/Urban Interchange)

Alternative 2D proposed total reconstruction of the interchange, including removal and reconstruction of the freeway bridge. Alternative 2D was determined not to be viable for the following reasons:

- The distance between the Cedar Avenue/Valley Boulevard intersection and Cedar Avenue/WB I-10 off-ramp intersection would be less than 137 yards. It is disadvantageous to provide a free-right-turn lane without adequate weaving distance.
- The unbalanced left-turn movements would result in inefficient traffic light cycle time.
- The interchange configuration would not favor high pedestrian volumes.
- This alternative would require a bridge replacement, which is out of the scope of the project and which would substantially increase the costs of the improvements to this interchange.

Alternative 2E (Hook Ramps in the Northeast Quadrant)

Alternative 2E, which proposed hook ramps in the northeast quadrant, was eliminated from further consideration for the following reasons:

- Under this alternative traffic would be redirected in a way that would have a negative impact on the intersection of Cedar Avenue and Valley Boulevard. The results of the traffic operations analysis (October 2003) show that all intersections in the study area are projected to operate at satisfactory LOS with the exception of Cedar Avenue/Valley Boulevard (a.m. and p.m. peak hours).
- The hook westbound on-ramp is incompatible with the Route Concept Report, which shows plans to widen I-10 from eight mixed-flow lanes to eight mixed-flow lanes plus two HOV lanes. A PSR has been completed for the widening and PA & ED is currently being initiated. When the freeway is widened, the additional lane for the westbound hook on-ramp does not fit within the existing bridge span envelope. Alternative 2A (project) would widen the existing overcrossing only and does not include replacement of the overcrossing bridge structure. The bridge would need to be replaced to accommodate the westbound hook on-ramp under Alternative 2E. Incompatibility with the Route Concept Report is a fatal flaw.
- ROW impacts under Alternative 2E are substantially higher than under Alternative 2A. Alternative 2A would displace three nonresidential properties and six residential properties. Alternative 2E would displace 14 nonresidential properties and 7 residential properties and would have a higher ROW cost.
- Hook ramps such as the westbound hook ramps in Alternative 2E have a high incidence of rear-end collisions caused by motorists exiting the ramps at a high

rate of speed and having to negotiate a nearly 90-degree turn before stopping at the signalized intersection.

Elimination of Alternative 2E was discussed extensively over a period of several months with the PDT, which concurred formally with its elimination. In addition, prior to eliminating Alternative 2E, two meetings were held with FHWA to obtain its concurrence, one on November 19, 2003, with Mr. Mahfoud Licha, and another on January 29, 2004, with Mr. Mahfoud Licha and Mr. Bren George. On both occasions, the team received confirmation that it could proceed with one build and the no Build Alternative and that, based on the above reasons, it could eliminate Alternative 2E from further consideration.

1.5 Permits and Approvals Needed

A cooperative agreement between the County and Caltrans will be necessary to construct the improvements within the State ROW. The cooperative agreement will be executed prior to the release of bids for construction of the project. The County will obtain an encroachment permit from Caltrans to construct the improvements within state ROW. An Encroachment Permit would be required by the construction contractor from the County for construction within County street ROWs. Acquisition of the anticipated permits is expected to follow common procedures and should not require extensive lead time for approvals. The permits, reviews and approvals shown in Table 1.19 would be required for project construction.

As part of Caltrans Project Delivery Storm Water Management Program described in Caltrans *Storm Water Management Plan* (SWMP), selected BMPs will be incorporated into the design of the construction of the I-10/Cedar Avenue Interchange project. These BMPs will be implemented so as to meet or exceed the requirements of Caltrans National Pollution Discharge Elimination System (NPDES) Permit.

All waste discharges as a result of the improvements for the I-10/Cedar Avenue interchange and the extension of the I-10 culvert will be covered within the existing NPDES Permit.

The United States Army Corps of Engineers (Corps) regulates discharges of dredged or fill material into waters of the United States. These waters include wetlands and nonwetland bodies of water that meet specific criteria, including a direct or indirect

Table 1.19 Permits and Approvals Needed

Agency	Permit/Approval	Status
County of San Bernardino	Encroachment Permit	Will be obtained during PS&E.
California Department of Transportation	State ROW encroachment permit	Will be obtained during PS&E.
Union Pacific Railroad	Construction and Maintenance Agreement, including permanent ROW	Will be obtained during PS&E.
Union Pacific Railroad	Temporary construction easement, including railroad flagging cost	Will be obtained during PS&E.
California Department of Transportation	National Pollution Discharge Elimination System Permit	Coverage under the permit will be obtained prior to construction.
Federal Highway Administration	Air Quality Conformity	The Air Quality Conformity Analysis Determination letter was issued by the FHWA on 12/20/12.
United States Army Corps of Engineers	Section 404 Nationwide Permit 14 for Linear Transportation Projects	Will be obtained during PS&E.
Santa Ana Regional Water Quality Control Board	Section 401 Water Quality Certification	Will be obtained during PS&E.
California Department of Fish and Wildlife (CDFW)	1602 Streambed Alteration Agreement	Permit application will be submitted to CDFW during PS&E. Based on the application CDFW will determine whether or not a permit will be required.

FONSI = Finding of No Significant Impact

MND = Mitigated Negative Declaration

PA/ED = Project Approval/Environmental Documentation

PS&E = Plans, Specifications, and Estimates

ROW = right-of-way

connection to interstate commerce. The Corps regulatory jurisdiction pursuant to Section 404 of the federal Clean Water Act (CWA) is founded on a connection, or nexus, between the water body in question and interstate commerce. This connection may be direct, through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce, or may be indirect, through a nexus identified in the Corps regulations. In order to be considered a jurisdictional wetland under Section 404, an area must possess three wetland characteristics: hydrophytic vegetation, hydric soils, and wetland hydrology. Each characteristic has a specific set of mandatory wetland criteria that must be satisfied in order for that particular wetland characteristic to be met.

The project is within the jurisdiction of the Santa Ana Regional Water Quality Control Board (RWQCB), which is responsible for the administration of Section 401 of the CWA. The California Department of Fish and Wildlife (CDFW), through provisions of the California Fish and Game Code (Sections 1600–1616), is

empowered to issue agreements for any alteration of a river, stream, or lake where fish or wildlife resources may be adversely affected. Streams (and rivers) are defined by the presence of a channel bed and banks and at least an intermittent flow of water. CDFW regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake as defined by CDFW.

In a 2006 court ruling, the United States Supreme Court considered the United States Army Corps of Engineers (USACE) jurisdiction of “waters of the United States” in the consolidated cases *Rapanos v. United States* and *Carabell v. United States* (126 S. Ct. 2208), collectively referred to as “*Rapanos*.” As a result of the *Rapanos* decision, the USACE issued new guidance on June 5, 2007, regarding the changes in assertion over jurisdictional waters. Based on the new guidance, the I-10 Channel is considered to be a jurisdictional drainage regulated by the USACE. Thus, the project would require a Section 404 Nationwide Permit (NWP) 14 for Linear Transportation Projects and as a result, the project would also require a Section 401 Water Quality Certification permit from the RWQCB. However, since the project would have less than 0.1 ac of permanent impacts, it qualifies as a nonreporting NWP 14. Therefore, formal notification to the USACE would not be required.

CDFW generally does not regulate artificial waterways without attributes of natural waterways (CDFW, October 1988). The I-10 Channel is an artificial drainage without attributes of a natural waterway. Based on personal communication between Denise Woodard and Jeff Brandt of the CDFW on June 2, 2009, the project would be required to submit a 1602 Streambed Alteration Agreement application in order to receive a regulatory determination/and or agreement from the CDFW.

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

As part of the scoping and environmental analysis conducted for the project, the following environmental issues were considered, but no adverse impacts were identified. Consequently, there is no further discussion regarding these issues in this document.

- **Coastal Zone:** There is no potential for adverse impacts to a coastal zone as the project area is located approximately 50 miles (mi) inland from the coast.
- **Farmlands or Timberlands:** There is no potential for adverse impacts to farmlands or timberlands due to the absence of farmlands and timberlands within the vicinity of the project.
- **Wild and Scenic Rivers:** There is no potential for adverse impacts to wild and scenic rivers due to the absence of wild and scenic rivers within the vicinity of the project.

HUMAN ENVIRONMENT

2.1 Land Use

Existing and Future Land Uses

For this analysis, the County General Plan (April 2007) and the Bloomington Community Plan (April 2007) were reviewed to understand the development trends, land use-related goals, and specific county and community policies that could affect or be affected by the I-10/Cedar Avenue Interchange project.

The project site is located in the unincorporated community of Bloomington, which is under the jurisdiction of the County of San Bernardino. The city of Fontana is adjacent to the west and north, and the city of Rialto is located along the north and east boundaries of Bloomington. The community of Bloomington is located entirely within the adjacent cities' sphere of influence areas; approximately 90 percent is in Rialto's sphere of influence, and approximately 10 percent is located within Fontana's sphere of influence. Land use in Bloomington consists of 68 percent single-family residential; 8 percent Institution; and 6 percent is Community Industrial and Regional Industrial.

The Cedar Avenue interchange is designated as Regional Industrial (IR) on the Bloomington Planning Area of the County Land Use Plan. General Commercial (CG) land is located on the north side of the interchange, and Community Industrial (IC) and CG land is located on the south side of the interchange. Land uses adjacent to Cedar Avenue and Slover Avenue in the vicinity of the interchange consist mainly of residential and commercial, including three gas stations at the intersection of Cedar Avenue and Valley Boulevard. General Plan land uses in the project study area are shown in Figure 2.1-1 and by quadrant of the I-10/Cedar Avenue interchange are:

- The northwest quadrant includes retail commercial properties, a residence, a park-and-ride facility, and Jack Pratte Park
- The northeast quadrant includes retail commercial, auto repair shops, single-family residences, and a church
- The southwest quadrant includes vacant land, a used-car lot, and retail commercial uses
- The southeast quadrant includes vacant land, Washington Alternative Middle School, Bloomington Middle School, and single-family residences
- The concrete-lined I-10 drainage channel runs parallel to the north side of I-10.

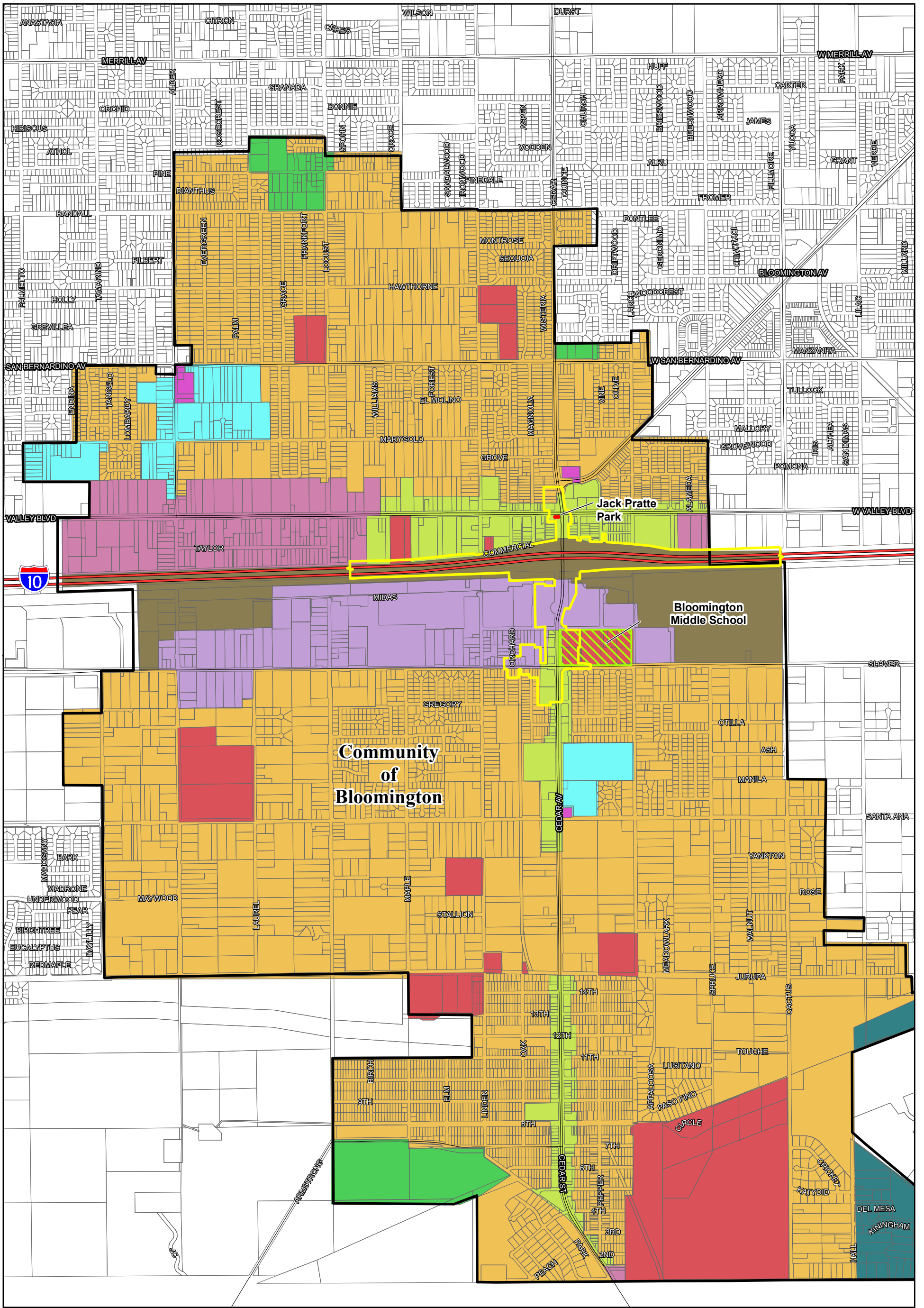
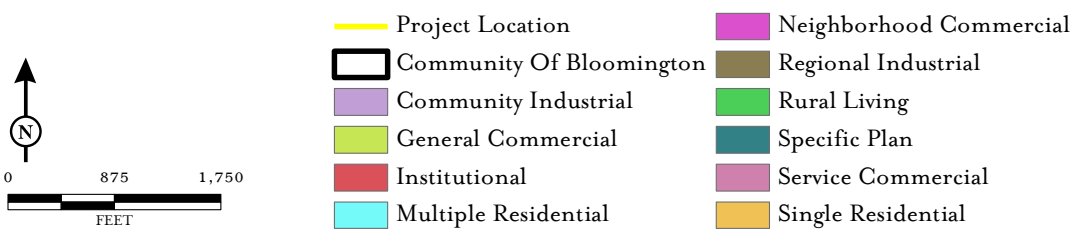


FIGURE 2.1-1



I-10/Cedar Avenue Interchange
General Plan Land Use

SOURCE: San Bernardino County Official Land Use Plan- General Plan (2007)
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Sources for proposed land use information include the Bloomington Community General Plan, the County of San Bernardino General Plan, and associated land use maps. Existing and future property uses in the immediate area surrounding the project are referenced in Table 2.1.1. Existing property uses within the project area are referenced in Figure 2.1-2. Commute patterns, housing prices, and employment and income information are discussed in greater detail in Section 2.2.

Planned projects in the vicinity of Cedar Avenue/Slover Avenue include:

- The Kinder Morgan pipeline project would install an 8-inch pipeline along Cedar Avenue through the project limits for the I-10/Cedar Avenue Interchange project. Construction of this project is scheduled in 2012 through 2013, with construction in the area of the Cedar Avenue/Slover Avenue intersection tentatively scheduled during the spring/summer of 2012.

Consistency with State, Regional, and Local Plans

Specific Plans provide more focused guidance and regulation for particular areas. They generally include a land use plan, circulation plan, infrastructure plan, development standards, design guidelines, phasing plan, financing plan, and implementation plan. The County adopted the Bloomington Community Plan in April 2007.

Relevant land use, air quality, and circulation/transportation related goals and policies in the Bloomington Community Plan and the County of San Bernardino General Plan, which support the purpose and need of the project, are:

Final Bloomington Community Plan (April 2007, Adopted March 13, 2007)

Circulation Goals and Policies

- BL/CI 1.2** Ensure that transportation system improvements are made to Slover Avenue and Valley Boulevard where facilities are at or near capacity.
- BL/CI 1.5** Work with adjacent cities and appropriate agencies to identify deficiencies and provide needed improvements at the intersections of Cedar Avenue, Alder Avenue, Cactus Avenue and Interstate 10. Researched deficiencies shall include an evaluation of both vehicular and pedestrian access, and circulation at these intersections.

Table 2.1.1 Existing and Future Land Uses

ID Number	Name	Jurisdiction	Proposed Use (Development Size)	Status
1	Single-Family Residential	San Bernardino County	Single Residential (0.41 ac)	Construction Complete
2	O & R Four Wheel Drive Center	San Bernardino County	Single Residential (0.20 ac)	Vacant
3	Service Garage	San Bernardino County	Single Residential (0.26 ac)	Construction Complete
4	Vacant	San Bernardino County	General Commercial (0.94 ac)	Vacant
5	Service Station	San Bernardino County	General Commercial (0.23 ac)	Construction Complete
6	Commercial Property	San Bernardino County	General Commercial (0.12 ac)	Construction Complete
7	Vacant	San Bernardino County	General Commercial (0.17 ac)	Vacant
8	Vacant	San Bernardino County	General Commercial (0.17 ac)	Vacant
9	Car Lot	San Bernardino County	General Commercial (0.17 ac)	Construction Complete
10	Vacant	San Bernardino County	General Commercial (0.17 ac)	Vacant
11	Single-Family Residential	San Bernardino County	General Commercial (0.16 ac)	Construction Complete
12	Southern Pacific Railroad	San Bernardino County	Regional Industrial	Vacant
13	Vacant	San Bernardino County	Community Industrial (0.19 ac)	Vacant
14	Vacant	San Bernardino County	General Commercial (0.19 ac)	Vacant
15	Vacant	San Bernardino County	General Commercial (0.27 ac)	Vacant
16	Best Buy Auto Center (Single-Family Residential)	San Bernardino County	General Commercial (0.59 ac)	Construction Complete
17	Single-Family Residential	San Bernardino County	General Commercial (0.55 ac)	Construction Complete
18	7-Eleven /Service Station	San Bernardino County	General Commercial (0.45 ac)	Construction Complete
19	Sun Country Farms Agricultural Market	San Bernardino County	General Commercial (1.56 ac)	Construction Complete
20	Single-Family Residential	San Bernardino County	General Commercial (2.16 ac)	Construction Complete
21	Single-Family Residential	San Bernardino County	Single Residential (0.15 ac)	Construction Complete
22	Single-Family Residential	San Bernardino County	Single Residential (0.15 ac)	Construction Complete
23	Single-Family Residential	San Bernardino County	Single Residential (0.22 ac)	Construction Complete
24	Single-Family Residential	San Bernardino County	Single Residential (0.11 ac)	Construction Complete
25	San Bernardino County Flood Control District	San Bernardino County	Single Residential	Vacant
26	Single-Family Residential	San Bernardino County	Single Residential (0.20 ac)	Construction Complete
27	Single-Family Residential	San Bernardino County	Single Residential (0.20 ac)	Construction Complete
28	Single-Family Residential	San Bernardino County	Community Industrial (0.25 ac)	Construction Complete
29	Single-Family Residential	San Bernardino County	Community Industrial (0.17 ac)	Construction Complete
30	Single-Family Residential	San Bernardino County	Community Industrial (0.25 ac)	Construction Complete
31	Single-Family Residential	San Bernardino County	Community Industrial (1.25 ac)	Construction Complete
32	Single-Family Residential	San Bernardino County	Community Industrial (0.65 ac)	Construction Complete

Table 2.1.1 Existing and Future Land Uses

ID Number	Name	Jurisdiction	Proposed Use (Development Size)	Status
33	Vacant	San Bernardino County	Community Industrial (0.65 ac)	Vacant
34	County of San Bernardino	San Bernardino County	General Commercial (0.75 ac)	Vacant
35	Single-Family Residential	San Bernardino County	Single Residential (0.22 ac)	Construction Complete
36	Single-Family Residential	San Bernardino County	Community Industrial (0.20 ac)	Construction Complete
37	Bloomington School District	San Bernardino County	Institutional	Vacant
38	Bloomington School District	San Bernardino County	Institutional	Vacant
39	Bloomington School District	San Bernardino County	Institutional	Vacant
40	Bloomington Elem School District Trustee	San Bernardino County	Institutional	Vacant
41	Bloomington Elem School District Trustee	San Bernardino County	Institutional	Vacant
42	Bloomington School District	San Bernardino County	Institutional (1.32 ac)	Vacant
43	Bloomington School District	San Bernardino County	Institutional (1.12 ac)	Vacant
44	Vacant	San Bernardino County	Community Industrial (9.82 ac)	Vacant
45	Southern Pacific Railroad	San Bernardino County	Regional Industrial	Vacant
46	Single-Family Residential	San Bernardino County	General Commercial (0.17 ac)	Construction Complete
47	Single-Family Residential	San Bernardino County	General Commercial (0.17 ac)	Construction Complete
48	Vacant	San Bernardino County	General Commercial (0.17 ac)	Vacant
49	Vacant	San Bernardino County	General Commercial (0.17 ac)	Vacant
50	Vacant	San Bernardino County	General Commercial (0.13 ac)	Construction Complete
51	Vacant	San Bernardino County	General Commercial (0.44 ac)	Vacant
52	Convenience Store	San Bernardino County	General Commercial (0.96 ac)	Construction Complete
53	Fast Food Restaurant	San Bernardino County	General Commercial (0.93 ac)	Construction Complete

* Proposed Use provided by County of San Bernardino Department of Public Works
ac = acre(s)

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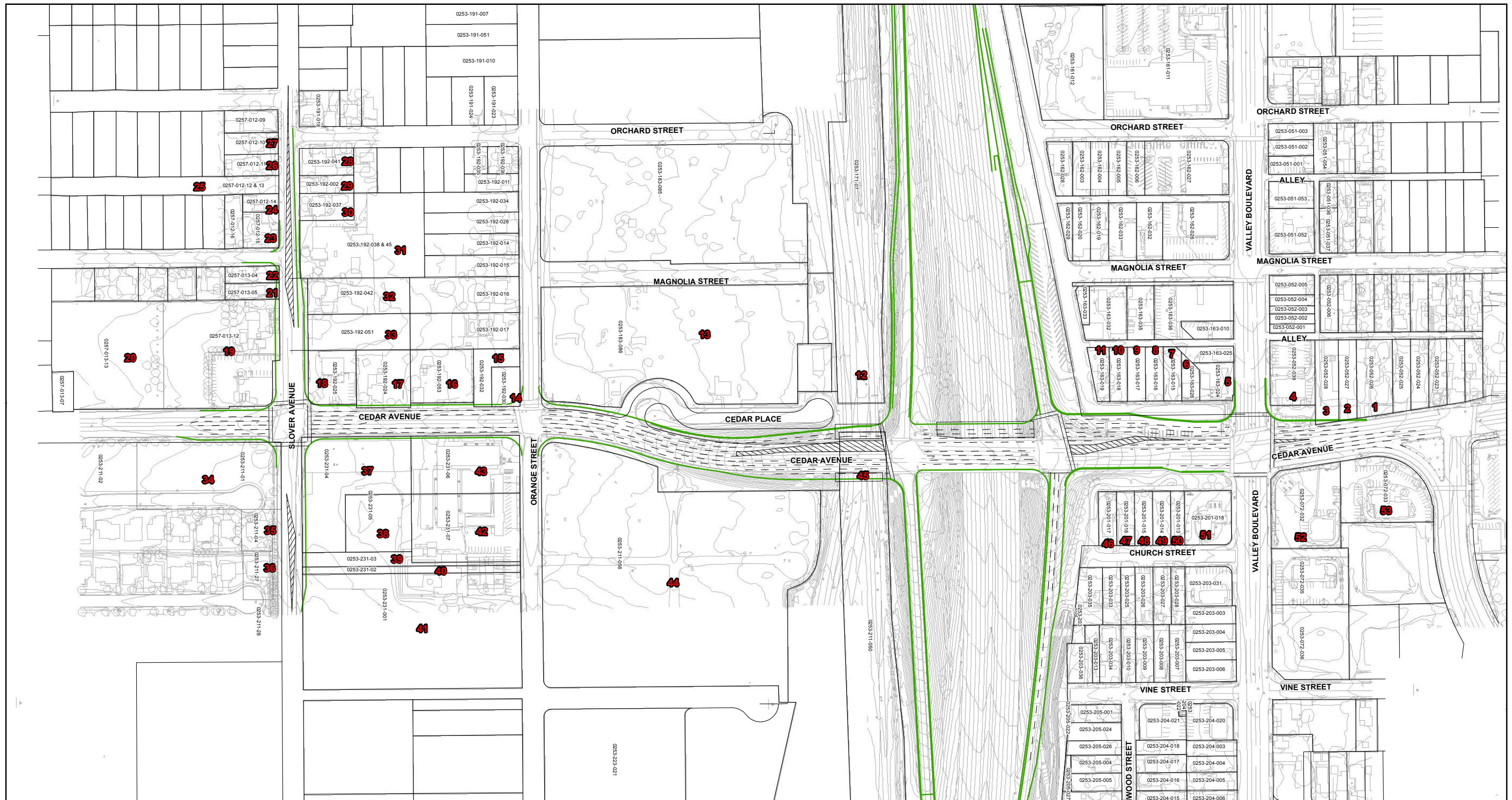
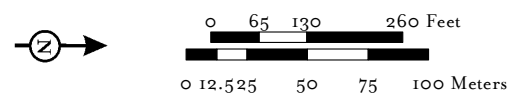


FIGURE 2.1-2

- Legend
- Alternative 2A Curbs/Edge of Pavement
 - Existing Geometrics
 - Proposed Roadway Geometrics
 - Proposed ROW
 - Parcel Boundaries / Existing ROW



I-10/Cedar Avenue Interchange
 Existing Land Uses in the Project Vicinity
 (Alternative 2A - Preferred Alternative)

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- Goal BL/CI 2** Ensure safe and efficient non-motorized traffic circulation within the community.
- BL/CI 2.1** Where feasible, maintain unimproved public parkways for pedestrian/bicycle/equestrian use.
- BL/CI 2.2** Where feasible, the County shall dedicate ROW for pedestrian/bicycle/equestrian trails concurrent with any road widening or street improvements.
- BL/CI 2.3** Where feasible, separate pedestrian/bicycle/equestrian traffic from vehicular traffic on major roadways to protect the safety of trail users.
- BL/CI 2.4** Ensure that crossings of the railroad and Interstate 10 can safely accommodate pedestrian traffic.

County of San Bernardino General Plan (April 12, 2007)

Land Use Element

- Goal LU 11** Promote mutually beneficial uses of land to address regional problems through coordination and cooperation among the County, the incorporated cities, Southern California Association of Governments (SCAG), San Bernardino Associated Governments (SANBAG), the various special districts and other local, state, and federal agencies.

Transportation and Circulation Element

- Goal CI 1** The County will provide a transportation system, including public transit, which is safe, functional, and convenient; meets the public's needs; and enhances the lifestyles of County residents.
- Policy CI 1.1** The County's comprehensive transportation system will be developed according to the Circulation Policy Map (the Circulation Element Map), which outlines the ultimate multi-modal (non-motorized, highway, and transit) system to accommodate the County's mobility needs and provide the County's objectives to be achieved through coordination and cooperation between the County and the local municipalities in

the County, adjacent counties and cities within those counties, Caltrans, and SANBAG.

Goal CI 2 The County’s comprehensive transportation system will operate at regional, countywide, community, and neighborhood scales to provide connectors between communities and mobility between jobs, residences, and recreational opportunities.

Policy CI 2.1 Work with adjacent jurisdictions to minimize inconsistencies in existing and ultimate right-of-way and roadway capacity across jurisdictional boundaries.

Policy CI 2.2 Coordinate financial plans for transportation system improvements with other agencies and jurisdictions in the County.

Policy CI 2.3 Where appropriate, jointly fund studies and improvements to the transportation system, with cities and other public agencies and developers.

Policy CI 2.6 Seek grant funding for transportation system improvements, as appropriate.

Policy CI 2.7 Coordinate with Caltrans, SANBAG, the Southern California Association of Governments (SCAG) and other agencies regarding transportation system improvements in the County’s Measure I and other adopted Capital Improvement Programs.

Policy CI 2.8 Continue to participate in SANBAG, which is the County’s Transportation Commission and transportation planning coordinator for all agencies in the County, and regularly attend meetings of SANBAG Plans and Programs Committee and Comprehensive Transportation Plan Technical Advisory Committee meetings to discuss planning items of mutual concern.

Policy CI 2.9 Continue discussions with SANBAG towards finalization of agreements on Measure I extension allocations and the Developer Nexus Fee Program.

Policy CI 2.10 Identify important long-range transportation corridors, in conjunction with plans of regional transportation agencies (such

as SCAG and SANBAG) to project sufficient right-of-way for the development of long-range corridors.

Goal CI 4 The County will coordinate land use and transportation planning to ensure adequate transportation facilities to support planned land uses and ease congestion.

Policy CI 4.4 Develop and implement an assessment program of County transportation facility needs and a traffic analysis system utilizing traffic modeling and forecasting techniques that analyze the maximum potential 2030 build-out conditions, as defined in this General Plan, and local general plans for a given horizon year in coordination with SANBAG and the cities within the County.

Policy CI 4.7 Revise existing Local Area Transportation Facilities Plans for those community plan areas that have previously adopted transportation plans in order to implement a fiscally viable program that will provide adequate transportation infrastructure to serve the needs of existing and future development. The boundaries of these plans may need to be amended so as to be as nearly coincident with the boundaries of the community plans as possible.

Goal CI 5 The County's road standards for major thoroughfares will complement the surrounding environment appropriate to each geographic region.

Policy CI 5.2 Protect and increase the designed roadway capacity of all vehicular thoroughfares and highways.

Goal CI 10 Ensure timely development of public facilities and the maintenance of adequate service levels for these facilities to meet the needs of current and future County residents.

Policy CI 10.1 Ensure that adequate facility and service standards are achieved and maintained through the use of equitable funding methods.

Policy CI 10.2 Equitably distribute throughout the County new public facilities and services that increase and enhance community quality of life.

Transportation Plans

Several regional and subregional transportation plans and programs apply to the County. They include the San Bernardino County Congestion Management Program (CMP), the SCAG Comprehensive Transportation Plan (SCAG/CTP), and the RTP. The project is included in the adopted 2012/2035 RTP and 2013 FTIP for engineering, ROW, and construction for widening Cedar Avenue to six lanes from Valley Boulevard to Slover Avenue (Project ID: 1830).

Parks and Recreational Facilities

The I-10/Cedar Avenue Interchange project was evaluated in accordance with the criteria in the final nationwide Section 4(f) evaluation and approval for a federally aided highway project with minor involvements related to public parks and recreation lands. Two Section 4(f) resources, Jack Pratte Park and Washington Alternative Middle School, have been identified in the project area. The following discussion is based on Caltrans determination that the project impact to Jack Pratte Park (a Section 4(f) property) meets the requirements for a De Minimis Determination. The project does not impact the ball fields at the Washington Alternative Middle School. Therefore, there is no Section 4(f) impact to the Washington Alternative Middle School property.

Jack Pratte Park

Jack Pratte Park is a publicly owned park located at the southwest corner of Valley Boulevard and Cedar Avenue. The park would be reconfigured as part of the I-10/Cedar Avenue Interchange project in order to accommodate the widening of Cedar Avenue.

Caltrans sent a letter dated October 9, 2008, to the County of San Bernardino requesting concurrence with the De Minimis Determination for Jack Pratte Park. The County responded with preliminary concurrence in a letter dated October 31, 2008. Caltrans letter and the County's letter are included below. Public circulation of the Draft IS/EA occurred between July 31, 2012 to August 30, 2012 and a public meeting was held on August 15, 2012. Public comments received during public review and discussions during the public meeting did not refer to the reconfiguration of Jack Pratte Park. Therefore, the County's original concurrence to the Caltrans De Minimis Determination to reconfigure of Jack Pratte Park will be carried forward.

Ayala Park

Ayala Park is located between mobile home parks near the northwestern corner of the project area. Ayala Park is a recreational park that includes a senior center, picnic facilities, walking trails, and a playground. Ayala Park is not affected by the I-10/Cedar Avenue Interchange project. Caltrans will request final concurrence from the County following public circulation of the Draft IS/EA.

Colton Joint Unified School District Schools

Two schools identified as Bloomington Middle School and Washington Alternative Middle School, are located on a 9.7 ac facility east of Cedar Avenue, west of Larch Avenue, south of Orange Street, and north of Slover Avenue in the unincorporated community of Bloomington in San Bernardino County. The locations of these schools were shown earlier on Figure 1.1-4. These schools are owned and operated by the Colton Joint Unified School District (CJUSD). Bloomington Middle School and Washington Alternative Middle School serve approximately 900 students in the seventh and eighth grades.

The sports fields and courts on the Washington Alternative Middle School site serve youth baseball, basketball, football, and soccer leagues year-round for after-school practices, as well as walk-on public recreation via gated entrances throughout the perimeter of the Washington Alternative Middle School campus. The number of recreational users of these school facilities is unavailable. Currently, four basketball courts, one baseball diamond, and a multipurpose recreational field are available. Vehicular access to Washington Alternative Middle School is also available for walk-on public recreation purposes.

There are no known applicable clauses affecting ownership of the recreational areas of Washington Alternative Middle School. There are no unusual characteristics of the Section 4(f) property that either reduce or enhance the value of all or part of the recreational areas of Washington Alternative Middle School.

The school property was not purchased or improved with funds under the Land and Water Conservation Fund Act, the Federal Aid in Fish Restoration Act (Dingell-Johnson Act), the Federal Aid in Wildlife Act (Pittman-Robertson Act), or similar laws. The land is not encumbered with any federal interest (e.g., former federal surplus property).

Recreational Trails and Bikeways

According to the Bloomington Community Plan Circulation Element, there are no bike lanes or recreational trails proposed in the project area. The nearest existing recreational trail is located north and south along Cactus Avenue and is identified as the Rialto Regional Trail. This trail is located approximately 0.7 mile west of the project site.

Section 4(f) Properties

Section 4(f) of the Department of Transportation Act (23 CFR Part 774) prohibits the use of land from a publicly owned park, or recreation area, unless a *De Minimis* determination has been made that: 1) there is no feasible and prudent alternative to the use of the land; and 2) the project includes all possible planning to minimize harm to the property. Because the basketball courts, baseball diamond, and multipurpose recreational field at the Washington Alternative Middle School are available for walk-on public recreation purposes, Caltrans has made a determination that these facilities fall under the requirements of Section 4(f).

The initial project design would have resulted in the acquisition of a narrow strip of land along the east side of Cedar Avenue adjacent to a school playground that included a small portion of the recreational fields. However, following discussions among Caltrans, the County of San Bernardino Public Works Department, and CJUSD, the project plans for widening Cedar Avenue were revised to avoid impacts to the recreational fields. Therefore, the I-10/Cedar Avenue Interchange project will not result in impacts to the recreational facilities at the Washington Alternative Middle School, and no further action under Section 4(f) is required.

Environmental Consequences

Impacts of the No Build Alternative

The No Build Alternative would not result in any construction in the vicinity of the I-10/Cedar Avenue interchange. This Alternative is not consistent with the County General Plan Circulation Element. No property acquisition would occur under this Alternative. The No Build Alternative would result in no impacts to Section 4(f) resources. Therefore, although the No Build Alternative is not consistent with applicable regional and subregional transportation plans, it would not result in adverse impacts related to land use.

Land Use Impacts of Alternative 2A

Implementation of the I-10/Cedar Avenue Interchange project would result in 13 partial and 7 full property acquisitions. Partial property acquisitions are discussed in more detail in Section 2.3, Community Impacts.

Implementation of the project would result in the full acquisition of six residences and the displacement of residents. One residence is located on Cedar Avenue and the remaining six residences are located on Slover Avenue, west of Cedar Avenue. One residence on Slover Avenue is located on parcel (APN 0257-013-012) which has two structures including one multifamily structure that is adjacent to the Sun Country Farms agricultural market. Residential displacement impacts are discussed in more detail in Section 2.3. A summary of properties in the study area that would be impacted by either full or partial acquisition is provided earlier in Table 1.14 and shown later in Figure 2.3-1.

Consistency with State, Regional, and Local Plans

Because the project supports the goals of existing state, regional, and local plans as discussed above and is intended to meet the existing and forecasted demand based on adopted land use plans, no impacts would occur. Additionally, the project is consistent with the CMP, SCAG/CTP, FTIP, and RTP. This project is included in the Southern California Association of Governments (SCAG) Fiscal Year (FY) 2012/2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and the 2013 Federal Transportation Improvement Program (FTIP) Amendment 5 as RTP/Project ID 1830. Impacts to these transportation plans are not anticipated as a result of the project.

Parks and Recreational Facilities

The I-10/Cedar Avenue Interchange Project improvements include widening Cedar Avenue adjacent to the existing basketball courts of Washington Alternative Middle School adjacent to Cedar Avenue. Although the basketball courts are part of an existing school and are not devoted exclusively to recreational uses (such as a public park), these sports fields and courts serve youth baseball, basketball leagues year-round for after-school practices, as well as informal use from the community. While the primary purpose of school playgrounds is for structured physical education classes and recreation for students, the playground is open to the public and serves either organized or recreational purposes (walk-on activity). It is considered a

significant recreational resource by the CJUSD¹ and has been identified as a significant resource under Section 4(f).

As described in Mitigation Measure L-1, provided later in this section, the I-10/ Cedar Avenue Interchange project includes a measure that requires installation of exclusionary fencing during construction activities to widen Cedar Avenue adjacent to the basketball courts. Reconstruction of the existing chain-link fence adjacent to the basketball courts may be required. However, reconstruction of the chain-link fence (if necessary) would not affect the continued use of the basketball courts during construction. During construction, the recreational resources on the Washington Alternative Middle School property may be exposed to temporary impacts related to air quality, noise, and aesthetics. These potential short-term impacts during construction are discussed in detail later in Sections 2.13, Air Quality; 2.14, Noise; and 2.6, Visual and Aesthetics.

As discussed in those sections, these short-term adverse impacts would be temporary and can be substantially reduced or avoided. Therefore, the potential adverse short-term impacts during construction related to air quality, noise, and aesthetics are not anticipated to result in a constructive use of the existing recreational resources at the Washington Alternative Middle School.

Jack Pratte Park would be reconfigured as part of the project. The reconfigured park would be located in approximately the same location at the improved southwest corner of Valley Boulevard and Cedar Avenue, would have the same features, and would be at least the same size as the existing park (see Figure 2.1-3). The impact to the park would be temporary and would cease following construction of the park reconfiguration.

Avoidance, Minimization, and/or Mitigation Measures

L-1 During the Plans, Specifications, and Estimates (PS&E) phase of the project and ongoing during construction, the County of San Bernardino will implement the following to protect the recreational values associated with Washington Alternative Middle School:

¹ Correspondence from Colton Joint Unified School District on September 19, 2003.

- Reconstruction of the existing chain-link fence (if necessary) between the sidewalk and the basketball courts. Exclusionary fencing will be installed during construction activities to limit the areas of disturbance.

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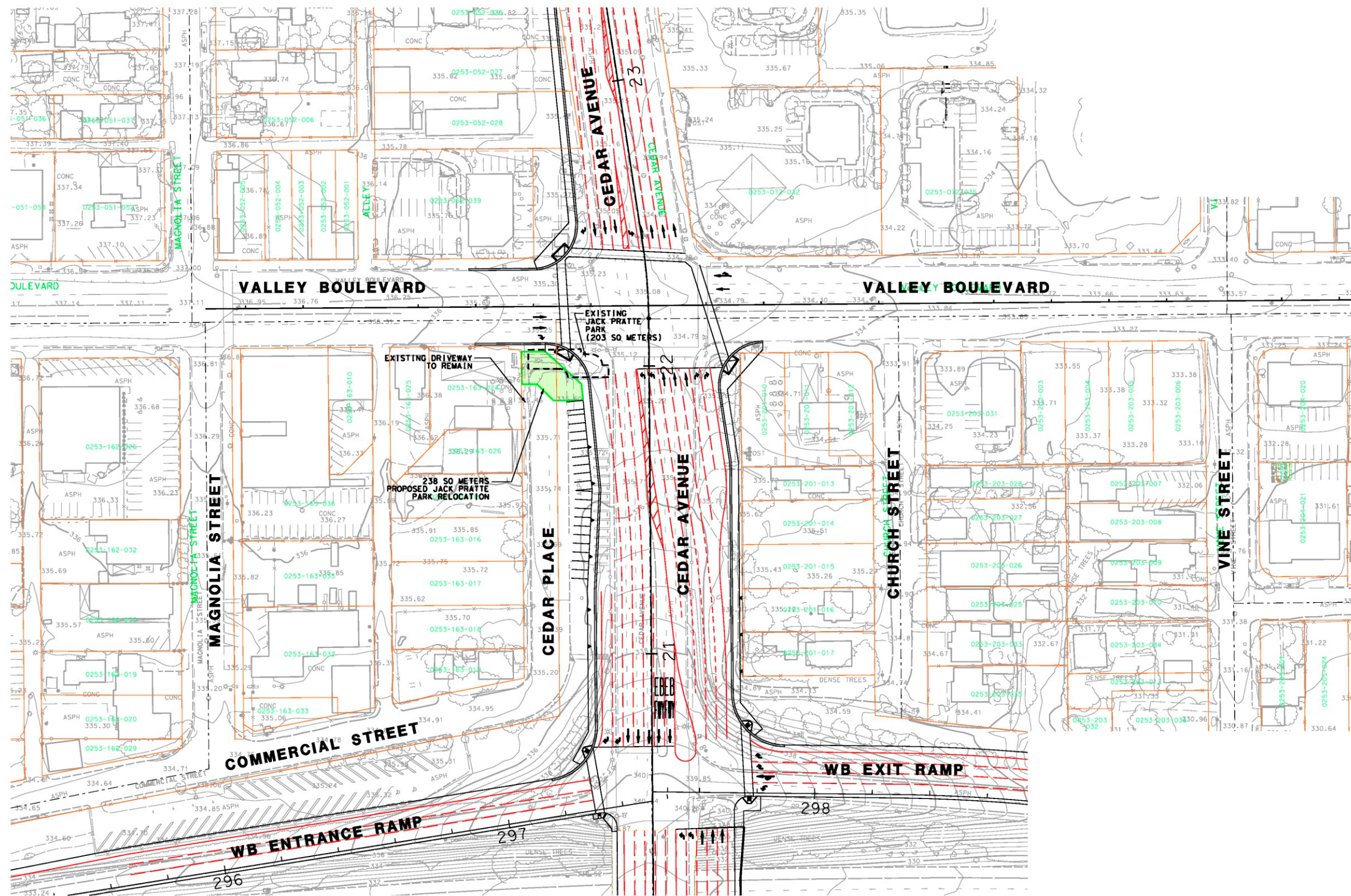


FIGURE 2.1-3



I-10/Cedar Avenue Interchange
Project Impact at Jack Pratte Park

o8-SBD-10 K.P. 28.6/31.0 (P.M. 17.8/19.3)
EA# 1A8300

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2.2 Growth

Regulatory Setting

The Council on Environmental Quality (CEQ) regulations, which implement the National Environmental Policy Act of 1969, require evaluation of the potential environmental consequences of all proposed federal activities and programs. This provision includes a requirement to examine indirect consequences that 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 secondary impacts. Secondary 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 project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment..."

Affected Environment

First-Cut Screening

The growth-related impacts of the project were assessed using the *Guidance for Preparers of Growth-Related, Indirect Impacts Analyses* prepared by Caltrans. The guidance specifically deals with the subset of indirect effects that are referred to as "growth-related impacts" associated with highway projects that encourage or facilitate land use or development that changes the location, rate, type or amount of growth.

According the *Guidance for Preparers of Growth-Related, Indirect Impact Analyses* (May 2006), the first-cut screening serves to determine whether or not the project would result in the following growth-related issues:

- To what extent would travel times, travel cost, or accessibility to employment, shopping, or other destinations be changed?
- To what extent would a change in accessibility affect growth or land use change?
- To what extent would resources of concern be affected by this growth or land use change?

Highway projects can affect the location, rate, type, or amount of growth in an area. Some types of development may be directly induced by a project (e.g., a project serving specific types of land development). However, most land use changes in California are not direct consequences of a highway project, but rather occur indirectly due to changes in travel time and increased land accessibility in areas that may be suitable for development. The result may be a change in spatial distribution of development over time, such as commercial development around a new highway interchange. In California, transportation projects are rarely designed to encourage or facilitate growth. Most projects are proposed as a response to traffic congestion that results from growth that has already occurred or will soon occur, rather than attracting new growth to an area that otherwise would not receive it. From this perspective, growth causes the project; the project is not designed to cause growth. Therefore, when California projects have growth-related impacts, they are usually an unintended outcome of the project. However, transportation projects may reduce the time-cost of travel, thereby enhancing the attractiveness of surrounding land to developers and consumers. When the change in accessibility provided by a transportation project facilitates land use change and growth in population and employment, one outcome can be growth-related impacts to environmental resources.

The project would construct capacity, operational, and safety improvements to the I-10/Cedar Avenue interchange, including widening the existing Cedar Avenue overcrossing, the UPRR overhead, and Cedar Avenue from four to six lanes; and realigning and widening the I-10 on- and off-ramps to connect to the improved Cedar Avenue and to improve turning and storage capacity. The project is essentially an interchange reconfiguration and improvement project, and neither mixed-flow nor HOV lanes would be added to the mainline as part of this project.

The I-10/Cedar Avenue project is located in the community of Bloomington, which is part of unincorporated San Bernardino County. The United States Census Bureau defines the community of Bloomington as a Census Designated Place (CDP). A CDP is a geographic entity that serves as the statistical counterpart of an incorporated place for the purpose of presenting census data for an area with a concentration of population, housing, and commercial structures that is identifiable by name, but is not within an incorporated place. According to the Bloomington Community Plan (April 2007), Bloomington is within the City of Fontana's sphere of influence. For the purposes of this analysis, census data for the Bloomington Community Plan has been utilized where possible, as well as data for the City of Fontana and San Bernardino County.

Growth

The United States Census Bureau reports that the County of San Bernardino population totaled 1,709,434 in 2000, a 20 percent increase from 1990. The County of San Bernardino is the largest county by area in the SCAG region and is the largest county in the United States. SCAG projects that population growth will continue for the next two decades and that the population in the County will increase over 50 percent, to 2,600,000, by 2025.

The community of Bloomington has experienced a higher degree of population growth than the County. According to the Census Bureau, the community's population totaled 15,116 in 1990. In the 10 years that followed, the population increased by 28 percent, to 19,318, in 2000. According to the United States Census 2007 American Community Survey, the population of Bloomington has increased by 15 percent since 2000, while the population of San Bernardino County has increased by 16 percent. Between 1990 and 2000 the population of California increased by approximately 14 percent, and between 2000 and 2007 increased by nearly 8 percent. The project is located within two census tracts (Census Tracts 36.02 and 40) in the community of Bloomington, as shown in Figure 2.2-1. The population of those tracts totaled 20,825 in 1990 and increased by 22 percent, to 25,412, in 2000. While census tract data is only available by decennial census counts, a similar trend in population growth is reasonable for the affected census tracts. Table 2.2.1 identifies the population within the County, the community of Bloomington, California, and the study area census tracts since 1990.

Table 2.2.1 Population

Area	1990 Population	2000 Population	2007 Population*	2035 Population**
County of San Bernardino	1,418,380	1,709,434	1,982,845	3,133,801
Bloomington	15,116	19,318	22,233	487,697
Census Tracts 36.02 and 40	20,825	25,412	N/A	16,469
California	29,760,021	33,871,648	36,553,215	54,266,155

Source: United States Census Bureau, Census 1990, 2000, and 2007 American Community Survey

* Census Tract data is only available by decennial census counts

** SCAG Integrated Growth Forecast Adopted March 6, 2008, and California Department of Finance Demographic Research Unit (as part of unincorporated San Bernardino County)

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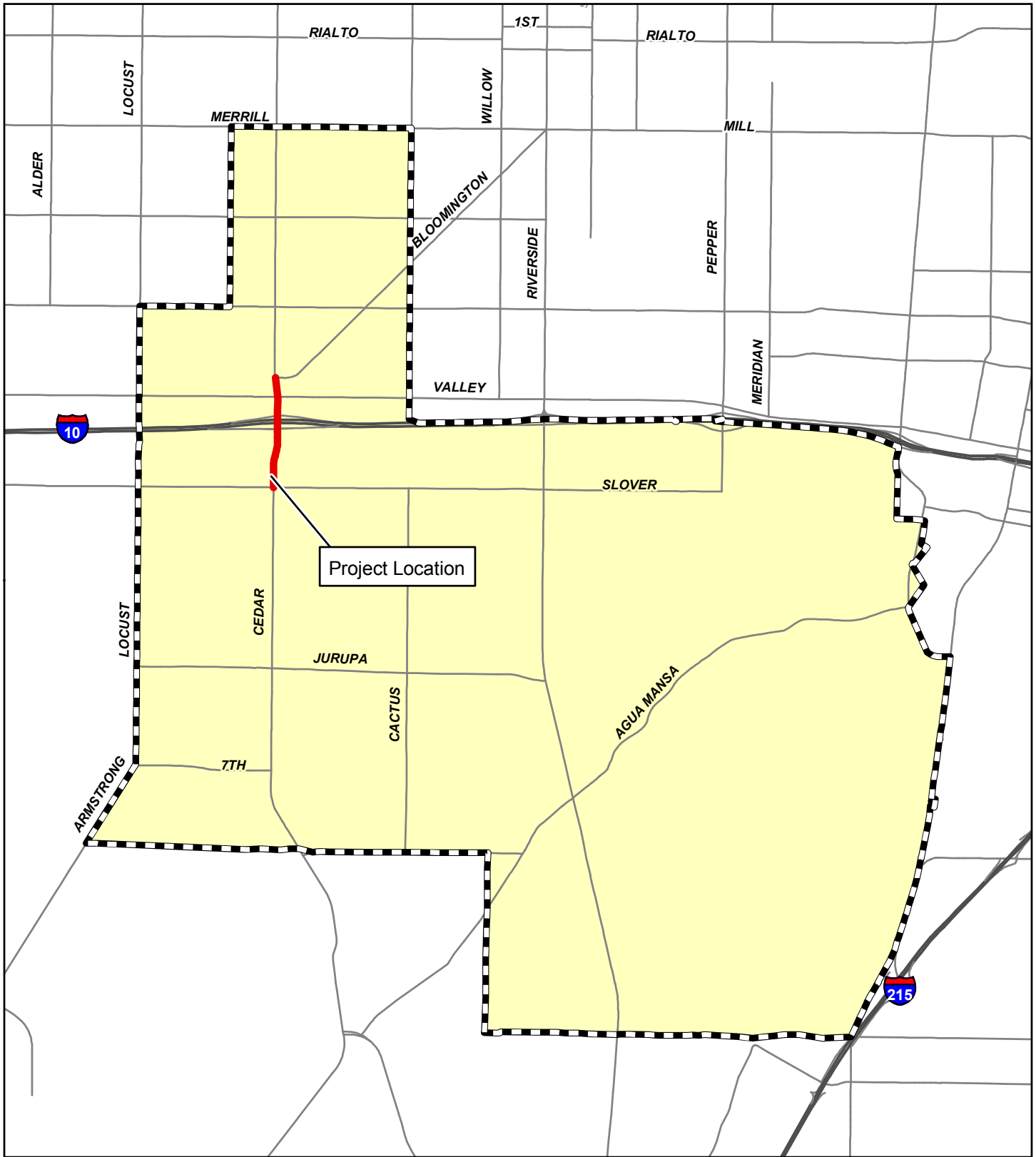
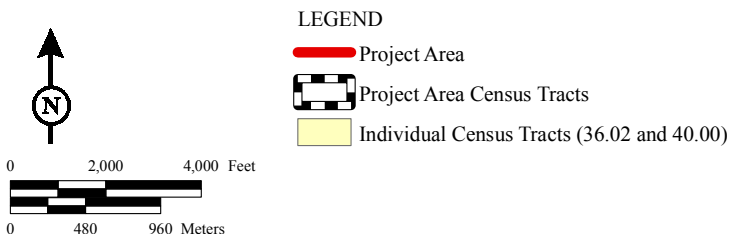


FIGURE 2.2-1



Source: Census Bureau, 2000. Thomas Brothers Maps, 2001.

I-10 / Cedar Avenue Interchange
Study Area Census Tracts

08-SBD-10 K.P. 28.6/31.0 (P.M. 17.8/19.3)

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Travel Patterns

Traffic congestion and long commutes have a negative impact on personal perceptions of quality of life. As employment and population continue to increase, hours of traffic delays and daily VMT are projected to increase. One major transportation and mobility issue that the county faces is that many residents work in neighboring counties and cities. The 2000 Census indicates that nearly 30 percent of county residents work outside the county. To analyze the impact that the I-10/Cedar Avenue project may have on local traffic travel patterns, data regarding location of employment and travel times was collected for the census tracts that incorporate the interchange and immediate vicinity.

As shown in Table 2.2.2, the majority of County residents work within the county, while the majority (89 percent) of Bloomington CDP residents work outside of the CDP area, but still within the county (68 percent). This is fairly comparable to the residents of the study area census tracts; however, very few of the residents of Tracts 26.01 and 33 work outside the city of residence. In contrast, approximately 75 percent of the residents of Tract 26.01 work in the county, while 35 percent of those workers are employed outside of the county of residence. Most workers report commuting 30 minutes or less, followed by those workers commuting between 30 to 44 minutes and over 60 minutes.

Table 2.2.2 Travel Patterns

	San Bernardino County	Bloomington CDP*	Census Tract 26.01	Census Tract 33	Census Tract 34.03	Census Tract 36.02
Work in county of residence	70%	68%	75%	70%	71%	65%
Work outside county of residence	30%	31.5%	35%	30%	30%	36%
Work in city of residence	---	11.3%	1.5%	0%	10.6%	12%
Work outside city of residence	---	89%	2%	1%	37%	34.5%
Travel time to work:						
<30 minutes	58%	59.3%	56%	62%	76%	58%
30–44 minutes	17%	20%	21%	16%	9%	17%
45–59 minutes	9%	5.9%	9%	8%	3%	9%
>60 minutes	17%	12.7%	15%	15.3%	12.9%	16%

Source: Census 2000 (United States Census Bureau)

* Census Designated Place

According to the Traffic Analysis prepared for the project (October 2003 and Supplement to the Traffic Study, January 2009), and Table 1.7 (Section 1.0 of this document), the delay in traffic at study area intersections would deteriorate or remain the same. By 2030, without the project, the a.m. peak-hour delays at study area intersections range from 18.5 seconds to 409 seconds and p.m. peak-hour delays range from 19.3 seconds to 417 seconds. Without improvements, traffic congestion at the I-10/Cedar Avenue interchange will increase, and operating conditions are expected to deteriorate, resulting in longer delays and longer commute times.

Land Use and Development

As discussed in Section 2.1 and shown on Figure 2.1-1, the surrounding land uses are characterized by urbanized development, including commercial and industrial; existing land uses adjacent to the project site are predominantly light to heavy industrial. Existing residential uses are located approximately 0.5 mi northwest of Valley Boulevard. This residential area is fully built out, and a review of recent aerial photos as well as a site visit did not reveal vacant undeveloped parcels that could be used for residential development.

According to the County of San Bernardino General Plan Housing Element, much of the new residential development is occurring within the Valley Region of the County, which includes the community of Bloomington. By 2020, over 70 percent of the housing units in the County will still be found in the Valley Region. Within the City of Fontana, most of the developable land within the City limits and the sphere of influence is north of SR-210. Section 2.16, Cumulative Impacts, discusses the proposed development within the project vicinity. Of the 12 proposed developments along the I-10 Freeway within the project vicinity, one is under construction, one is in the final design phase, and the rest are in various stages of environmental review. Over half of these projects are transportation and infrastructure improvements.

As shown in Table 2.16.1 (provided in Section 2.16), two large business complexes are in the development phase. The proposed business complex and hotel at Sierra Avenue and Slover Avenue are approximately 8.5 mi from the I-10/Cedar Avenue interchange, and the proposed industrial buildings at Valley Boulevard and Commerce Drive are approximately 6 mi from the I-10/Cedar Avenue Interchange.

The areas currently available for development are in the northern portions of the City of Fontana, near existing freeways, and are a minimum of 4 mi away from the project site.

According to the Bloomington Community Plan Land Use map, residential areas are located northwest of the study area. The county intends to preserve the rural character of the community through the preservation of the Additional Agricultural Overlay, rural standards for development, and limitations on adjacent land uses to ensure compatibility.

The study area is essentially built out. The surrounding land uses are predominantly commercial and industrial, and there is little suitable vacant land available for development. The proposed developments within the project vicinity are mostly capital improvement and transportation-related and are already under construction or in the environmental review phase.

Resources of Concern

The project would not permanently or substantially impact any resources of concern, including Natural Communities, Wetlands, Vegetation, Wildlife, or Threatened and Endangered Species. Additionally, there are no historic districts or landscapes in the study area, and no state or locally designated historic landmarks have been identified in the study area.

The project has the potential to impact the existing visual quality of the area by removing mature eucalyptus windrows and by potentially spreading invasive species during construction and revegetation.

Impacts

The I-10/Cedar Avenue Interchange project would relieve traffic congestion, enhance operation of the existing interchange and local circulation, enhance safety, alleviate existing LOS deficiencies, and accommodate projected future traffic volumes in the project vicinity based on the adopted local land use plans. The project alternatives are consistent with local and regional mobility goals.

The I-10/Cedar Avenue Interchange project has little potential to change accessibility and travel patterns and would not change accessibility or land use patterns or adversely impact resources of concern for the following reasons:

- The land use designations in the immediate project vicinity are dominated by industrial and commercial uses.
- Given the distance of the commercial business complexes currently under development in the project vicinity of the I-10/Cedar Avenue interchange,

travelers destined for these facilities would likely utilize interchanges in closer proximity to this destination rather than the I-10/Cedar Avenue interchange.

- Most new housing development is occurring in the northern part of the city of Fontana. It is unlikely that residents in this area would deliberately increase their commute times to utilize the I-10/Cedar Avenue interchange since other freeways (i.e., SR-210, I-15) are in closer proximity.
- Development within the community of Bloomington is limited by Agricultural Overlays that preserve the rural characteristics of the area.
- The I-10/Cedar Avenue Interchange project would not permanently or substantially impact resources of concern.
- The growth trends for the community of Bloomington, the City of Fontana, and the regional area are expected to continue for at least the next two decades. The project would relieve current congestion and accommodate future projected traffic volumes.

Based on the above discussion, the I-10/Cedar Avenue Interchange project would not result in a change in accessibility of the surrounding area. While the project is anticipated to relieve future traffic congestion, it would not substantially change travel times, travel cost, and accessibility to employment, shopping, or other destinations. Therefore the project would not result in a change in accessibility that would affect growth or result in a change to existing or planned land uses. Therefore, the I-10/Cedar Avenue interchange project would not have any growth-related impacts to resources of concern.

Avoidance, Minimization and/or Mitigation Measures

The project would not result in any growth-related effects to resources of concern; therefore, no avoidance, minimization, and/or mitigation measures are required.

2.3 Community Impacts

Community Character and Cohesion

Regulatory Setting

The National Environmental Policy Act of 1969 (NEPA), as amended, established that the federal government use all practicable means to ensure that all Americans have safe, healthful, productive, and aesthetically and culturally pleasing surroundings (42 United States Code [USC] 4331[b][2]). The Federal Highway Administration in its implementation of NEPA (23 United States Code [USC] 109[h]) directs that final decisions regarding 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.

Affected Environment

The following discussion is based on the *Relocation Impact Report* (June 2012) and data from the 2000 Census data from the United States Census Bureau, the California Department of Finance Demographic Unit, SCAG, and county and city General Plans. This section discusses potential impacts of the I-10/Cedar Avenue Interchange project related to community character and cohesion, relocation, and environmental justice.

This section describes demographic characteristics of San Bernardino County, the community of Bloomington, or, when detailed data is available, the project study area, which is generally bounded approximately by Valley Boulevard and Bloomington Avenue on the north, Slover Avenue on the south (extends south of Slover Avenue), along I-10 to Cactus Avenue on the east, and along I-10 to west of Locust Avenue on the west. The study area for community impacts extends beyond the study area to include those communities anticipated to be directly and indirectly impacted by the project. To portray the demographic characteristics of this

community impact study area, two census tracts from the 2000 census were evaluated (Tracts 36.02 and 40), as shown earlier in Figure 2.2-1.

The analysis of community impacts considered three parameters:

- Community Character and Cohesion
- Relocations
- Environmental Justice

Community cohesion is the degree to which residents have a sense of belonging to their neighborhood, their level of commitment to the community, or a strong attachment to neighbors, groups, and institutions, usually as a result of continued association over time (Caltrans, June 1997). The demographics provided within this assessment were obtained from a combination of sources, including the United States Census Bureau, the California Department of Finance, and SCAG.

Elements of community cohesion can be found in demographic data used to profile communities from the 2000 United States Census. Some specific indicators of community cohesion are listed below and are discussed in detail later in this chapter:

- **Age:** Elderly and stay-at-home parents tend to be more active in their community, as they have time to become involved.
- **Ethnicity:** Ethnic homogeneity is associated with a higher degree of community cohesion.
- **Household Size:** Households of two or more people tend to correlate with a higher degree of community cohesion.
- **Housing Tenure:** Households that have been residents of a community for a longer period of time tend to correlate with a higher degree of community cohesion.
- **Transit-Dependent Population:** Residents who tend to walk or use public transportation for travel tend to correlate with a higher degree of community cohesion.

Table 2.3.1 shows the distribution of the population by age in the County and community of Bloomington. The California Department of Finance (DOF) forecast for age categories reports that the number of residents in the County aged 65 years or older rose to approximately 147,000 in 2000, an approximate increase of 130 percent since 1970; their numbers are forecast to increase another 92 percent by 2020.

Table 2.3.1 Age Distribution

	Percentage		
	Population < 18	Population 18 to 64	Population > 64
San Bernardino County	32% (606,268)	59% (956,707)	9% (146,459)
Bloomington	36% (7,671)	56% (10,202)	8% (1,445)
California	30% (1,023,457)	59% (20,041,418)	4.5% (1,513,874)
Census Tracts			
36.02	37% (5,138)	58% (6,828)	5% (686)
40	37% (5,106)	57% (6,848)	6% (806)

Source: United States Census Bureau, Census 2000.

The number of residents under age 18 rose to approximately 553,000 in 2000, an approximate increase of 130 percent since 1970. DOF forecasts an additional increase of 80 percent in this age bracket by 2020. Between 1970 and 2000, the proportion of children under age 18 relative to the total population dropped from 35 percent to 32 percent, while the proportion of seniors 65 or older relative to the total population remained generally unchanged at 9 percent.

According to the Census Bureau, the population over 65 in the community of Bloomington increased to approximately 1,445 persons in 2000 from approximately 1,246 persons in 1990, a 16 percent increase. The population under 18 within the community of Bloomington increased to approximately 7,671 in 2000 from approximately 5,109 persons in 1990, a 50 percent increase.

Table 2.3.2 shows the ethnic composition of San Bernardino County, the community of Bloomington for 1990, 2000, and 2007, and the study area census tracts in 1990 and 2000. Based on the 2000 census, Non-Hispanic Whites comprised the majority in San Bernardino County (59 percent), while the Hispanic population is the majority in Bloomington (64 percent) as well as in the study area census tracts. Between 1990 and 2000, the percentage of Non-Hispanic Whites in the County, community, and census tracts substantially decreased, then increased again since 2000. The percentage of Hispanics has substantially increased since 1990, nearly doubling in several areas. Much of the growth that has occurred in the region since 2000 can be attributed to increases in the job market in the Inland Empire region and to lower average housing prices compared with surrounding counties.

Table 2.3.2 Ethnic Composition*

Year	Percentage ¹						
	White	Black	American Indian	Asian ²	Hawaiian/ Pacific Islander	Other	Hispanic
San Bernardino County							
1990	73%	8%	1%	4%	0.3%	14%	27%
2000	59%	9%	1%	5%	0.3%	21%	39%
2007	61%	9%	1%	6%	0.3%	19%	46%
Community of Bloomington							
1990	74%	3%	1%	1%	0.1%	21%	40%
2000	54%	4%	2%	1%	0.2%	35%	64%
2007	70%	2%	0.8%	2%	0.1%	24%	73%
Census Tract 36.02*							
1990	65%	11%	1%	4%	.5%	19%	35%
2000	44%	13%	1%	3%	0.3%	34%	60%
Census Tract 40*							
1990	71%	4%	1%	1%	.3%	23%	42%
2000	54%	4%	2%	1%	0.2%	34%	65%

Source: United States Census Bureau, Census 1990,2000 and 2007 American Community Survey

* Census Tract data is only available by decennial census counts

¹ Total of percentages exceeds 100 percent because the White, Black, American Indian, Hawaiian, and Other categories include persons identified with only one race; the Hispanic category overlaps other categories.

² In 1990, the Asian population included Pacific Islanders; in 2000, the Asian population did not include Pacific Islanders.

³ In 1990, the Hawaiian race was included with the Asian population

SCAG reports that the County will be more racially and ethnically diverse in 2025 than it is today, with a growing proportion of non-White ethnic groups. The Hispanic population is projected to be nearly an ethnic majority, accounting for 49 percent of the County’s population in 2025. Unlike Los Angeles and Orange Counties, which are projected to lose White population, the White population in the County of San Bernardino is projected to grow very slowly, increasing by about 0.2 percent per year until 2025. The Asian population is projected to grow very quickly, reaching over 200,000 in 2025, and the African-American population is projected to nearly double, primarily due to natural births and net gains from intercounty migration.

Table 2.3.3 provides other demographic characteristics of the community and County, as reported in the last census survey. Population growth in the community (27 percent) was higher than the statewide growth in the last decade (14 percent) and more than the County growth rate (21 percent). Median household incomes in the community and County were \$34,106 and \$42,066, respectively, which are below the state average. The proportion of persons living in poverty in the community (20 percent) was nearly 4 percent higher than the County and 6 percent higher than the statewide average. Fewer residents of the community and County hold high school and college diplomas compared to the state average, while the rate of home

Table 2.3.3 Local, Regional, and State Demographic Characteristics

Characteristic	Community of Bloomington	San Bernardino County	California
Population change (1990 to 2000)	27%	21%	14%
Median household income	\$34,106	\$42,066	\$47,493
Persons below poverty (1999)	20%	16%	14%
High school graduates (over age 25) ¹	26%	58%	50%
College graduates (over age 25) ²	3.3%	16%	27%
Home ownership rate ³	73%	65%	57%
Persons per household	3.85	3.15	2.87

Source: United States Census Bureau, Census 2000.

¹ Includes high school graduates, high school graduates with some college, and high school graduates who have attained an associate degree.

² Includes college graduates with Bachelor's degrees, Master's degrees, professional school degrees, and Doctorate degrees.

³ Based on the percentage of households that own a housing unit versus renting a housing unit.

ownership in the County (65 percent) is lower than the community (73 percent) but higher than the state average (57 percent).

According to the Census Bureau, in 2000, management, professional, and related occupations and sales and office occupations comprise the first and second highest county occupations (28.1 percent and 27.3 percent, respectively, of the total employed population). Educational, health, and social services and retail trade account for the first and second highest county industry sectors (21.2 percent and 12.8 percent, respectively, of the total employed population). The greatest percentage of the community employment is in the all other sectors category (25 percent), slightly higher than the County average (23 percent). Unemployment in the community measured 6.2 percent in 2000, higher than the County average of 4.9 percent.

The Southern California population has been moving eastward and is projected to continue to grow toward fringe areas (SCAG 2007). With the increase in residential real estate prices in Orange and Los Angeles Counties, Riverside and San Bernardino Counties have become more attractive for many new homebuyers. Many people have moved from Los Angeles and Orange Counties to San Bernardino County for its lower cost of housing. The number of households in San Bernardino County is expected to increase to approximately 850,000 households in 2025. The housing profiles for the County, the community of Bloomington, and California, are shown in Table 2.3.4.

Table 2.3.4 Housing Profile 2007*

	San Bernardino County	Bloomington	California
Total housing units	667,836	5,434	13,308,705
Housing units occupied	89% (591,141)	97% (5,276)	91.7% (12,200,672)
Housing units vacant	12% (76,695)	3% (158)	8.3% (1,108,033)
Owner-occupied housing units	66% (387,479)	78% (4,109)	58% (7,076,972)
Renter-occupied housing units	46% (203,662)	22% (1,167)	42% (5,123,700)
Housing affordability index	31%	52%	
Median home price (March 2009)	\$150,000	\$155,000	\$221,000
Year Moved into Structure			
1999 to 2000	121,216 (23%)	1,011 (20%)	2,456,426 (21%)
1995 to 1998	167,585 (32%)	1,311 (26%)	3,630,521 (32%)
1990 to 1994	88,917 (17%)	773 (16%)	1,842,387 (16%)
1980 to 1989	87,096 (17%)	898 (18%)	1,752,425 (15%)
1970 to 1979	38,536 (7%)	506 (10%)	1,023,528 (7%)
1969 or earlier	25,244 (5%)	503 (10%)	797,583 (7%)

Sources:

United States Census Bureau 2007 American Community Survey; www.scag.ca.gov/economy.

Data Quick DQNews <http://www.dqnews.com/Charts/Monthly-Charts/CA-City-Charts/ZIPCAR.aspx> (accessed May 20, 2009)

*Census Tract level data is only available by decennial census counts

N/A = Data not available

Between July 1990 and July 2000, the median home price in the Riverside-San Bernardino MSA rose 5 percent, from \$132,127 to \$138,560, according to the California Association of Realtors. During the first half of the 2000s, home values continued to increase in the Inland Empire and the region due to rapid job growth and large numbers of people moving eastward in search of affordable housing. By 2007, the average median home price in Bloomington was \$390,000 and \$273,000 in San Bernardino County.¹ However, recent trends in the real estate market have caused home prices in the study area and the Southern California region to decrease substantially. According to Data Quick Real Estate News, in 2008 the median home price in Bloomington was \$185,000 and \$160,000 in San Bernardino, an average decrease of 50 percent. Table 2.3.4 shows that the median home prices in

¹ DQ News City Charts <http://www.dqnews.com/Charts/Annual-Charts/CA-City-Charts/ZIPCAR08.aspx> (accessed May 21, 2009).

Bloomington and San Bernardino County have dropped even lower from 2008 values, by 16 percent and 6 percent, respectively. Bloomington still has a higher percentage of owner-occupied housing units (78 percent) than the County (66 percent). Bloomington contained 5,434 housing units in 2007, 97 percent of which were occupied.

Environmental Consequences

Because the I-10/Cedar Avenue Interchange project would improve an existing freeway interchange, it would not affect household size or ethnicity in the project area. Based on the above discussion, the local community (Bloomington and the affected census tracts) has a medium to low level of community cohesion. The population is not ethnically homogenous, as the majority populations are White and Hispanic, less than 10 percent of the population is over age 65, and most residents have lived in their homes less than 10 years. The project would reduce traffic delays, increase road safety, improve air quality, and enhance landscaping in the study area. Likewise, the widening of Cedar Avenue and related intersection improvements in the study area would reduce traffic congestion and would improve traffic safety in Bloomington. Although the project would result in the acquisition of some property, the project would not divide existing neighborhoods. The project proposes improvements to existing arterial streets and I-10 that already cross the community of Bloomington. Therefore, the project would not adversely affect community identity and cohesion.

The No Build Alternative would not result in the construction of transportation improvements in the study area. Therefore, the No Build Alternative would result in no impacts related to community character and cohesion.

Avoidance, Minimization, and/or Mitigation Measures

No impacts to community character and cohesion are anticipated, and no mitigation measures are needed.

Relocations

Regulatory Setting

Caltrans Relocation Assistance Program (RAP) is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) and Title 49 Code of Federal Regulations (CFR) Part 24. The purpose of RAP is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons would 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, or sex in compliance with Title VI of the Civil Rights Act (42 United States Code [USC] 2000d, et seq.). Please see Appendix B for a copy of Caltrans Title VI Policy Statement.

Affected Environment

The analysis in this section is based on the *Relocation Impact Report* (June 2012). The affected environment in the project area was described earlier in Sections 2.1 and 2.4.

Environmental Consequences

Alternative 2A would require the acquisition of private property, some of which includes residences, nonresidential buildings, and associated infrastructure (e.g., parking lots). Project impacts include both full acquisition of existing uses and partial acquisitions, which may displace or alter existing uses. Two types of effects to properties were analyzed:

- Full acquisition of a property occurs if the entire parcel is within the footprint (ROW) or construction disturbance limits of Alternative 2A or if the majority of the building lies within the footprint or construction disturbance limits of Alternative 2A. Full acquisitions would require relocation of the displaced residents, employees, and businesses to other locations.
- Partial acquisition of a property occurs if any part of a parcel is within the footprint (ROW) or construction disturbance limits of Alternative 2A but does not require the displacement of the entire property. These impacts range from a sliver or edge of a parcel to substantial parts that fall short of entire displacement. Partial acquisitions would not require relocation.

Alternative 2A would require seven full parcel acquisitions, which would displace four nonresidential parcels and three residential parcels.

Implementation of the I-10/Cedar Avenue Interchange project would result in 13 partial and 7 full parcel acquisitions. Tables 2.3.5 and 2.3.6 present the general property characteristics of the residential and nonresidential parcels, respectively, which would be fully acquired by the project. The anticipated full and partial acquisitions under Alternative 2A are shown on Figure 2.3-1. Each of the

Table 2.3.5 Full Acquisitions—Residences to be Displaced

APN	Site Acres	General Plan Land Use Designation	Building Area (sf)	Year Built	Stories	Bedrooms/Baths	Land Value	Structural Value	Total Value
0257-013-004	0.155	RS	766	1924	1	2/1	\$31,677	\$60,712	\$92,389
0257-013-005	0.155	RS	1,269	1992	1	3/2	\$120,000	\$180,000	\$300,000
0257-013-012 ¹	1.57	CG	N/A	1914	1	N/A	\$604,472	\$528,360	\$1,143,399
0253-192-024	0.551	CG	2,458	1927	N/A	3/1	\$44,052	\$102,787	\$146,839

Sources: County of San Bernardino Department of Public Works

San Bernardino County Office of the Assessor, Property Information Management System (<http://www.sbcounty.gov/assessor/> [accessed May 20, 2009])

¹ Multi-unit residential structure

APN = Assessor's Parcel Number

CG = General Commercial

N/A = Not Available

RS = Single Residential

sf = square feet

Table 2.3.6 Full Acquisitions—Nonresidential Displacements

APN	Site Acres	Existing Use	General Plan Land Use Designation	Building Area sqm (sf)	Year Built	Land Value	Structural Value	Total Value
0253-192-053	0.595	Best Buy Auto Center	CG	74 (800)	1914	\$77,838	\$45,358	\$126,196
0253-192-025	0.453	7-11 Service Station	CG	223 (2,400)	1974	\$17,633	\$97,841	\$115,474
0257-013-012	1.57	Sun Country Farms	CG	N/A	N/A	\$604,472	\$528,360	\$1,143,399

Sources: San Bernardino County Office of the Assessor, Property Information Management System (<http://www.sbcounty.gov/assessor/> [accessed May 20, 2009])

APN = Assessor's Parcel Number

CG = General Commercial

sf = square feet

sqm = square meter

N/A = Not Available

residential structures was built prior to 1950, with the exception of one residence on Slover Avenue. All residences are single-story structures. Detailed property information was not available for three residences on Slover Avenue. Table 2.3.5 also identifies the estimated value of the residential units anticipated to be displaced by the I-10/Cedar Avenue Interchange project. The assessed values range from approximately \$92,389 to \$1,143,399.

With implementation of the project, four single-family residences and one residential structure with two residential units (a total of five residential structures) would be displaced. Of the displaced residences, one residence is located on Cedar Avenue, and the remaining four residential structures are located on Slover Avenue, west of Cedar Avenue. Parcel (APN 0257-013-012) includes one single-family residence, one residential structure with two residential units, and one commercial business (Sun Country Farms Market). The land use designations for these parcel acquisitions as identified in the Bloomington Community Plan (April 2007, adopted March 13, 2007) are shown in Table 2.3.5 below.

With implementation of the I-10/Cedar Avenue Interchange project, the following three nonresidential properties would be displaced as a result of full property acquisitions: the structure located at 10450 Cedar Avenue (Best Buy Auto Center), the 7-11 Service Station, and the Sun Country Farms building. The land use designations for each nonresidential property, as identified in the Bloomington Community Plan (April 2007, adopted March 13, 2007), are also shown in Table 2.3.6.

The project would require partial acquisition of some businesses and residential properties as shown in Table 2.3.7. It is anticipated that these businesses would remain open and accessible during construction; therefore, the potential loss of sales tax revenue would be less than substantial. Additionally, as the businesses would remain open during construction, the potential to displace employees would be less than substantial. No residential structures or residents would be displaced as a result of partial acquisitions for the project.

In addition to the permanent property acquisition for ROW, construction of the project would require the use of temporary construction easements (TCEs) on the UPRR property, as summarized earlier in Table 1.15. Alternative 2A would require a permanent aerial easement on the UPRR property as shown earlier in Table 1.16.



Legend

- Alternative 2A Curbs/Edge of Pavement
- Existing Geometrics
- - - Proposed Roadway Geometrics
- Proposed ROW
- Parcel Boundaries / Existing ROW
- Temporary Construction Easement
- Full Acquisition
- Partial Acquisition

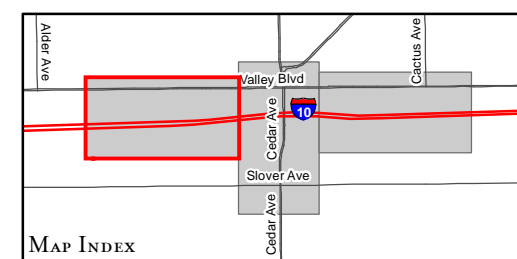
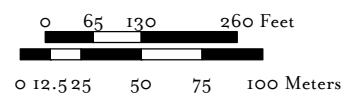


FIGURE 2.3-1
SHEET 1 OF 3

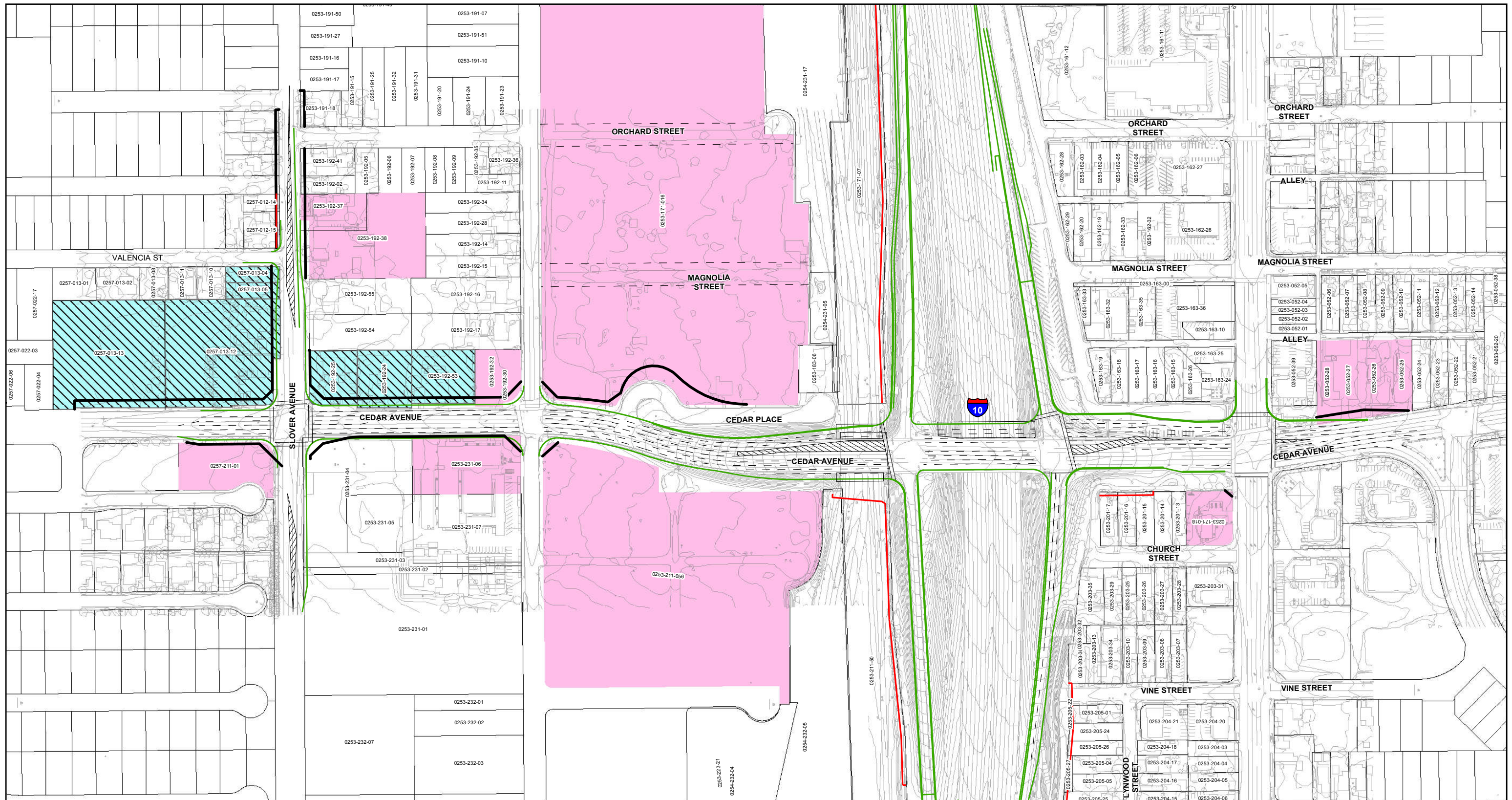
I-10/Cedar Avenue Interchange
Acquisitions for Alternative 2A

08-SBD-10 K.P. 28.6/31.0 (P.M. 17.8/19.3)
EA# 1A8300

SOURCE: LAN ENGINEERING.

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Legend

- Alternative 2A Curbs/Edge of Pavement
- Existing Geometrics
- Proposed Roadway Geometrics
- Proposed ROW
- Parcel Boundaries / Existing ROW
- Temporary Construction Easement
- Full Acquisition
- Partial Acquisition

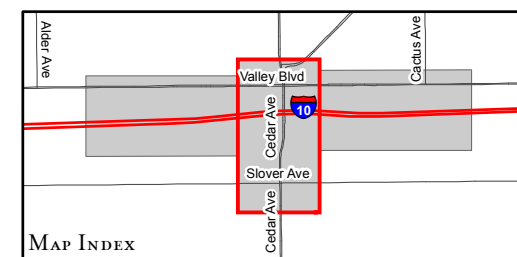
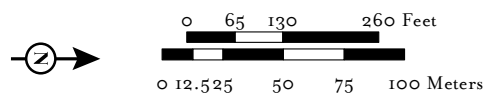


FIGURE 2.3-1
SHEET 2 OF 3

*I-10/Cedar Avenue Interchange
Acquisitions for Alternative 2A*

08-SBD-10 K.P. 28.6/31.0 (P.M. 17.8/19.3)
EA# 1A8300

SOURCE: LAN ENGINEERING.

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Legend

- Alternative 2A Curbs/Edge of Pavement
- Existing Geometrics
- - - Proposed Roadway Geometrics
- Proposed ROW
- Parcel Boundaries / Existing ROW
- Temporary Construction Easement
- Full Acquisition
- Partial Acquisition

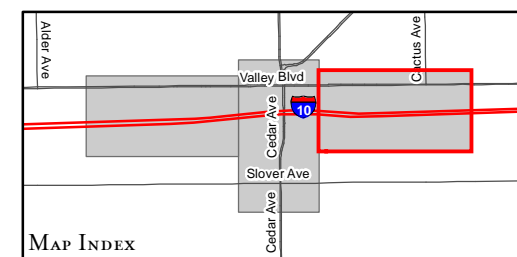
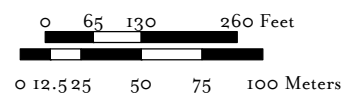


FIGURE 2.3-1
SHEET 3 OF 3

I-10/Cedar Avenue Interchange
Acquisitions for Alternative 2A

08-SBD-10 K.P. 28.6/31.0 (P.M. 17.8/19.3)
EA# 1A8300

SOURCE: LAN ENGINEERING.

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Table 2.3.7 Summary of Partial Acquisitions

APN	Existing Land Use	Size of Acquisition (sf)
0253-052-025	SFR	46
0253-052-026	SFR	1,237
0253-052-027	Vacant (SFR)	889
0253-052-028	Commercial/service garage	1,352
0253-171-016	Vacant (industrial)	15,878
0253-192-030	Vacant (Commercial)	2,900
0253-192-032	Vacant (Commercial)	1,291
0253-192-037	SFR	181
0253-192-038	SFR	1,302
0253-201-018	Vacant (Commercial)	263
0253-211-056	Vacant (Industrial)	14,661
0253-231-006	Vacant (Institutional)	1,027
0257-211-001	Vacant (Commercial)	2,072

Source: AECOM Draft Project Report (March 2012).

APN = Assessor's Parcel Number SFR = single-family residential
sf = square feet

Relocation Resources

A search was conducted on the Multiple Listing Service (MLS) database used by residential real estate brokers. To find comparable replacement housing for the residential units anticipated to be displaced, the following parameters were used:

- **Number of Bedrooms:** 1 minimum
- **Number of Baths:** 1 minimum
- **Type:** Single-family residential
- **Square Footage:** 750 to 1,500 square feet
- **Maximum Price:** \$200,000
- **Location:** Community of Bloomington

Using these parameters, this data indicates that, at this time, there are an adequate number of residential properties for sale in the community of Bloomington that would provide comparable replacement housing. There were 158 single-family homes available for sale in the community of Bloomington, based on MLS listings¹ for May 21, 2009. The homes for sale ranged in price from \$155,000 to \$200,000. According to information obtained from a commercial MLS (www.loopnet.com, May

¹ http://www.realtor.com/realestateandhomes-search/Bloomington_CA/beds-1/baths-1/price-na-155000/type-single-family-home?sqt=3 (accessed May 21, 2009).

2009), there are at least 23 nonresidential properties currently available in the study area. Therefore, no adverse impacts to residences and businesses are anticipated.

Acquisitions

The effect of residential displacement resulting from the I-10/Cedar Avenue Interchange project on the local housing market is considered negligible since there were 158 vacant housing units within the community in 2009, and a maximum of five residential structures would be displaced with implementation of the project. Because there are available single-family residences within the community of Bloomington, relocation of the affected residences may occur within the Bloomington community. Measures CI-1–CI-4, provided later, would require a Replacement Housing Valuation to be completed for each residential displacement after initiation of the RAP.

According to information obtained from a commercial MLS (www.loopnet.com) in May 2009, there are 23 nonresidential properties currently available within the study area that may be suitable for the relocation of Best Buy Auto Center, the 7-Eleven Service Station, and the Sun Country Farm Market. Because there are available non-residential properties within the community of Bloomington, relocation of the affected businesses may occur within the Bloomington community. Measures CI-1–CI-4, provided later, would help minimize any impacts to acquired businesses.

The No Build Alternative would not result in any property acquisition in the study area. Therefore, the No Build Alternative would result in no impacts related to relocation.

Table 2.3.8 summarizes the anticipated full acquisitions for other highway projects in the area. The ROW acquisition for these projects could occur concurrently with the acquisition for the I-10/Cedar Avenue Interchange project. Based on the

**Table 2.3.8 Competing Housing Displacements
(Full Acquisition)**

Project	Number of Potentially Displaced Residential Units
I-10/Citrus Avenue Interchange	6
I-10/Cherry Avenue Interchange	2

Source: LSA Associates, Inc. (2009).
I-10 = Interstate 10

results of the research discussed above, the I-10/Cedar Avenue Interchange project would not be in competition with other projects because there are more than enough

resources available to relocate all acquisitions for this project and surrounding projects that may occur concurrently.

Sales Tax Revenue

When businesses relocate outside of a city or county, the local jurisdictions lose sales tax revenues. The project would cause three sales tax-generating businesses to be relocated as a result of full acquisition of the parcels they are located on. According to the RIR prepared for the project (May 2009), there are 23 non-residential parcels within the Bloomington area available for the relocation of the three displaced businesses. Therefore, no losses in County sales tax revenue are anticipated. Partial acquisitions of nonresidential parcels are not included in the calculation of sales tax revenue losses because the businesses on those parcels would continue to function and would not cease to operate as a result of implementation of the project.

Property Tax Revenue

Property taxes are levied on the assessed value of privately owned property. Property taxes within the study area are collected by the County, with the amount levied being approximately 1 percent of the assessed property value. The only parcels included in calculations for property tax losses are residential and commercial parcels to be fully acquired by the project. The potential property tax revenue losses were calculated by multiplying the assessed property value by 1 percent. For the project, five residential structures and three nonresidential (commercial) properties would be fully acquired. The total assessed value of these properties is \$2,982,488 (RIR 2009). Potential property tax losses related to the full property acquisitions are approximately \$29,825 (1 percent of the total assessed value). The County reported property tax revenues of \$550,870,000 in 2008 within the 2007–2008 fiscal year.¹ The project impact on property tax revenues would constitute 5.4 percent of total property taxes collected by the County, as shown in Table 2.3.9.

The potential losses in property tax revenues would be increased slightly because the project also involves partial property acquisitions. The I-10/Cedar

¹ San Bernardino County Office of the Treasurer-Tax Collector. *Popular Annual Financial Report*, June 30, 2008.

Table 2.3.9 Potential County Property Tax Revenue Losses

Residential and Commercial Property Tax Revenue Loss	Total County Property Tax Revenues in 2009	Percentage of County's Total Property Tax Revenue
\$29,825	\$550,870	5.4%

Source: San Bernardino County Office of the Treasurer-Tax Collector. *Popular Annual Financial Report*, June 30, 2008.

Interchange project would involve 13 partial property acquisitions within the project area.

It is anticipated that remnant parcels from the acquired properties that are not needed for the project would be reconfigured and resold in the private market for redevelopment.

The No Build Alternative would not result in the acquisition of any property. Therefore, the No Build Alternative would result in no impacts related to the loss of sales and property taxes.

Construction Employment

This section estimates the number of temporary jobs that would be created by construction of the I-10/Cedar Avenue Interchange project, which would be a beneficial impact of the project.

As shown in Table 2.3.10, construction employment has two components, direct and indirect effects. The direct effect is the number of construction jobs created to complete the projects. The indirect effect is the additional employment and business

Table 2.3.10 Estimated Construction Employment

Capital Construction Costs ¹	Estimated Employment Generated		
	Direct ²	Indirect ³	Total
\$38,416,000	243	402	645

¹ Capital construction costs from the *Draft Project Report* (June 2009) without right-of-way (ROW).

² Construction Industry Research Board (CIRB) estimates 6.336 new on-site construction jobs created for every \$1 million of investment in freeway construction projects in San Bernardino County.

³ CIRB estimates 10.472 new indirect employment jobs created for every million dollars of investment in freeway construction projects in San Bernardino County.

activity that would be generated in the regional economy by the initial construction expenditure.

Table 2.3.10 shows that the project would generate an estimated 243 direct and 402 indirect construction jobs during the construction period for the project. These construction jobs would generate temporary employment and revenues for both local and regional economies.

The No Build Alternative would not result in any construction in the study area. Therefore, the No Build Alternative would result in no impacts related to construction employment.

Avoidance, Minimization, and/or Mitigation Measures

Implementation of the following would reduce or eliminate the adverse effects of the I-10/Cedar Avenue Interchange project related to property acquisition and relocation.

- CI-1** The Uniform Relocation Assistance and Real Property Acquisitions Policies Act (Uniform Act) of 1970 (Public Law 91-646, 84 Statutes 1894) mandates that certain relocation services and payments be made available to eligible residents, businesses, and nonprofit organizations displaced by its projects. The Uniform Act provides for uniform and equitable treatment by federal or federally assisted programs of persons displaced from their homes, businesses, or farms, and establishes uniform and equitable land acquisition policies. The County of San Bernardino shall provide affected property owners with a copy of the Uniform Act.

- CI-2** Where acquisition and relocation are unavoidable, the provisions of the Real Property Acquisitions Policies Act (Uniform Act) and the 1987 Amendments as implemented by the Uniform Relocation Assistance and Real Property Acquisition Regulations for Federal and Federally Assisted Programs adopted by the United States Department of Transportation (March 2, 1989) would be followed. An independent appraisal of the affected property will be obtained, and an offer for the full appraisal would be made.

- CI-3** The Real Property Acquisitions Policies Act (Uniform Act) requires that comparable, decent, safe, and sanitary replacement housing that is within a person's financial means be made available before that person

may be displaced. In the event that such replacement housing is not available for persons displaced by the project within statutory limits for replacement housing payments, Last Resort Housing may be provided in a number of prescribed ways.

- CI-4** If comparable properties are not available for the potentially displaced businesses, opportunities for relocation will need to be assessed outside the community of Bloomington. An estimate of the business costs will need to be determined between the California Department of Transportation (Caltrans) and the business owners to determine just compensation for the business. Business relocation efforts should be made in coordination with the San Bernardino County Planning Department.

Environmental Justice

The analysis of potential impacts of the I-10/Cedar Avenue Interchange project related to Environmental Justice is based on the demographic data provided earlier in Section 2.3, Community Impacts and Relocation.

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 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 2008, this was \$21,200 for a family of four.¹

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

¹ www.aspe.hhs.gov/poverty/08fedreg.htm.

Affected Environment

The environmental justice impacts are evaluated by comparing socioeconomic data for the affected community with the surrounding area to determine whether or not the project has a disproportionate adverse impact on minority groups. This analysis was conducted using census information from the 2000 census. The following analysis provides a comparison of five measures with which to evaluate environmental justice:

- Percentage of non-White Population as shown in Figure 2.3-2
- Percentage of Hispanic Population (the Census Bureau considers Hispanic or Latino ethnicity distinct from racial background) as shown in Figure 2.3-3
- Percentage of population below poverty level as shown in Figure 2.3-4
- Median household income as shown in Figure 2.3-5
- Transit-dependent population as shown in Figure 2.3-6

Minority and low-income populations potentially could be affected in several ways. Residences could be displaced, or portions of property affected would require relocation. Other potential impacts relate to visual resources, air quality, and noise, as well as potential effects on community cohesion. The project could also provide benefits to minority and low-income populations if transportation efficiency improves through reducing travel delay.

Minority Populations

As shown in Table 2.3.11, all five study area census tracts have percentages of non-White residents that are generally comparable to the County's average (41 percent). One tract has a Hispanic population comparable to the Bloomington average (64 percent), and all five tracts have higher percentages than the County average. Based on site visits of the affected area, the potentially displaced businesses do not appear to specifically serve the non-White or Hispanic populations in the area.

The I-10/Cedar Avenue Interchange project is located within two census tracts, 36.02 and 40. Compared to the community of Bloomington, Tract 36.02 has a higher percentage of Non-White residents, but a lower percentage of Hispanic residents. The percentage of Non-White and Hispanic residents in Tract 40 is comparable to the average for Bloomington, but substantially higher than the County average.

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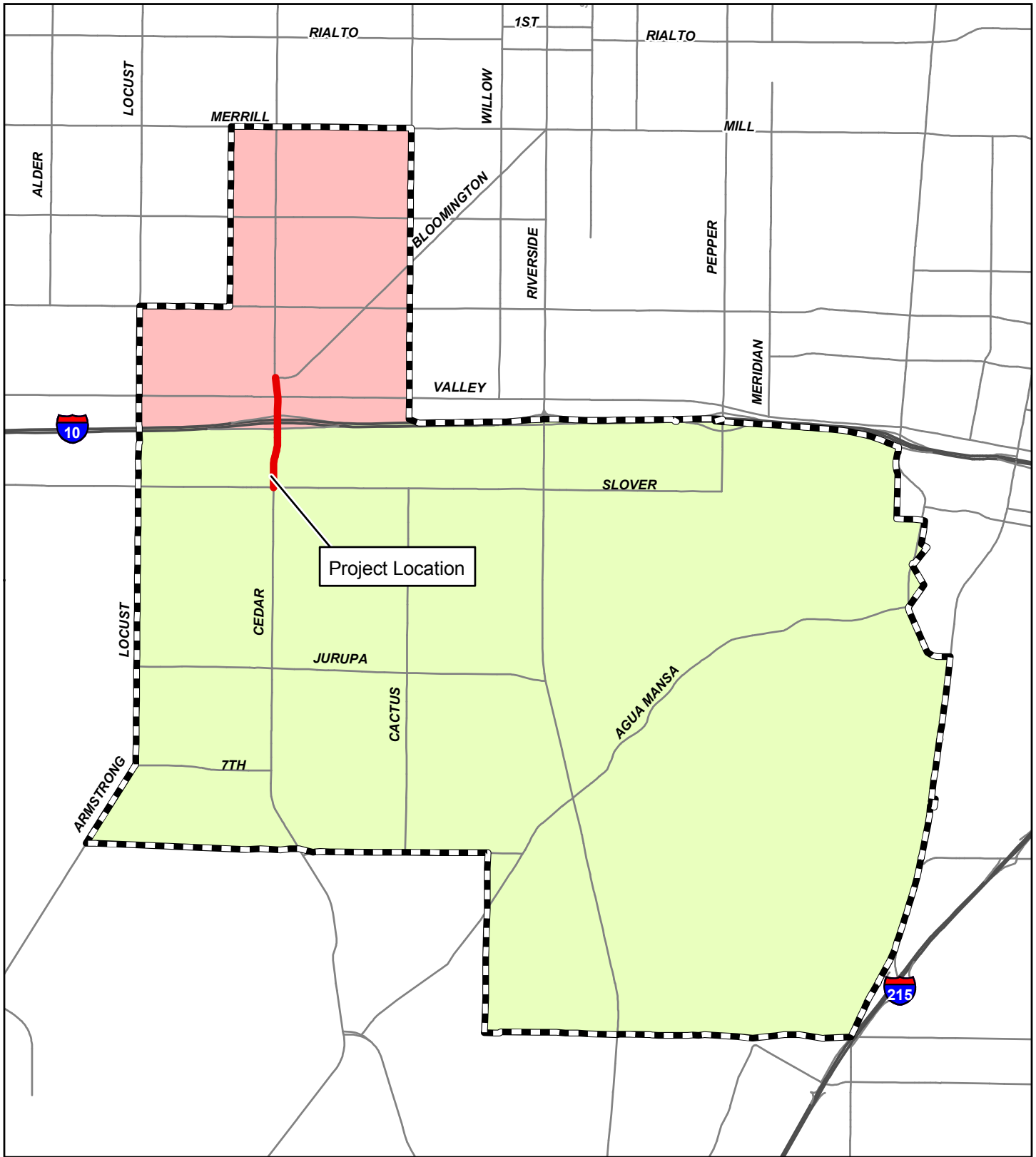
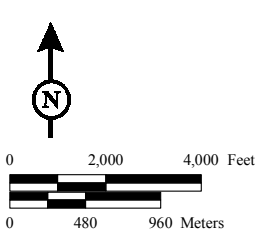



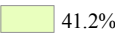


FIGURE 2.3-2



LEGEND

 Project Area	Percent Non-White Population
 Project Area Census Tracts	
	 50.8%
	 41.2%

Source: Census Bureau, 2000. Thomas Brothers Maps, 2001.

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I-10 / Cedar Avenue Interchange
Environmental Justice : Non-White Population

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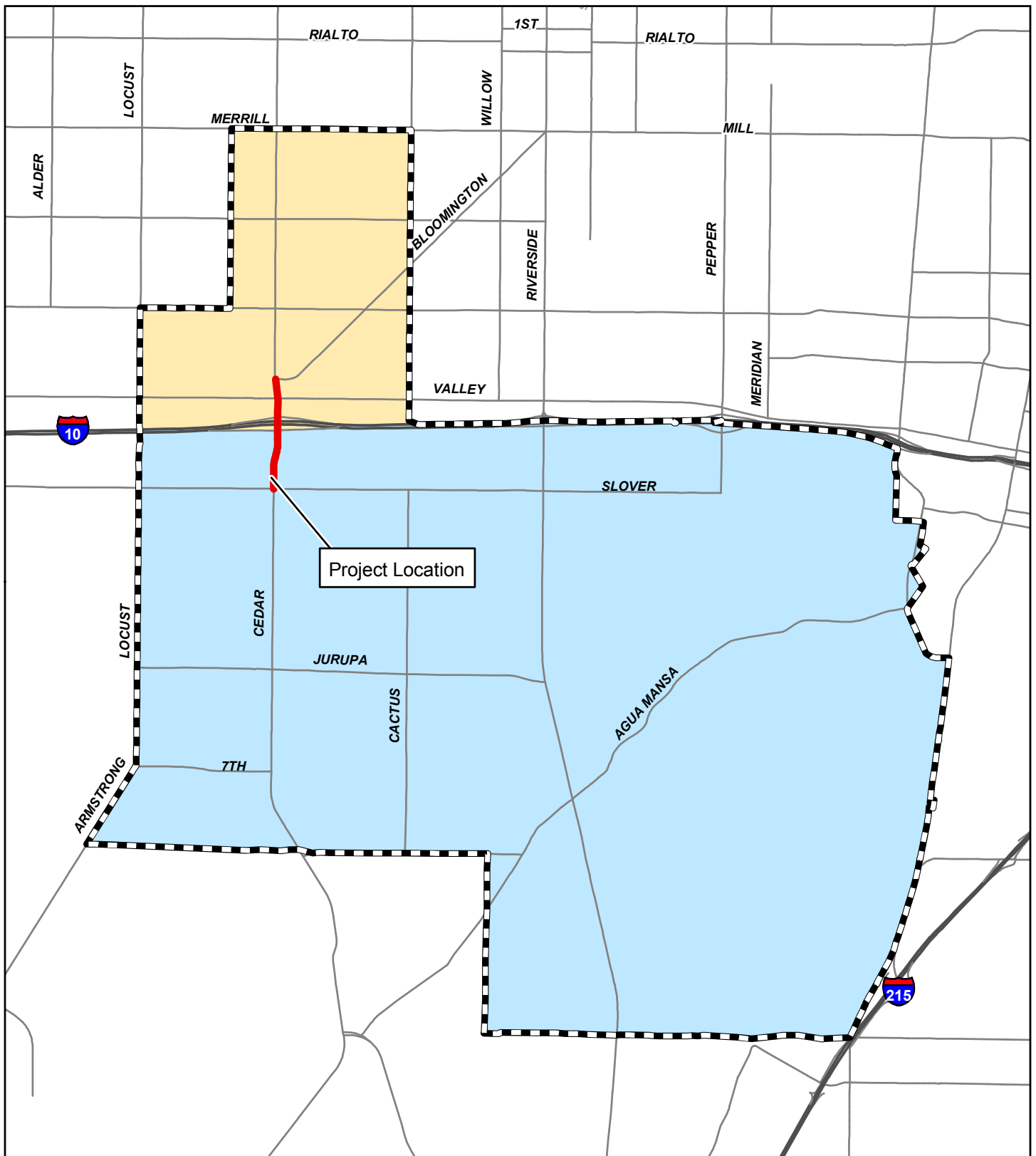
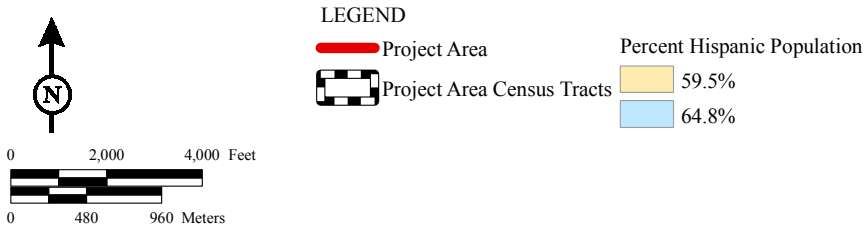


FIGURE 2.3-3



I-10 / Cedar Avenue Interchange
Environmental Justice : Hispanic Population

Source: Census Bureau, 2000. Thomas Brothers Maps, 2001.

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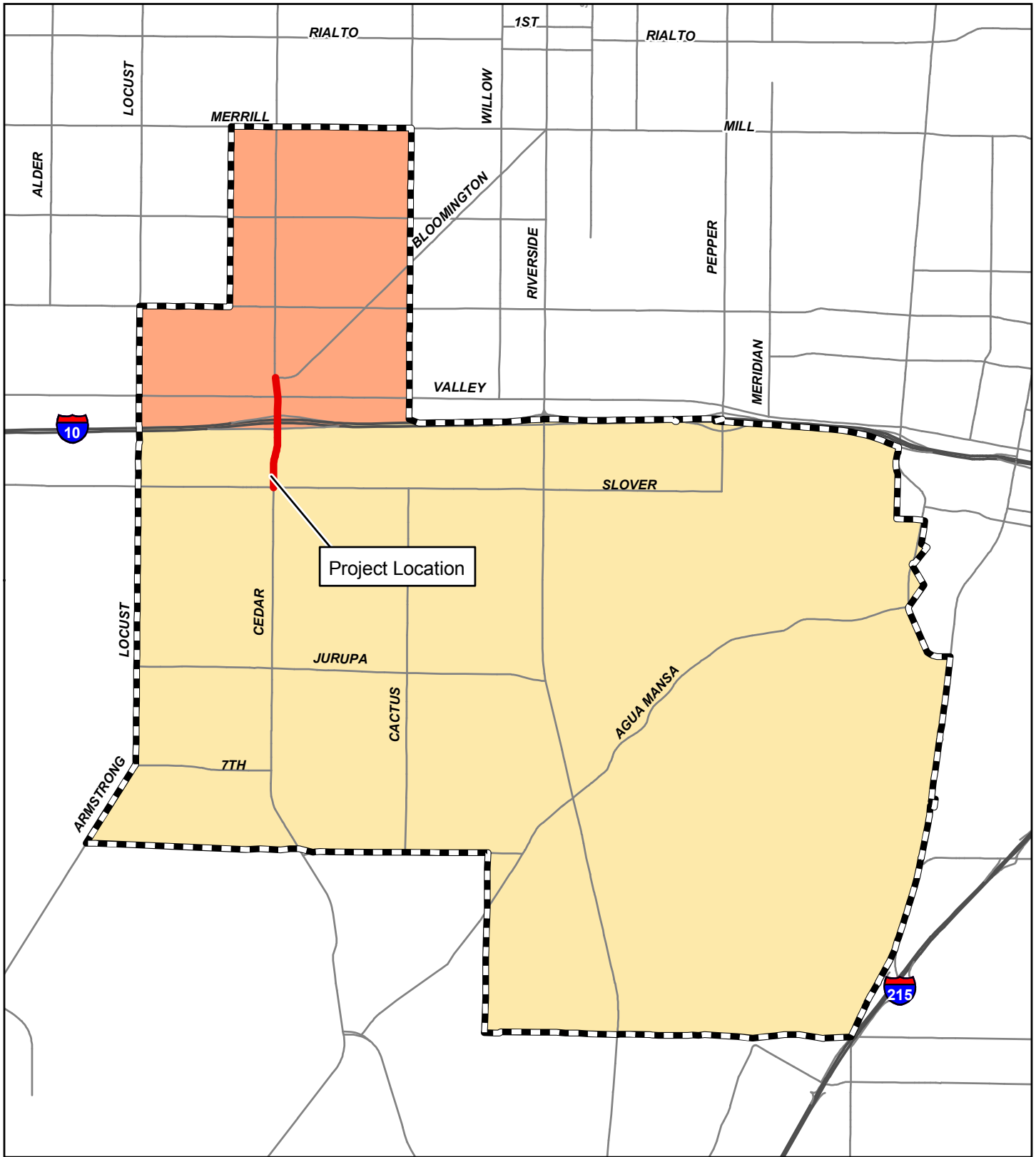
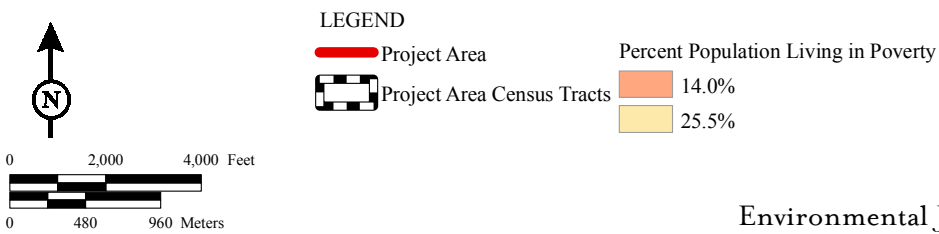


FIGURE 2.3-4



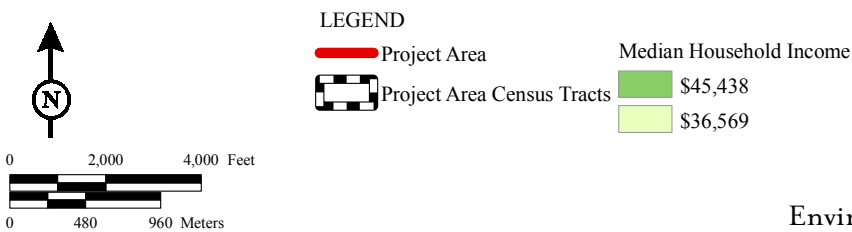
I-10 / Cedar Avenue Interchange
 Environmental Justice : Population Below Poverty Level

Source: Census Bureau, 2000. Thomas Brothers Maps, 2001.

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FIGURE 2.3-5



I-10 / Cedar Avenue Interchange
Environmental Justice : Median Household Income

Source: Census Bureau, 2000. Thomas Brothers Maps, 2001.

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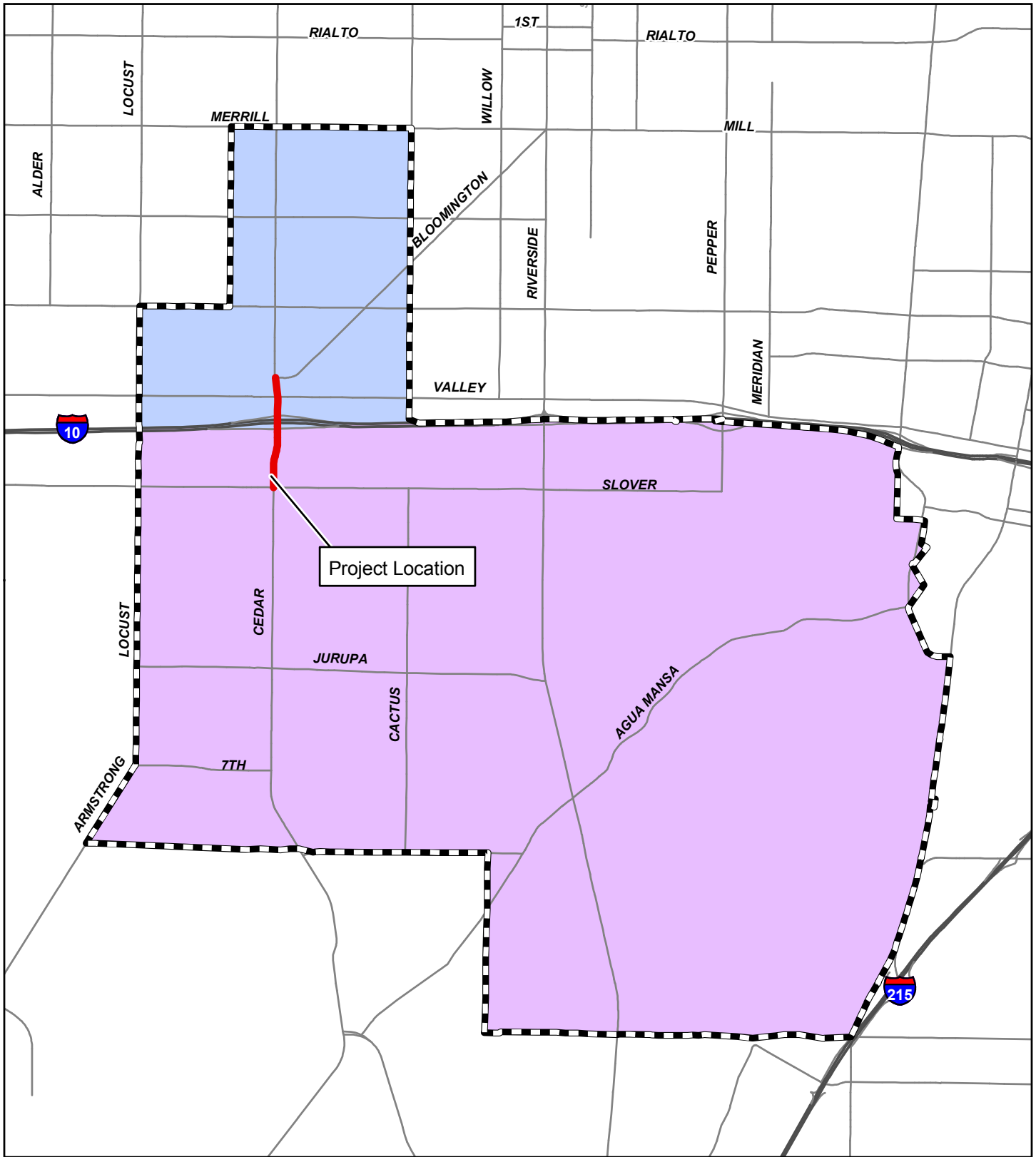
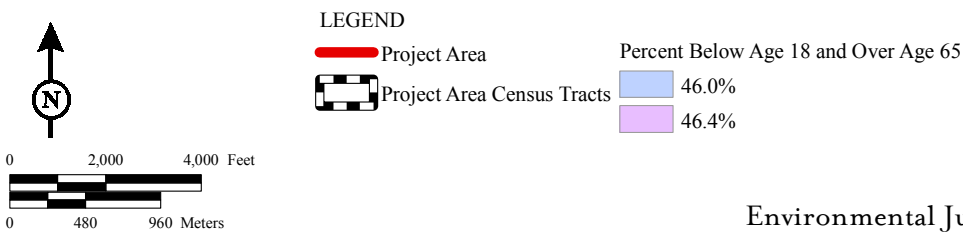


FIGURE 2.3-6



I-10 / Cedar Avenue Interchange
 Environmental Justice : Transit Dependent Population

Source: Census Bureau, 2000. Thomas Brothers Maps, 2001.

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Table 2.3.11 Environmental Justice

Census Tract	Non-White Residents (%)	Hispanic Residents (%)	Population Below Poverty Level (%)	Median Household Income	Transit-Dependent Populations (Under 18, and over 65) (%)
26.01	42.2	57.3	16.5	\$40,343	43.6
33	37.1	59.4	23.8	\$33,750	46.9
34.03	35.1	58.5	14.1	\$35,313	45.7
36.02	50.8	59.5	14.0	\$45,438	46.0
40	41.2	64.8	25.5	\$36,569	46.4
Bloomington	41.6	64.0	25.3	\$34,106	47.2
County of San Bernardino	42.5	39.0	15.8	\$42,066	44.2

Source: United States Census Bureau, Census 2000.
% = percent

Low-Income Populations

Only one of the five census tracts (Tract 40) contains a substantially higher percentage of persons living in poverty than the Bloomington average (25.3 percent). However, three of the five tracts (26.01, 33, and 40) contain a substantially higher percentage of persons living in poverty than the County average (15.8 percent). According to the United States HHS 2008 Poverty Guidelines, the poverty threshold for a family of four in the State of California is \$21,200. Two of the study area census tracts have a lower median household income than the Bloomington average (\$34,106), with the lowest average of \$33,750 in Tract 33.

Four of the tracts (26.01, 33, 34.03, and 40) have a substantially lower median household income than the County average (\$42,066).

The I-10/Cedar Avenue Interchange project is located within two census tracts: 36.02 and 40. As shown in Table 2.3.11, Tract 36.02 had a lower percent of residents living below the poverty level than both the Bloomington and County averages. The median household income of Tract 36.02 is higher than both the Bloomington and County averages, while Tract 40 reports a median household income slightly higher than the Bloomington average, but approximately \$5,000 lower than the County average.

Transit-Dependent Populations

The project addresses deficiencies of the existing transportation system and would enhance mobility and improve connections for minority and low-income populations within the project area. The Federal Transit Administration (FTA) defines transit-dependent persons as (1) those without private transportation, (2) the elderly (over age 65), (3) youths (under age 18), and (4) persons below poverty or median income

levels defined by the United States Census Bureau. The community of Bloomington and the County's populations of persons under age 18 and over age 65, who comprise a large part of the populations that rely on public transportation, are on the rise.

The percentage of transit-dependent populations within Bloomington was 47.2 percent in 2000, while the County average was 44.2 percent; these numbers are expected to rise over the next two decades. This increase would place increased demands on existing public transportation in the study area and the County.

The percentage of transit-dependent persons in all the study area census tracts in 2000 was lower than the Bloomington average of 47.2 percent. The percentage of transit-dependent persons in the study area census tracts did not vary from the County average of 44.2 percent by more than two percentage points.

No minority or low-income populations that would be adversely affected by the proposed project have been identified as determined above. Therefore, this project is not subject to the provisions of EO 12898.

Environmental Consequences

As shown in Table 2.3.11, the residents of Tracts 36.02 and 40 do not represent an unusually high level of minority, low-income, or transit-dependent populations. Based on the above discussion and analysis, Alternative 2A would not cause disproportionately high and adverse effects on any minority or low-income populations per Executive Order (E.O.) 12898 regarding environmental justice.

The No Build Alternative would not result in property acquisition or construction in the study area. Therefore, the No Build Alternative would not result in impacts related to environmental justice.

Avoidance, Minimization, and/or Mitigation Measures

Based on the above discussion and analysis, the alternatives would not cause disproportionately high and adverse effects on any minority or low-income populations as per E.O. 12898 regarding environmental justice. Therefore, no minimization or avoidance measures are required.

2.4 Utilities and Emergency Services

The analysis of the potential impacts of the I-10/Cedar Avenue Interchange project was based on review of existing utility and service providers and facilities in and immediately adjacent to the project limits.

Affected Environment

The public utilities in the project area include electrical overhead and underground power lines; fiber optic, natural gas, and irrigation lines, telephone and cable television services; communication services; oil; storm drainage; and domestic water.

Southern California Edison (SCE) provides electricity services. The Southern California Gas Company (SCG) provides natural gas services. Sewer service is provided by the County of San Bernardino Sanitation District. Water service is provided by the West San Bernardino County Water District. Edco provides solid waste disposal service. Adelphia provides cable television service to the area. Fiber optic facilities in the study area are owned by Caltrans, Level 3, Wiltel, and WorldCom. Irrigation lines in the study area are owned by Caltrans. Telephone service is provided by SBC. KM Petroleum owns oil lines in the project area. Storm drain systems are provided by San Bernardino Flood Control. Police protection is provided by the County of San Bernardino Sheriff. Fire services are provided by the Central Valley Fire District. The Bloomington Recreation and Park District provides park maintenance and street lighting.

Hospitals providing medical services to the Bloomington Community and the project area are as follows:

- Kaiser Permanente Hospital
9961 Sierra Avenue
Fontana, CA 92335-6720
- Arrowhead Regional Medical Center
400 N Pepper Avenue
Colton, CA 92324
- Loma Linda Hospital Medical Center
11234 Anderson Street, No. 3401
Loma Linda, CA 92354

- Community Hospital of San Bernardino
1805 Medical Center Drive
San Bernardino, CA 92411-1217

Existing utilities on Cedar Avenue include underground cable television and telephone, aboveground electricity, 6-inch diameter water line, 12-inch diameter water line, 4-inch diameter gas line, and 16-inch diameter storm drain.

Existing utilities on Slover Avenue include underground cable television and telephone, aboveground electricity, 6-inch diameter water line, 3-inch diameter gasline, and a 10-inch diameter storm drain and a 5-inch diameter petroleum line.

Existing utilities on Valley Boulevard include underground cable television and telephone, aboveground electricity, 8-inch diameter water line, 2-inch diameter gas line, and a 24-inch diameter storm drain.

There are a police substation, a fire station, and a library north of I-10 (north of Commercial Street) near the study area. There is a park-and-ride facility at the southwest corner of Cedar Avenue and Valley Boulevard. There are no medical institutions in the study area.

Environmental Consequences

Utilities

The project does not include any residential, commercial, or industrial uses that would require additional services. Therefore, permanent utility impacts due to implementation of this project are not expected to occur. Utility relocation and/or protection in place may be required during construction. The project would not cause expansion of water or wastewater facilities. Table 2.4.1 shows the utilities that may require relocation and/or protection in place during construction of the I-10/Cedar Avenue Interchange project.

The No Build Alternative would not result in construction in the project area. Therefore, the No Build Alternative would result in no impacts related to utilities.

Services

The project does not include the construction of new land uses that would increase the need for police protection or additional emergency services.

Table 2.4.1 Utility Impacts

Utility Provider	Type of Utility	Potential Impacts
Adelphia	Cable television	Relocation may be required in areas where excavation will occur; utilities located within or near the existing overcrossing and overhead will be temporarily relocated until the new overcrossing is constructed.
SBC	Underground telephone	
Southern California Edison (SCE)	Underground and overhead electricity	
Caltrans, Level 3, Wiltel, and WorldCom	Underground fiber optic	
Caltrans	Irrigation lines	
KM Petroleum	Oil	Relocation may be required in areas where excavation will occur.
County of San Bernardino Flood Control	Storm drain	There are storm drain lines (10-inch, 16-inch and 24-inch) located in the project area. These utilities would be impacted during construction. Interruption of these services will be considered during the design phase and coordinated with the utility agencies.
West County of San Bernardino Water District and County of San Bernardino Sanitation District	Underground water and sewer	There are water lines (6-inch, 8-inch, and 12-inch) located in the project area. These utilities would be impacted during construction. Interruption of these services will be considered during the design phase and coordinated with the utility agencies.
	Traffic signal system	Requires relocation of traffic signal poles/signs and traffic signal pull boxes from Indiana Street to the eastbound hook off-ramp in order to accommodate the new eastbound hook on-ramp.

Source: LAN Engineering Corp.

There may be limited, short-term impacts on emergency services during construction. This is typical of any road improvement project due to temporary increases in traffic congestion during construction.

CHP enforcement areas are proposed to be constructed on both on-ramps as part of the I-10/Cedar Avenue Interchange project.

The No Build Alternative would not result in construction in the project area. Therefore, the No Build Alternative would not result in impacts related to services.

Avoidance, Minimization, and/or Mitigation Measures

Utilities

Mitigation measures are not needed for permanent utility impacts because the I-10/ Cedar Avenue Interchange project would not result in the need for additional or new utilities. However, temporary impacts as discussed in Table 2.4.1 may occur to the following existing utilities: the overhead lines along the east side of Cedar Avenue, the Southern California Gas line in the southeast area of the I-10 Cedar interchange, the two fiber optic lines and the water line located south of the eastbound on- and off-ramps of the I-10 Cedar Avenue interchange, the fiber optic line located on the west

side of Cedar Avenue located north of the I-10 Cedar interchange and south of Valley Boulevard, and the cable line located along the west side of Cedar Avenue located north of Valley Boulevard, toward the northern end of the project limits. Relocation or protection in place of utilities will be determined during final design. Early and continuing coordination with the respective service providers and the County would be conducted during final design to further minimize temporary impacts from the I-10 Cedar Interchange project.

The following standard measure is designed to avoid, minimize, or reduce potential adverse impacts associated with utilities relocations during construction of the I-10/ Cedar Avenue Interchange project.

U-1 If during final design it is determined that specific utilities will need to be relocated outside of existing state right-of-way (ROW), additional studies will be conducted as necessary, and any additional measures determined to be warranted will be implemented.

U-2 Prior to any underground construction, all contractors will contact the statewide Call-Before-You-Dig System to determine the exact location of any and all underground utilities. This clause will be included in the construction specifications.

Emergency Services

Mitigation measures are not needed for permanent services impacts because the I-10/ Cedar Avenue Interchange project would not result in a need for additional or new emergency services. Temporary construction-related impacts would be addressed through the Traffic Management Plan (TMP) before and during construction to minimize localized congestion and travel delays during construction. The Central Valley Fire District and County of San Bernardino Sheriff require prior notice of the commencement of construction activities and that a minimum of one lane in each direction be maintained across the overcrossing during construction. The CHP shall be notified prior to the start of any construction activities that may impact traffic on I-10. Mitigation Measure TRA-1, provided later in Section 2.5, requires the preparation and implementation of a TMP.

2.5 Traffic and Transportation/Pedestrian and Bicycle Facilities

The following information is based on the *Traffic Operations Analysis* (TOA) for the project (October 2003), an addendum to the traffic analysis in the form of a Technical Memorandum (May 2008), Supplement to the TOA (January 2009), and the Supplement to the TOA (December 2012). The TOA analyzed traffic volumes for opening year 2010 and horizon design year 2030. Since the approval of the TOA, a revised project schedule called for new opening year, 2014, which would then typically require a 20-year design period, to 2034 or 2035 (design years always are rounded to the next 5-year mark). Caltrans requested that an analysis be completed to study the differences between a design year of 2030 and 2035. If the differences are negligible between the two design years, then a letter requesting an exception to using an opening year of 2014 and a 2030 design year previously approved would be prepared by the City and presented to Caltrans for approval. Thus, the addendum and the supplement to the TOA was prepared for the project. In December 2012, an additional analysis was requested due to a revised project schedule, which called for a new opening year of 2016 and horizon year 2036. Copies of the TOA, the addendum and both of the supplements are on file and available for review at the County and Caltrans District 8 offices.

The project design plans prepared during the project approval/environmental document (PA/ED) phase of this project were prepared in metric units. If required for project design, the metric-to-U.S. customary units conversion can be completed during the final design phase of the project.

Regulatory Setting

Caltrans, as assigned by 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 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 Part 27) implementing Section 504 of the Rehabilitation Act (29 United States Code [USC] 794). 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.

Affected Environment

The discussion in this section is based on information from the *Traffic Operations Analysis* (TOA) for the project (October 2003), the addendum to the traffic analysis in the form of a Technical Memorandum (May 2008), the Supplement to the TOA (January 2009), and the Supplement to the TOA (December 2012)

Study Area

The study area for the I-10/Cedar Avenue Interchange project includes the freeway mainline, ramps, and intersections in the vicinity of the Cedar Avenue/I-10 interchange. I-10 in the project area is an eight-lane freeway with a divided median.

Intersections analyzed in this study are shown in Figure 2.5-1.

Arterial roadways in the study area are:

1. Slover Avenue: a four-lane arterial
2. Orange Street: a two-lane arterial
3. Valley Boulevard: a six-lane arterial
4. Cedar Avenue: a four-lane arterial with bike route

All arterials have sidewalks on both sides. Cedar Avenue is a designated bike route.

Existing (2012) Traffic Conditions

The current average daily traffic (ADT) volume on the segment of I-10 in the project area is 192,000. The existing (2012) a.m. and p.m. peak-hour traffic volumes for the freeway mainline and ramps are summarized in Table 2.5.1.

Existing (2012) Freeway Mainline Analysis

Table 2.5.2 summarizes the existing (2012) a.m. and p.m. peak-hour traffic volumes and LOS for the study area freeway segments. As shown in Table 2.5.2, all freeway segments in the study area are currently operating at LOS E or better.

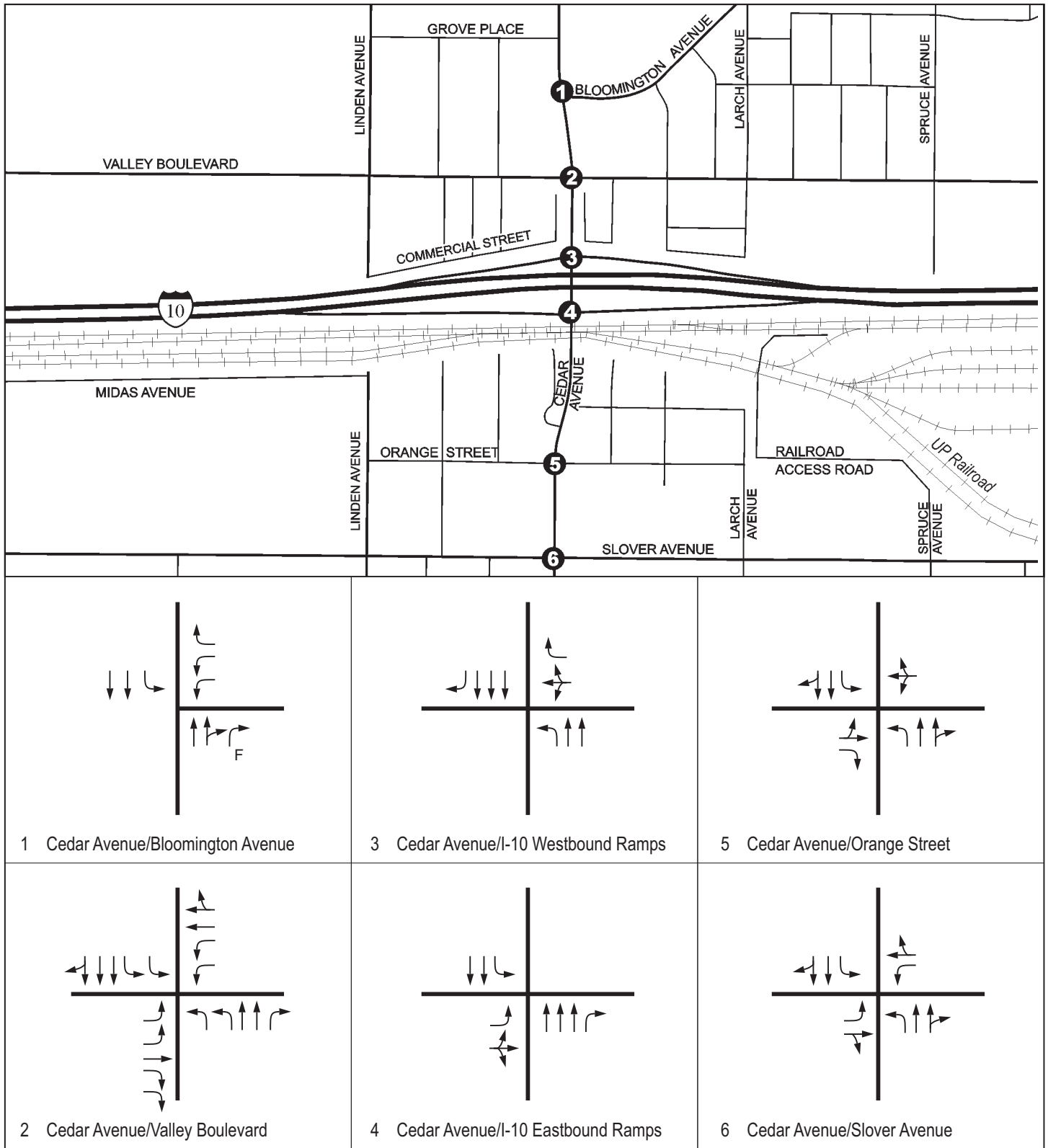


FIGURE 2.5-1

F FREE RIGHT TURN

I-10/Cedar Avenue Interchange

Existing Intersection Geometrics

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Table 2.5.1 Existing (2012) Freeway Mainline and Ramp Volumes

	AM Peak Hour			PM Peak Hour		
	Auto	Truck PCE	Total PCE	Auto	Truck PCE	Total PCE
Eastbound						
Sierra Avenue on-ramp to Cedar Avenue off-ramp	4902	1559	6461	6700	1907	8607
Cedar Avenue off-ramp	500	177	678	1065	150	1215
Cedar Avenue off-ramp to Cedar Avenue on-ramp	4402	1381	5783	5635	1757	7392
Cedar Avenue on-ramp	799	105	904	727	53	780
Cedar Avenue on-ramp to Riverside Avenue off-ramp	5200	1487	6687	6362	1810	8172
Westbound						
Riverside Avenue on-ramp to Cedar Avenue off-ramp	6368	1822	8190	5211	1483	6693
Cedar Avenue off-ramp	533	91	624	750	72	822
Cedar Avenue off-ramp to Cedar Avenue on-ramp	5835	1730	7565	4461	1411	5872
Cedar Avenue on-ramp	1101	217	1318	644	130	774
Cedar Avenue on-ramp to Sierra Avenue off-ramp	6936	1948	8884	5105	1540	6645

Source: *Supplement to the Traffic Operations Analysis* (December 2012, AECOM).
PCE = passenger car equivalents

Table 2.5.2 Existing (2012) Freeway Mainline LOS

Freeway Segment	Lanes			AM Peak Hour			PM Peak Hour		
	Mixed	HOV	Cap.	Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS
Eastbound									
Sierra Avenue on-ramp to Cedar Avenue off-ramp	4	0	9,400	6461	24.4	C	8607	39.5	E
Cedar Avenue off-ramp to Cedar Avenue on-ramp	4	0	9,400	5783	21.1	C	7392	29.9	D
Cedar Avenue on-ramp to Riverside Avenue off-ramp	4	0	9,400	6687	25.7	C	8172	35.7	E
Westbound									
Riverside Avenue on-ramp to Cedar Avenue off-ramp	4	0	9,400	8190	35.8	E	6693	25.7	C
Cedar Avenue off-ramp to Cedar Avenue on-ramp	4	0	9,400	7565	31	D	5872	21.5	C
Cedar Avenue on-ramp to Sierra Avenue off-ramp	4	0	9,400	8884	42.4	E	6646	25.4	C

Source: *Supplement to the Traffic Operations Analysis* (December 2012, AECOM).

-- Speed cannot be calculated when freeway is overcapacity

¹ Freeway is overcapacity during peak 15-minute period.

All volumes are in PCE.

LOS criteria are provided in the Highway Capacity Manual (HCM), and are based on density, expressed in terms of pc/mi/ln.

Per HCM Exhibit 23-2, the capacity of a mixed-flow lane is 2,350 PCE per hour, assuming a free-flow speed of 110 kph.

The capacity of an HOV lane is 1,600 PCE per hour.

HOV = high-occupancy-vehicle

PCE = passenger car equivalents

kph = kilometers per hour

pc/mi/ln = passenger cars per mile per lane

LOS = level of service

Existing (2012) Freeway Ramp Analysis

Table 2.5.3 summarizes the existing (2012) a.m. and p.m. peak-hour LOS for the Cedar Avenue/I-10 freeway ramp influence areas. As Table 2.5.3 indicates, all freeway ramp junctions are currently operating at LOS E or better during both the a.m. and p.m. peak hours.

Table 2.5.3 Existing (2012) Freeway Ramp LOS

	Type	AM Peak Hour				PM Peak Hour			
		Ramp Volume	Speed ¹ (kph)	Density (pc/mi/ln)	LOS	Ramp Volume	Speed ¹ (kph)	Density (pc/mi/ln)	LOS
Eastbound									
Cedar Avenue off-ramp	1 off	678	90	32.0	D	1215	--	43.2	E
Cedar Avenue on-ramp	1 on	904	95	27.7	C	780	93	32.1	D
Westbound									
Cedar Avenue off-ramp	1 off	624	90	38.5	E	822	89	33.6	D
Cedar Avenue on-ramp	1 on	1318	--	36.8	E	774	95	27.0	C

Source: *Supplement to the Traffic Operations Analysis* (December 2012, AECOM).

-- Speed cannot be calculated when freeway is overcapacity.

¹ Speed in ramp influence area.

² Freeway is overcapacity during peak 15-minute period.

Ramp Types:

1 on = single lane (at the gore point) on-ramp

1 off = single lane (at the gore point) off-ramp

All volumes are in passenger car equivalents (PCE).

LOS criteria are provided in the Highway Capacity Manual, and are based on density, expressed in terms of pc/mi/ln and speed in the ramp influence area.

kph = kilometers per hour

LOS = level of service

pc/mi/ln = passenger cars per mile per lane

Existing (2012) Intersection LOS

Table 2.5.4 indicates that all intersections in the study area are currently operating at satisfactory LOS in the a.m. and p.m. peak hours, except for the following, which operate at an LOS F:

- Cedar Avenue/I-10 Westbound Ramps (a.m. peak hour)
- Cedar Avenue/I-10 Eastbound Ramps (p.m. peak hour)

Intersection level of service analysis for the year 2008 was included in the January 2009 supplement. Recent peak hour count data on Cedar Avenue were provided by the San Bernardino County Department of Public Works, and are included in the December 2012 Supplement. As shown in Table 2.5.5, volumes on Cedar Avenue in the vicinity of the study intersections have declined since 2008. Therefore, it can be concluded that the study intersections in 2012 continue to operate at similar levels of service, to that of 2008.

Table 2.5.4 Existing (2008) Intersection LOS

Intersection	AM Peak Hour			PM Peak Hour		
	V/C	Delay	LOS	V/C	Delay	LOS
1. Cedar Avenue/Bloomington Avenue	0.55	16.4	B	0.63	10.2	B
2. Cedar Avenue/Valley Boulevard	0.78	27.7	C	0.88	27.6	C
3. Cedar Avenue/I-10 westbound ramps	1.01	31.0	F*	0.79	18.2	B
4. Cedar Avenue/I-10 eastbound ramps	0.88	21.8	C	1.02	44.3	F*
5. Cedar Avenue/Orange Street	0.71	17.8	B	0.60	10.4	B
6. Cedar Avenue/Slover Avenue	0.66	22.7	C	0.68	21.8	C

Source: *Supplement to the Traffic Operations Analysis* (January 2009).

* LOS exceeds LOS standard

Delay = Average control delay in seconds

LOS = Level of service

V/C = Volume/capacity ratio

Table 2.5.5 Bi-Directional Peak Hour Counts on Cedar Avenue

Cross Street	Recent Data			2008 Data		% Change from 2008	
	AM Peak Hour	PM Peak Hour	Year	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Bloomington Ave	1,725	1,952	2010	1,856	2,198	-7.1%	-11.2%
Valley Blvd	3,366	3,446	2011	3,380	3,921	-0.4%	-12.1%
Slover Ave	1,721	1,642	2012	1,756	1,827	-2.0%	-10.1%

Source: *Supplement to the Traffic Operations Analysis* (December 2012, AECOM)

Environmental Consequences

Opening Year 2016 with Project

Freeway Mainline Analysis (Opening Year 2016 with Project)

Table 2.5.6 summarizes the 2016 a.m. and p.m. peak-hour traffic volumes and LOS for the study area freeway segments for Alternative 2A. The study area freeway segments would be operating the same with or without the project. All freeway segments in the study area are projected to operate at LOS E or better during both the a.m. and p.m. peak hours, with the exception of the following segments operating at LOS F:

- Westbound Cedar Avenue on-ramp to Sierra Avenue off-ramp (a.m. peak hour)

Table 2.5.6 2016 Alternative 2A Mainline LOS

Freeway Segment	Lanes			AM Peak Hour			PM Peak Hour		
				Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS
	Mixed	HOV	Cap.						
Eastbound									
Sierra Avenue on-ramp to Cedar Avenue off-ramp	4	0	9,400	6634	25.4	C	8854	42.0	E
Cedar Avenue off-ramp to Cedar Avenue on-ramp	4	0	9,400	5958	22.0	C	7624	31.4	D
Cedar Avenue on-ramp to Riverside Avenue off-ramp	4	0	9,400	6877	26.7	D	8400	37.6	E
Westbound									
Riverside Avenue on-ramp to Cedar Avenue off-ramp	4	0	9,400	8488	38.4	E	6908	26.9	D
Cedar Avenue off-ramp to Cedar Avenue on-ramp	4	0	9,400	7843	33.0	D	6054	22.4	C
Cedar Avenue on-ramp to Sierra Avenue off-ramp	4	0	9,400	9168	45.6	F	6837	26.5	D

Source: Supplement to the Traffic Operations Analysis (December 2012, AECOM).

-- Speed cannot be calculated when freeway is overcapacity.

¹ Freeway is overcapacity during peak 15-minute period.

Notes:

All volumes are in PCE.

LOS criteria are provided in the *Highway Capacity Manual* (HCM), and are based on density, expressed in terms of passenger cars per mile per lane (pc/mi/ln).

Per HCM Exhibit 23-2, the capacity of a mixed-flow lane is 2,350 PCE per hour, assuming a free-flow speed of 110 kph.

The capacity of an HOV lane is 1,600 PCE per hour.

HOV = high-occupancy level

PCE = passenger car equivalents

kph = kilometers per hour

pc/mi/ln = passenger cars per mile per lane

LOS = level of service

Freeway Ramp Analysis (Opening Year 2016 with Project)

Tables 2.5.7 and 2.5.8 summarize the 2016 a.m. and p.m. peak-hour LOS for the Cedar Avenue/I-10 freeway ramp influence areas for Alternative 2A. As Table 2.5.7 indicates, all freeway ramp junctions are projected to operate at LOS E or better during both the a.m. and p.m. peak hours, with the exception of the following ramps operating at LOS F:

- Westbound Cedar Avenue on-ramp (a.m. peak hour)

Intersection LOS

Figure 2.5.2 illustrates the intersection geometrics and stop control with Alternative 2A. Table 2.5.8 summarizes the 2016 a.m. and p.m. peak-hour LOS for the study intersections for Alternative 2A. As shown in Table 2.5.8, all intersections in the study area are projected to operate at satisfactory LOS in 2016 under Alternative 2A.

Design Year 2036 Traffic with Project

Freeway Mainline Analysis (Design Year 2030 with Project)

Table 2.5.9 summarizes the 2036 a.m. and p.m. peak-hour traffic volumes and LOS for the study area freeway segments for Alternative 2A. As Table 2.5.9 indicates, all freeway segments in the study area are projected to operate at LOS F, with the exception of the following:

- Eastbound Sierra Ave On-Ramp to Cedar Ave Off-Ramp (a.m. peak hour)
- Eastbound Cedar Ave Off-Ramp to Cedar Ave On-Ramp (a.m. and p.m. peak hours)
- Eastbound Cedar Ave On-Ramp to Riverside Ave Off-Ramp (a.m. peak hour)
- Westbound Riverside Ave On-Ramp to Cedar Ave Off-Ramp (p.m. peak hour)
- Westbound Cedar Ave Off-Ramp to Cedar Ave On-Ramp (p.m. peak hour)
- Westbound Cedar Ave On-Ramp to Sierra Ave Off-Ramp (p.m. peak hour)

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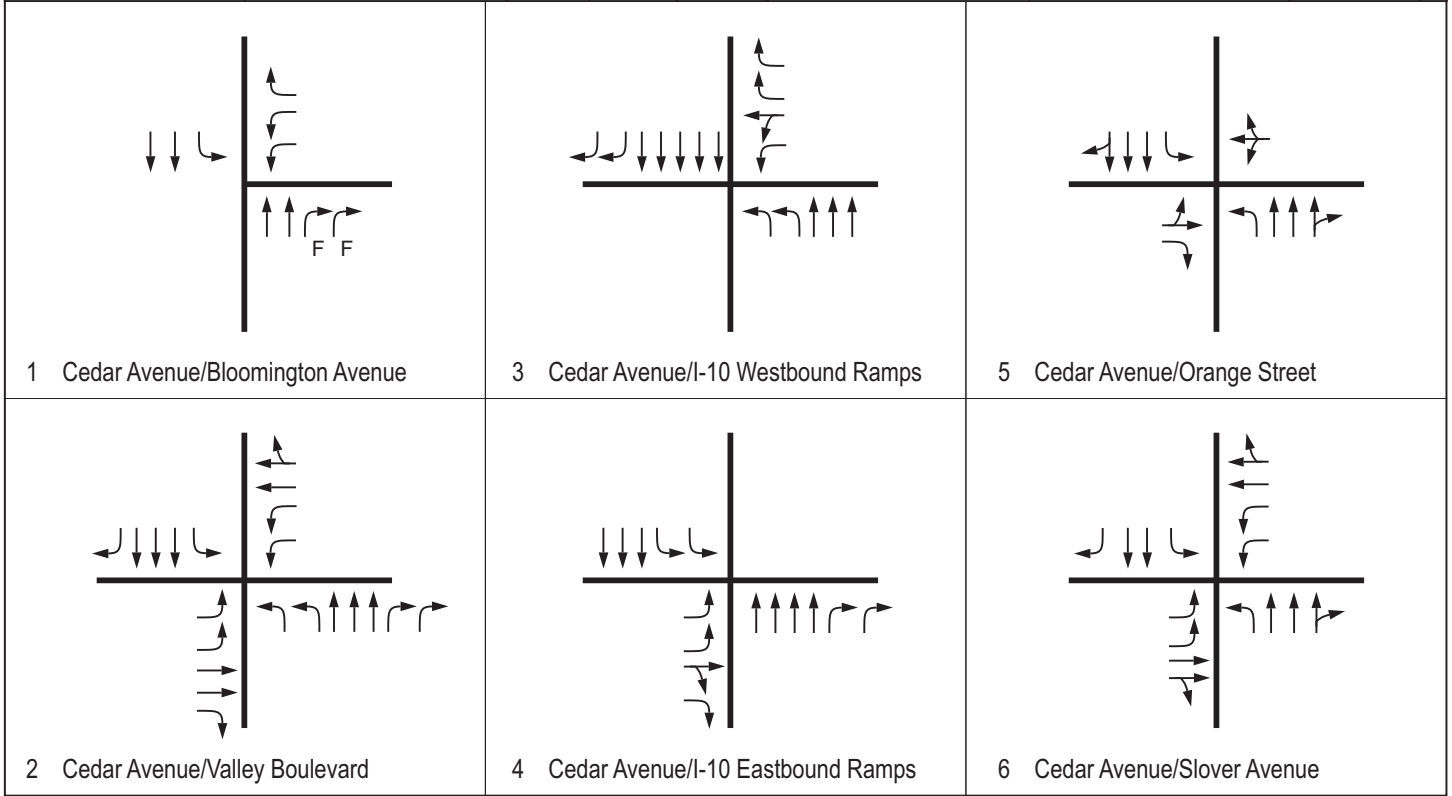
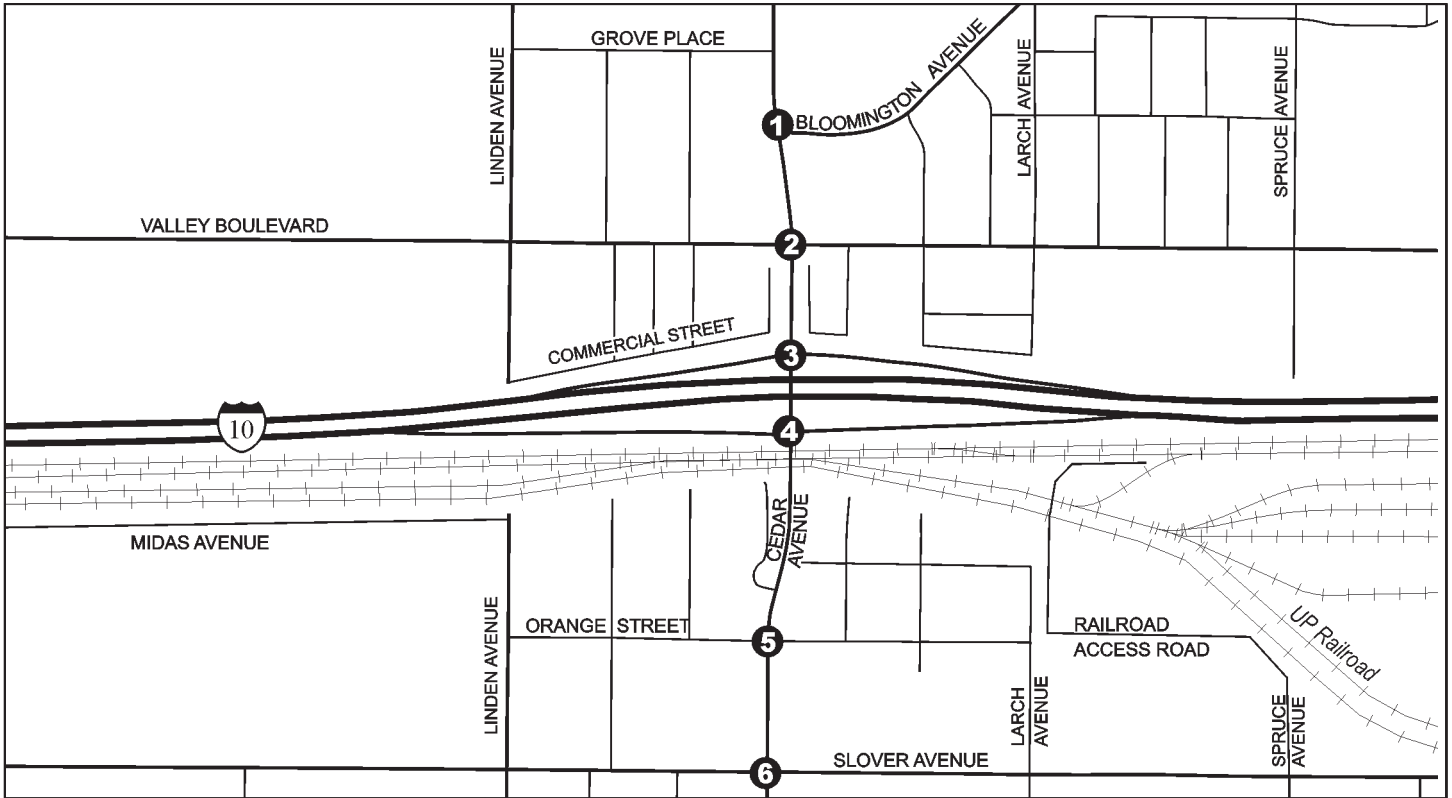


FIGURE 2.5-2

F FREE RIGHT TURN

I-10/Cedar Avenue Interchange

Alternative 2A Intersection Geometrics

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Table 2.5.7 2016 Alternative 2A Ramp LOS

	Type	AM Peak Hour				PM Peak Hour			LOS
		Ramp Volume	Speed ¹ (kph)	Density (pc/mi/ln)	LOS	Ramp Volume	Speed ¹ (kph)	Density (pc/mi/ln)	
Eastbound									
Cedar Avenue off-ramp	2 off	676	89	14.1	B	1229	--	22.1	C
Cedar Avenue on-ramp	1 on	919	94	28.4	D	776	--	32.8	D
Westbound									
Cedar Avenue off-ramp	1 off	645	--	39.8	E	854	--	34.6	D
Cedar Avenue on-ramp	1 on	1325	--	37.8	F	783	94	27.7	C

Source: *Supplement to the Traffic Operations Analysis* (December 2012, AECOM).

-- Speed cannot be calculated when freeway is overcapacity.

¹ Speed in ramp influence area.

² Freeway is overcapacity during peak 15-minute period.

Ramp Types:

1 on = on-ramp with single lane at the gore point

1 off = off-ramp with single lane at the gore point

2 off = off-ramp with two lanes at the gore point

All volumes are in PCE.

LOS criteria are provided in the *Highway Capacity Manual*, and are based on density, expressed in terms of pc/mi/ln and speed in the ramp influence area.

kph = kilometers per hour

LOS = level of service

PCE = passenger car equivalents

pc/mi/ln = passenger cars per miles per lane

Table 2.5.8 2016 Alternative 2A Intersection LOS

Intersection	AM Peak Hour			PM Peak Hour		
	Cycle length: 100			Cycle length: 100		
	V/C	Delay	LOS	V/C	Delay	LOS
1. Cedar Avenue/Bloomington Avenue	0.51	11.9	B	0.57	8.1	A
2. Cedar Avenue/Valley Boulevard ¹	0.79	23.2	C	0.71	22.8	C
3. Cedar Avenue/I-10 westbound ramps ²	0.44	9.9	A	0.60	11.3	B
4. Cedar Avenue/I-10 eastbound ramps	0.57	12.1	B	0.71	17.3	B
5. Cedar Avenue/Orange Street	0.49	9.6	A	0.47	6.3	A
6. Cedar Avenue/Slover Avenue	0.44	15.2	B	0.48	15.9	B

Source: *Supplement to the Traffic Operations Analysis* (December 2012, AECOM).

¹ Pedestrian crossing prohibited on the south leg of this intersection in this alternative.

² Pedestrian crossing prohibited on the north leg of this intersection in this alternative.

Delay = Average control delay in seconds

LOS = Level of service

V/C = Volume/capacity ratio

Table 2.5.9 2036 Alternative 2A Mainline LOS

Freeway Segment	Lanes			AM Peak Hour			PM Peak Hour		
	Mixed	HOV	Cap.	Volume	Density (pc/mi/ln)	LOS	Volume	Density (pc/mi/ln)	LOS
Eastbound									
Sierra Avenue on-ramp to Cedar Avenue off-ramp	4	0	9,400	7501	30.6	D	10088	59.4	F
Cedar Avenue off-ramp to Cedar Avenue on-ramp	4	0	9,400	6830	26.4	D	8787	41.3	E
Cedar Avenue on-ramp to Riverside Avenue off-ramp	4	0	9,400	7827	32.9	D	9540	50.5	F
Westbound									
Riverside Avenue on-ramp to Cedar Avenue off-ramp	4	0	9,400	9982	57.5	F	7984	34.1	D
Cedar Avenue off-ramp to Cedar Avenue on-ramp	4	0	9,400	9234	46.4	F	6968	27.3	D
Cedar Avenue on-ramp to Sierra Avenue off-ramp	4	0	9,400	10593	70.4	F	7796	32.7	D

Source: *Supplement to the Traffic Operations Analysis* (December 2012, AECOM).

-- Speed cannot be calculated when freeway is overcapacity.

¹ Freeway is overcapacity during peak 15-minute period.

All volumes are in PCE.

LOS criteria are provided in the HCM, and are based on density, expressed in terms of pc/mi/ln.

Per HCM Exhibit 23-2, the capacity of a mixed-flow lane is 2,350 PCE per hour, assuming a free-flow speed of 110 kph.

The capacity of an HOV lane is 1,600 PCE per hour.

Cap. = capacity

HCM = *Highway Capacity Manual*

HOV = high-occupancy level

kph = kilometers per hour

LOS = level of service

PCE = passenger car equivalents

pc/m/ln = passenger cars per mile per lane

These freeway segments are projected to operate at unsatisfactory LOS because the freeway mainline will be overcapacity. These conditions would exist with or without the project. To achieve satisfactory operations on the identified freeway segment under 2030 conditions, one HOV lane would be required in each direction on the freeway mainline. According to the TCR for I-10, the Route Concept for these segments includes the addition of an HOV lane in each direction. A fifth mixed-flow lane would be required in the eastbound direction, and auxiliary lanes would be required between adjacent on- and off-ramps in the westbound direction. Table 2.5.10 summarizes the 2030 a.m. and p.m. peak-hour traffic volumes and LOS for the study area freeway segments with the addition of these identified lanes. As discussed in the December 2012 Supplement, the traffic data in 2036 will be lower than the prior forecast for 2030. Therefore, the previous data for 2030 also applies to the currently 2036 analysis. As Table 2.5.10 shows, all freeway segments are projected to operate at LOS E or better during both peak hours with the addition of the identified lanes.

Freeway Ramp Analysis (Design Year 2036 with Project)

Table 2.5.11 summarizes the 2036 a.m. and p.m. peak-hour LOS for the Cedar Avenue/I-10 freeway ramp influence areas with the project constructed but without the TCR improvements previously identified for Alternative 2A. As Table 2.5.11 indicates, all freeway ramp junctions in the study area are projected to operate at LOS F during both the a.m. and p.m. peak hours, except for the following:

- Eastbound Cedar Ave Off-Ramp (a.m. peak hour)
- Eastbound Cedar Ave On-Ramp (a.m. peak hour)
- Westbound Cedar Ave Off-Ramp (p.m. peak hour)
- Westbound Cedar Ave On-Ramp (p.m. peak hour)

The ramp merge/diverge areas identified above are projected to operate at unsatisfactory LOS because the freeway mainline will be overcapacity. Table 2.5.12 shows the LOS with the additional HOV lane in each direction on the freeway mainline, a fifth mixed-flow lane in the eastbound direction, and auxiliary lanes between adjacent on- and off-ramps in the westbound direction. All freeway ramp merge/diverge areas are projected to operate at LOS C or better during both peak hours with the addition of the identified lanes. With the addition of the eastbound auxiliary lanes, the westbound off- and on-ramps would create a lane addition followed by a lane drop, and would no longer be analyzed as merge/diverge areas. As discussed in the December 2012 Supplement, the traffic data in 2036 will be lower than the prior forecast for 2030. Therefore, the previous data for 2030 also applies to

the currently 2036 analysis. Table 2.5.12 summarizes the 2036 a.m. and p.m. peak-hour traffic volumes and LOS for the study area freeway ramps with the addition of the identified lanes.

Intersection LOS (Design Year 2036 with Project)

Table 2.5.13 summarizes the 2036 a.m. and p.m. peak-hour LOS for the study intersections for Alternative 2A. As shown in Table 2.5.13, all intersections in the study area are projected to operate at satisfactory LOS.

Table 2.5.10 Year 2030 Alternative 2A Mainline LOS with Identified Improvements

Freeway Segment	Lanes			AM Peak Hour				PM Peak Hour			
				Total Volume	Mixed Volume	Density (pc/km/ln)	LOS	Total Volume	Mixed Volume	Density (pc/km/ln)	LOS
	Mixed	HOV	Cap.								
Eastbound											
Sierra Avenue on-ramp to Cedar Avenue off-ramp	5	1	13,350	9,888	8,503	16.6	D	12,298	10,576	24.2	E
Cedar Avenue off-ramp to Cedar Avenue on-ramp	5	1	13,350	8,658	7,446	14.3	C	10,896	9,371	19.0	D
Cedar Avenue on-ramp to Riverside Avenue off-ramp	5	1	13,350	10,056	8,648	17.0	D	12,082	10,390	23.1	E
Westbound											
Riverside Avenue on-ramp to Cedar Avenue off-ramp	5	1	13,350	11,042	9,496	19.4	D	10,866	9,345	18.9	D
Cedar Avenue off-ramp to Cedar Avenue on-ramp	4	1	11,000	10,194	8,767	26.5	E	9,634	8,285	16.1	D
Cedar Avenue on-ramp to Sierra Avenue off-ramp	5	1	13,350	11,326	9,740	20.3	D	10,733	9,231	18.6	D

Source: *Traffic Operations Analysis* (LSA Associates, Inc., October 21, 2003).

All volumes are in PCE.

LOS criteria are provided in the HCM, and are based on density, expressed in terms of passenger cars per kilometer per lane (pc/km/ln).

Per HCM Exhibit 23-2, the capacity of a mixed-flow lane is 2,350 PCE per hour, assuming a free-flow speed of 110 kph.

The capacity of an HOV lane is 1,600 PCE per hour.

HOV lane is assumed to carry 14% of freeway volume, up to 1,600 PCE per hour.

Cap. = capacity

HCM = *Highway Capacity Manual*

HOV = high-occupancy vehicle

kph = kilometers per hour

LOS = level of service

PCE = passenger car equivalents

pc/km/ln = passenger cars per kilometer per lane

Table 2.5.11 2036 Alternative 2A Ramp LOS

	Type	AM Peak Hour				PM Peak Hour			
		Ramp Volume	Speed ¹ (kph)	Density (pc/mi/ln)	LOS	Ramp Volume	Speed ¹ (kph)	Density (pc/mi/ln)	LOS
Eastbound									
Cedar Avenue off-ramp	2 off	670	--	17.2	B	1301	--	34.9	F
Cedar Avenue on-ramp	1 on	996	--	31.9	D	753	--	36.4	F
Westbound									
Cedar Avenue off-ramp	1 off	748	--	46.9	F	1016	--	39.7	E
Cedar Avenue on-ramp	1 on	1359	--	42.6	F	829	--	31.1	D

Source: *Supplement to the Traffic Operations Analysis* (December 2012, AECOM).

-- Speed cannot be calculated when freeway is overcapacity.

¹ Speed in ramp influence area.

² Freeway is overcapacity during peak 15-minute period.

Ramp Types:

1 on = on-ramp with single lane at the gore point

1 off = off-ramp with single lane at the gore point

2 off = off-ramp with two lanes at the gore point

All volumes are in passenger car equivalents (PCE).

Level of service (LOS) criteria are provided in the HCM, and are based on density, expressed in terms of passenger cars per mile per lane (pc/mi/ln) and speed in the ramp influence area.

Table 2.5.12 2030 Alternative 2A Ramp LOS With Identified Improvements

	Type	AM Peak Hour				PM Peak Hour			
		Ramp Volume	Speed ¹ (kph)	Density (pc/km/ln)	LOS	Ramp Volume	Speed ¹ (kph)	Density (pc/km/ln)	LOS
Eastbound									
Cedar Avenue off-ramp	2 off	1,230	88	8.7	B	1,402	87	12.0	B
Cedar Avenue on-ramp	1 on	1,398	95	13.9	C	1,186	94	15.8	C
Westbound									
Cedar Avenue off-ramp	L.D.	847	Not a merge/diverge			1,232	Not a merge/diverge		
Cedar Avenue on-ramp	L.A.	1,131	Not a merge/diverge			1,099	Not a merge/diverge		

Source: *Traffic Operations Analysis* (LSA Associates, Inc., October 21, 2003).

¹ Speed in ramp influence area.

Ramp Types:

1 on = on-ramp with single lane at the gore point

2 off = off-ramp with two lanes at the gore point

L.A. = lane addition (on-ramp begins auxiliary lane)

L.D. = lane drop (off-ramp ends auxiliary lane)

All volumes are in passenger car equivalents (PCE).

LOS criteria are provided in the HCM, and are based on density, expressed in terms of pc/km/ln and speed in the ramp influence area.

HCM = *Highway Capacity Manual*

kph = kilometers per hour

LOS = level of service

PCE = passenger car equivalents

pc/km/ln = passenger cars per kilometer per lane

Table 2.5.13 2036 Alternative 2A Intersection LOS

Intersection	AM Peak Hour			PM Peak Hour		
	Cycle length: 120			Cycle length: 105		
	V/C	Delay	LOS	V/C	Delay	LOS
1. Cedar Avenue/Bloomington Avenue	0.63	14.9	B	0.62	10.5	B
2. Cedar Avenue/Valley Boulevard ¹	0.74	25.9	C	0.74	28.4	C
3. Cedar Avenue/I-10 westbound ramps ²	0.49	14.9	B	0.67	18.1	B
4. Cedar Avenue/I-10 eastbound ramps	0.66	27.3	C	0.63	21.3	C
5. Cedar Avenue/Orange Street	0.47	7.2	A	0.53	5.5	A
6. Cedar Avenue/Slover Avenue	0.61	23.7	C	0.72	27.3	C

Source: *Supplement to the Traffic Operations Analysis* (December 2012, AECOM).

¹ Pedestrian crossing prohibited on the south leg of this intersection in this alternative.

² Pedestrian crossing prohibited on the north leg of this intersection in this alternative.

Delay = Average control delay in seconds

I-10 = Interstate 10

LOS = Level of service

V/C = Volume/capacity ratio

Queue Length (Design Year 2030 with Project)

Table 2.5.14 summarizes 2030 maximum back-of-queue lengths for road segments between study area intersections and for freeway off-ramps. As shown in Table 2.5.14, adequate queuing space is provided for all movements in 2030 under Alternative 2A.

As discussed in the December 2012 Supplement, the volumes at the study intersections in 2036 will be lower than the prior forecast for 2030. Therefore, the previous queuing analysis for 2030 also applies to the currently 2036 queuing analysis.

Table 2.5.14 2030 Alternative 2A Queuing Analysis (with Project)

Approach	Left Turn			Through Movement			Right Turn		
	Dist. Avail. (m)	Queue Length (m)		Dist. Avail. (m)	Queue Length (m)		Dist. Avail. (m)	Queue Length (m)	
		AM	PM		AM	PM		AM	PM
Cedar Avenue/Valley Boulevard									
Northbound	90	10	50	130	30	110	40	0	10
Westbound	110	70	70	160	30	40			
Cedar Avenue/I-10 westbound ramps									
Northbound	90	40	40	90	50	50			
Southbound				130	40	40	70	10	10
Westbound	120	50	40				120	50	100
Cedar Avenue/I-10 eastbound ramps									
Northbound				280	50	40	90	20	20
Southbound	90	60	50	90	40	50			
Eastbound	120	90	90				120	90	80

Source: *Traffic Operations Analysis* (LSA Associates, Inc., October 21, 2003).

m = meters

Updated Traffic Analysis

As discussed in the previous sections, the existing year for the TOA is 2002 and the design year is 2030. In order to revalidate the conclusions of the TOA, a technical analysis was conducted at the I-10/Cedar Avenue interchange intersections using recent traffic data (2008 existing conditions and 2035 design conditions). The results of this analysis were compiled in a technical memorandum and presented as an addendum to the original TOA.

The addendum (technical memorandum) to the TOA includes the traffic analysis for the existing 2008 and design year 2035 with project conditions for the Interstate 10 (I-10)/Cedar Avenue interchange intersections (I-10/Cedar Avenue westbound ramps and I-10/Cedar Avenue eastbound ramps). The addendum also includes a comparison of intersection volumes and LOS between the previous TOA prepared by LSA in October 2003 and new analysis presented in this memorandum.

Subsequent to the preparation of the TOA and the addendum, LSA was requested to analyze updated existing conditions (year 2008) and opening year (year 2014) conditions based on a revised project schedule that called for new opening year, 2014.

In December 2012, an additional analysis was requested due to a revised project schedule, which called for a new opening year of 2016 and horizon year 2036. The findings of the supplement have been included in this report.

Table 2.5.15 summarizes the LOS for 2002 traffic conditions and 2008 traffic conditions. A comparison between the 2002 traffic conditions and 2008 traffic conditions shows that there is an increase in delay at both of the intersections during both a.m. and p.m. peak hours. It should be noted that the delay at the intersection of the I-10/Cedar Avenue westbound ramps decreased by approximately 8 seconds, and the LOS deteriorated from LOS D to LOS F between the 2002 and 2008 analysis in the p.m. peak hour. The decrease in delay can be attributed to higher through volumes while the deterioration of LOS standards is due to higher turning movement volumes at the intersection between 2002 and 2008. Also, the delay at the intersection of the I-10/Cedar Avenue eastbound ramps increased by approximately 9 seconds, and the LOS deteriorated from LOS D to LOS F between the 2002 and 2008 analysis in the p.m. peak hour. The increase in delay is attributed to the increase in volume at this location between 2002 and 2008.

Table 2.5.16 summarizes the LOS for 2030 traffic conditions and 2035 traffic conditions. A comparison between the 2030 traffic conditions and 2035 traffic

conditions shows that during the a.m. peak hour, the intersection delay for both of the intersections is higher in 2035 than 2030. The increase in delay can be attributed to the increase in volume at these locations between 2030 and 2035. The LOS at the intersection of the I-10/Cedar Avenue westbound ramps changes from LOS B in 2030 to LOS C in 2035. In the p.m. peak hour, the LOS at the intersection of the I-10/Cedar Avenue Eastbound ramps changes from LOS C in 2030 to LOS B in 2035.

Table 2.5.15 Comparison of Existing LOS Summary

Existing Conditions	Intersection	AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS
2002*	1. I-10/Cedar Avenue Westbound Ramps	37.8	D	22.2	C
	2. I-10/Cedar Avenue Eastbound Ramps	29.4	C	35.1	D
2008	1. I-10/Cedar Avenue Westbound Ramps	41.4	D	29.1	C
	2. I-10/Cedar Avenue Eastbound Ramps	51.7	D	38.1	D

Source: *Traffic Operations Analysis* (LSA Associates, Inc., October 21, 2003) and *Supplement to Traffic Operations Analysis* (LSA Associates, Inc., January 27, 2009).

* Exceeds LOS standard LOS = level of service

I-10 = Interstate 10

LOS = level of service

sec = seconds

Table 2.5.16 Comparison of Design Year LOS Summary

With Project	Intersection	AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS
Year 2030 Conditions*	1. I-10/Cedar Avenue Westbound Ramps	14.9	B	18.1	B
	2. I-10/Cedar Avenue Eastbound Ramps	27.3	C	21.3	C
Year 2035 Conditions	1. I-10/Cedar Avenue Westbound Ramps	20.6	C	19.3	B
	2. I-10/Cedar Avenue Eastbound Ramps	29.5	C	18.5	B

Source: *Traffic Operations Analysis* (LSA Associates, Inc., October 21, 2003) and *Addendum to Traffic Operations Analysis* (LSA Associates, Inc., May 19, 2008).

* Exceeds standard LOS

I-10 = Interstate 10

LOS = Level of Service

sec = seconds

This improvement in the operating conditions can be attributed to the reduction in projected traffic volumes from 2030 to 2035 in the p.m. peak hour.

The comparison between the LOS in 2030 and 2035 conditions at the I-10/Cedar interchange shows that the results of the analysis in the addendum (2035) are consistent with the results in the TOA (2030). Hence, the conclusions in the Traffic Operation Analysis for the I-10/Cedar Avenue interchange intersections do not change.

Bikeways

The Community of Bloomington and the County of San Bernardino promote bicycling, walking, and equestrian riding for recreation and mobility. A bikeway project to be implemented on Cedar Avenue between Baseline Road and the Riverside County line is listed in the San Bernardino County Nonmotorized Transportation Plan – 2001 Update. This interchange improvement project proposes a

shoulder width varying from 6 to 10 ft that is adequate to accommodate a Class II bike lane within the project limits.

ADA Compliance

The design and operation of Alternative 2A will comply with all current ADA requirements.

Temporary Impacts

Traffic delays are expected during project construction, with most of the new construction occurring along Cedar Avenue associated with the widening of the existing freeway overcrossing and the ramp modifications.

No extended ramp closures are anticipated for this project. During construction, ramps would remain open but would be reduced to a single lane. Construction of the I-10/Cedar Avenue Interchange project would temporarily impact traffic on Cedar Avenue and the I-10 ramps.

Freeway operations may be affected during construction of the ramps and reconstruction of the overpass. If necessary to compensate for the capacity reduction of the I-10 mainline and/or ramps during construction activities, construction may be limited to off-peak hours. Freeway closures will be necessary for short periods of time. Full directional freeway closures will be required when erecting and removing falsework. The closures will take place during the nighttime only. During closures, freeway traffic will be detoured via off- and on-ramps and local streets. Freeway partial lane closures will be required for setting up and removing K-rail.

Sidewalk closures on Cedar and Slover Avenues during construction would impact pedestrian access. A pedestrian detour plan to accommodate sidewalk closures will be included in the TMP for this project.

The No Build Alternative would not include any construction in the project area. Therefore, the No Build Alternative would result in no short-term adverse impacts on traffic circulation.

Permanent Impacts

If no improvements are made to the I-10/Cedar Avenue interchange (the No Build Alternative), traffic congestion will worsen with future traffic demand. As shown earlier in Tables 2.5.10, 2.5.12, and 2.5.13, the project would provide an acceptable LOS at the freeway mainline and ramps and at intersections in the study area. A

comparison of Tables 2.5.4 and 2.5.13 shows that the I-10/Cedar Avenue Interchange project would provide a substantial reduction in travel time delays at this interchange and intersections in the study area compared to the No Build Alternative.

All sidewalks at intersections shall be constructed with ramps for access to the sidewalk and these will comply with ADA requirements. Sidewalks will be constructed along Cedar Avenue throughout the project limits ranging from 6 to 8 ft. Curb returns will have ADA ramps as required in the Title 24 California Code.

The project would improve traffic operations at the I-10/Cedar interchange and would not have any permanent adverse impacts on traffic in the project area. Therefore, no mitigation is required for long-term impacts.

Avoidance, Minimization, and/or Mitigation Measures

The following standard measure would substantially reduce the potential short-term adverse traffic impacts during construction of the project.

TRA-1 The Traffic Management Plan (TMP) will be prepared by Caltrans in consultation with the County prior to completion of Plans, Specifications, and Estimates (PS&E), and will consist of but not be limited to the following standard measures to alleviate traffic inconvenience caused by construction activities:

- **Traffic Control:** This project will require traffic control elements such as lane/shoulder closures and temporary signing/stripping on local streets, the Interstate 10 (I-10) ramps, and the I-10 mainline. The construction of bridge columns in the I-10 median will require the use of narrow lanes (11 feet [ft]) and use of parts of the outside shoulders as general-purpose lanes to maintain the mainline general-purpose travel lanes in each direction during construction.
- **Construction Sequencing:** The TMP will address the sequencing of the construction of other planned I-10 improvements in the project vicinity (e.g., Cypress Avenue Overcrossing, interchange improvements at Cherry Avenue and Citrus Avenue, and new interchanges at Alder Avenue and Beech Avenue). The sequencing will be designed to avoid the simultaneous construction of these improvements and the traffic impacts that would result if all or several of these projects were to be constructed at the same time.

- **Construction Zone Enhanced Enforcement Program (COZEEP):** Through coordination with Caltrans and the California Highway Patrol (CHP), this program was developed to provide a safer work zone for construction workers and the motoring public. The program uses two CHP officers who enforce lane closures and also provide a visual deterrent to errant/speeding vehicles.
- **Public Awareness Campaign (PAC):** Although the majority of the major closures would occur at night, vehicles traveling through the construction zone would likely experience longer than normal delays. To reduce these delays and confusion to the motoring public during construction activities, San Bernardino County, in conjunction with Caltrans, will implement a PAC. The purpose of the PAC is to keep the surrounding community abreast of the project's progress and construction activities that could affect its travel plans. The use of mailers/flyers, local newspaper advertising, local radio information, and public meetings, as appropriate, should be effective tools for disseminating this information. The public will be involved through public review and comment on the Draft Initial Study/Environmental Assessment (IS/EA).
- **Signing:** Post information signing on I-10 and the local arterials prior to and during construction to inform motorists of delays, ramp closures, and alternate travel routes.
- **Pedestrian, Americans with Disabilities Act (ADA), and Bicycle Access:** Cedar Avenue is designated as a Class II bike lane or Class III bike route per the San Bernardino County Nonmotorized Transportation Plan - 2001 Update. This project proposes to provide adequate shoulder width on both sides of Cedar Avenue from Valley Boulevard to Slover Avenue to meet the Class II bike route requirements. Bike route signs will be installed where appropriate per County's standard. Sidewalks at each intersection will be constructed with curb ramps and designed in accordance with ADA requirements during final design phase. A pedestrian detour plan shall be provided to accommodate sidewalk closures, and pedestrian, ADA, and bicycle access shall be accommodated during construction activities.

- **Construction Timing and Phasing:** The project construction will occur in two phases to maintain local traffic through the interchange during construction. The first stage includes widening both the freeway and railroad bridges, extending the existing 14 ft diameter culvert, and constructing retaining and sound walls. All traffic movement within this stage will remain unchanged, with minor changes on the lane configuration. The second stage includes widening the on- and off-ramps; Cedar Avenue and Slover Avenue pavement; traffic signal work; and drainage system modifications. Specific details will be prepared during the final design phase of the project.

TRA-2

If it is determined during Final Design that construction of the project would result in a ramp being closed for more than 10 consecutive days, a Ramp Closure Study will be performed for the project. The results of the Ramp Closure Study shall be included within the Traffic Management Plan (TMP) that will be prepared during the design phase of the project. The results of the Ramp Closure Study will be implemented during the construction phase of the project.

2.6 Visual and Aesthetics

Regulatory Setting

The National Environmental Policy Act of 1969 as amended (NEPA) 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 U.S.C. 4331(b)(2)]. To further emphasize this point, the Federal Highway Administration in its implementation of NEPA [23 U.S.C. 109(h)] directs that final decisions regarding 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.

Likewise, 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 Section 21001(b)]

Affected Environment

A *Visual Impact Assessment* (VIA) (July 2007) was prepared to assess the potential visual impacts of the project and to propose measures, if needed, to minimize adverse visual impacts on the surrounding visual environment. The methodology used in the VIA follows the guidelines contained in the publication “Visual Impact Assessment for Highway Projects” (FHWA, March 1981). A copy of the VIA is on file and available for review at the County of San Bernardino Department of Public Works and the Bloomington Branch Library.

The VIA for the I-10/Cedar Avenue Interchange project was prepared with consideration of the following guidelines:

- FHWA Technical Advisory T6640.8
- FHWA Guidance HI-88-054 (Visual Impact Assessment for Highway Projects)
- Title 23 USC 109 (h)
- Caltrans guidance per the Standard Environmental Reference (SER) Web site
- FHWA Memorandum HEV-20 (August 18, 1986)
- FHWA DOT-FH-11-9694 (Visual Impact Assessment for Highway Projects, as published by the American Society of Landscape Architects)

The study area is characterized by the existing I-10/Cedar Avenue interchange, including embankments, the I-10 on- and off-ramps, and freeway and local street ROW. The existing visual character of the project site is urban to semiurban. The areas surrounding the existing road ROWs are characterized by moderate-density development and infrastructure. Land uses within and surrounding the project site are predominantly road, industrial, commercial, and residential. Some undeveloped land is located south of I-10 and west of Cedar Avenue between Cedar Avenue and Magnolia Street and farther south at the southwest corner of the intersection of Cedar Avenue and Slover Avenue.

The FHWA guidelines suggest that there are three aspects of viewer sensitivity: activity and awareness, local values, and cultural significance. The project site is not the focal point of a high-activity area such as a recreational or downtown area. I-10 is an existing freeway. The portion of I-10 that is within the project limits is not adjacent to any existing historic or natural districts.

Sensitive Viewer Groups

Any person with a view of the project site may be considered a sensitive viewer. The primary sensitive viewer groups in the study area include motorists on I-10 and local streets, pedestrians, bicyclists, park visitors (Jack Pratte Park), and residents. Jack Pratte Park, on the southwest corner of Cedar Avenue and Valley Boulevard, is approximately 5 ft wide and 6 ft long. Jack Pratte Park has two signs (a “B” for Bloomington and a community bulletin board) and a bench. Residences located on Vine Street, Commercial Street, Orange Street, Cedar Avenue, and Slover Avenue are considered sensitive viewers. Due to the widening of the overcrossing and the railroad overhead, the visual awareness of these structures will be increased.

Topography

The topography on the project site ranges from 1,070 ft above mean sea level (amsl) in the south to 1,100 ft amsl in the north (United States Geological Survey quadrangle, *Fontana, California* 1978). The site has no areas of steep slopes and no outstanding geological features. The San Gabriel and San Bernardino Mountains located to the north and east are visible throughout the study area.

Vegetation

Approximately 75 percent of the project site is developed in road surfaces and features, and 25 percent consists of ornamental vegetation and California Annual Grassland Series. The ornamental vegetation includes eucalyptus windrows, which

are located along I-10 within all quadrants of the interchange except the northwest quadrant. A list of existing plants observed at the project site during reconnaissance-level field surveys conducted in April 2003 and May 2006 is provided below.

- Peruvian pepper tree
- Oleander
- Annual bur-sage
- Common horseweed
- Cudweed
- Common sunflower
- Telegraph weed
- Common sow thistle
- Common fiddleneck
- Shortpod mustard
- Sweet allysum
- London rocket
- Blue elderberry
- Nettle-leaved goosefoot
- Russian thistle
- Rock rose
- Croton
- Yellow sweet-clover
- Long-beaked filaree
- Red-stemmed filaree
- Cheeseweed
- Eucalyptus
- California buckwheat
- Photinia
- Goodding's willow
- Slender wild oat
- Common ripgut grass
- Red broom
- Bermuda grass
- Mediterranean barley
- Mediterranean schismus
- Wheat

Key Views

Two views were identified to represent the visual resources and sensitive viewers' perspectives in the vicinity of the interchange. Key views represent the visual quality of typical existing viewsheds in the study area that would be modified by the project. The locations and directions of the key views are shown in an aerial photograph (Figure 2.6-1), and the key views (existing setting) are shown in Figure 2.6-2 and described below.

Key View 1

This photograph (Figure 2.6-2) faces south toward Cedar Avenue and Jack Pratte Park. This view illustrates the urban road characteristic along the central part of the study area and Jack Pratte Park on the southwest corner of Valley Boulevard and Cedar Avenue within the project ROW. Key View 1 represents typical foreground, middleground, and background views of the study area from the perspective of a motorist or pedestrian.

Key View 2

Figure 2.6-2 shows an east-facing view from the entrance of the eastbound I-10/Cedar off-ramp. The setting is urban; however, eucalyptus windrows frame the north and south sides of the off-ramp. I-10 traffic is seen to the north. Key View 2 is seen briefly by motorists driving on and exiting I-10.

Environmental Consequences

Permanent Impacts

Figure 2.6-3 shows with project conditions at Key Views 1 and 2. The visual simulations represent typical views and the potential changes that can be expected at project build out.

Key View 1

The view simulation of the project at this view point is shown in Figure 2.6-3. Southbound Cedar Avenue would be widened to six lanes at the Cedar Avenue/Valley Boulevard intersection. To accommodate the additional southbound lanes on Cedar Avenue, Jack Pratte Park would be shifted to the west. The utility poles in the background would be relocated.



FIGURE 2.6-1

LEGEND

③ → KEY VIEW LOCATION



NO SCALE

PHOTO SOURCE: EAGLE AERIAL (2001) and LSAASSOCIATES, INC. (2004)

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Visual Impact Assessment
I-10/Cedar Avenue Interchange

Key View Locations

08-SBD-10 K.P. 28.6/31.0 (P.M. 17.8/19.3)

EA# 1A8300

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Key View 1: Existing view looking south along Cedar Avenue at Jack Pratte Park.



Key View 2: Existing view looking along the eastbound Cedar Avenue off-ramp.

FIGURE 2.6-2

Visual Impact Assessment
I-10/Cedar Avenue Interchange
Key Views 1 and 2 - Existing Condition
08-SBD-10 K.P. 28.6/31.0 (P.M. 17.8/19.3)
EA# 1A8300

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Key View 1: View simulation for Alternative 2A with relocated Jack Pratte Park.



Key View 2: View simulation along the eastbound Cedar Avenue off-ramp.

FIGURE 2.6-3

Visual Impact Assessment
I-10/Cedar Avenue Interchange
Key Views 1 and 2 - View Simulations
08-SBD-10 K.P. 28.6/31.0 (P.M. 17.8/19.3)
EA# 1A8300

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The overall visual character and experience for the sensitive viewer groups would not be substantially changed from the existing setting. The setting character remains urban road. Therefore, with implementation of the I-10/Cedar Avenue Interchange project, including the relocation of Jack Pratte Park, no adverse visual impacts are anticipated at this view point.

Key View 2

The visual simulation of the I-10 eastbound off-ramp with the project is shown in Figure 2.6-3. The trees on the south side of the off-ramp would be removed to accommodate the ramp widening from one to two lanes.

The overall character of this key view would remain urban. However, the space would no longer include the historic windrow on the north side of the ramp and the trees on the south side of the off-ramp. Removal of the trees would create two effects: a less aesthetic foreground view, and an improved background (or distant) view, particularly to the east and south. The view to the south includes the UPRR ROW, fields, and mountains in the distance.

Trees and Landscaping

The highway planting proposed as part of Alternative 2A would be consistent with the *I-10 Corridor Master Plan* (January 1995). Alternative 2A would result in the removal of approximately 150 mature trees. Approximately 80 of these trees are in the southwest quadrant of the interchange. Much of the proposed ramp widening would occur between the outside edge of the existing ramps and the existing edge of ROW. As a result, much of the existing landscaping between the inside edge of the ramps and the edge of the mainline would be preserved in place.

According to the Tree Displacement Survey (October 2003), implementation of the I-10/Cedar Avenue Interchange project would result in the removal of ornamental vegetation, including the removal of the estimated 150 mature trees discussed above, which are primarily eucalyptus. Eighty out of the estimated 150 trees to be removed are in the southwest quadrant of the interchange along the eastbound off-ramp. The removal of these trees would open up a more expansive view to the south, where observers could see the railroad, fields, and mountains in the distance. Several mature trees and shrubs would be removed from the northeast quadrant of the interchange adjacent to I-10 to accommodate the reconfigured westbound off-ramp. Implementation of Mitigation Measures V-3 through V-6, provided later, would minimize potential adverse project-related impacts that would result from the removal

of historic windrow trees and other ornamental vegetation. Also, a separate landscape project will be funded by the parent project with a separate Expenditure Authorization (EA) for mitigation. Conceptual landscape plans will be developed during the Final Design phase of the project.

Light and Glare

The existing study area receives light at night from traffic, street lighting, and existing commercial and residential uses. Existing lighting on the streets and ramps may be modified or relocated as part of the I-10/Cedar Avenue Interchange project.

Implementation of Mitigation Measure V-9, provided later, would minimize potential project impacts regarding light and glare. No adverse impacts are anticipated.

Scenic Roads

There are no officially designated State Scenic Highways located within the project limits. Therefore, the project would not impact visual resources associated with a State Scenic Highway. The County General Plan designates Cedar Avenue from Bloomington Avenue south to the Riverside County line as a scenic route. Designated scenic routes are subject to additional land use and aesthetic controls by the County.

The I-10/Cedar Avenue interchange improvements would not affect the surrounding mountain views. The Cedar Avenue overcrossing and overpass would be wider and would provide more expansive views to motorists and pedestrians. No adverse impacts to scenic roads would result from the project.

The project would not have a visual impact concerning the following sensitive environments under NEPA: scenic highways, Section 4(f) resources, United States Forest Service or Bureau of Land Management land, cultural and historic resources, and lands associated with the National Wild and Scenic Rivers System because none of these types of resources are located in or in the immediate vicinity of the project site.

Temporary Impacts

Temporary visual impacts would occur as a result of construction of the project.

Temporary adverse visual impacts during construction such as construction activity, staging sites, truck hauling, excavation activity, and detour signage are anticipated. However, no construction staging areas are proposed outside the maximum project disturbance footprint, including areas required for access. There is potential staging area west of Cedar Avenue between the UPRR and Orange Street. No contractor's staging will occur within State ROW. Implementation of Mitigation Measures V-1

and V-2, provided later, would minimize visual impacts during construction. Temporary impacts would cease upon project completion. No adverse impacts are anticipated.

The No Build Alternative would not result in transportation improvements at this interchange. Therefore, the No Build Alternative would result in no visual or light and glare impacts.

Avoidance, Minimization, and/or Mitigation Measures

The following standard measures are designed to avoid, minimize, or reduce potential adverse visual impacts associated with the construction and operation of the I-10/ Cedar Avenue Interchange project.

V-1 During construction, the County of San Bernardino (County) will ensure that construction and staging areas are located within County and/or Union Pacific Railroad (UPRR) rights-of-way (ROW) and that construction access and staging are within the maximum project disturbance footprint. Staging shall occur outside of the State ROW. A staging area outside the State ROW includes the undeveloped area located south of the UPRR, north of Orange Street, and west of Cedar Avenue.

V-2 The County of San Bernardino will ensure that the project is constructed in accordance with the California Department of Transportation (Caltrans) Standard Construction Specifications, which include measures to reduce visual impacts, noise, and air pollution emissions during construction. A phased construction program would be implemented to allow for the continuation of local circulation through the project area during construction. The construction plan would comply with the following San Bernardino County General Plan (April 2007) goals to avoid adverse impacts related to visual resources:

- Require removal of nonconforming signs per County sign ordinance standards for new uses or substantial revisions to existing uses.
- Encourage undergrounding of all utility facilities for all projects requiring discretionary or ministerial action.

V-3 The County of San Bernardino will ensure that a landscape plan is incorporated into the final design of the Interstate 10 (I-10)/Cedar Avenue Interchange project. This plan would identify opportunities to use areas within the project limits for revegetation. This plan would include landscaping for graded areas with plant species consistent with adjacent vegetation and enhancement of new project structures (overcrossing, sound walls, and retaining walls). This plan is a part of the project mitigation for loss of trees and shall be implemented in conjunction with the full landscape project. This plan would incorporate all applicable procedures and requirements as detailed in Caltrans *Highway Design Manual*, Section 902.1–Planting Guidelines (November 2001), the County General Plan, and the planting design criteria in the *I-10 Corridor Planting Master Plan* (January 1995), as presented in Mitigation Measures V-4 and V-5, below.

V-4 The County of San Bernardino (County) will ensure that the landscape plan incorporates the following San Bernardino County and Valley Region landscaping planting design guidelines from the *San Bernardino County Administrative Design Guidelines* (County 2002), where feasible:

- Planting design should coordinate new plant materials and their growth requirements with the climate, soil, orientation, water courses, existing vegetation, fire prevention needs, related natural resources, and manmade facilities.
- Maintenance-intensive landscaping should be held to a minimum and located near primary use areas.
- Native plant materials or locally adaptable drought-tolerant plantings capable of surviving the prevailing climatic and soil conditions with a minimum of supplemental water will be used. Any plant materials meeting these criteria may be used in the landscape design, providing the Estimated Water Use (EWU) of the project does not exceed the Maximum Applied Water Allowance (MAWA).
- To reduce evaporation, competition for water, weed growth, and damage to trees and shrubs, the use of mulch in shrub areas and within 18 inches of tree trunks is strongly encouraged.

- New plant materials should represent a good planting variety. Use of one predominant species should be avoided to prevent spread of disease.
- Plants having similar water use requirements should be grouped according to water requirements.
- Turf areas should be minimized, and turf areas requiring motorized maintenance shall be limited to 50 percent of all parts of the site requiring groundcover. The exception to this would be large recreational areas where the specific use dictates the need for turf, such as a playing field.
- Any trees/shrubs should be planted so as not to conflict with planned or existing overhead utility lines or any clear sight triangle.
- Any trees planted should be located not less than 25 feet (ft) from the beginning of curb returns at intersections, 10 ft from street lights, 10 ft from fire hydrants, and 10 ft from driveways.
- Healthy, existing plant materials should be used to meet landscape requirements wherever possible. All existing trees should be retained on site unless otherwise approved in writing by the County Planning Division or the proper removal permit is granted.
- The quantity of trees, shrubs, and groundcover would be sufficient to fulfill the requirements of the property as interpreted by the County Planning Division, based on professional site design analysis and customary planting treatments in the general locale.

Valley Region Landscape Plan Guidelines

- Existing trees removed to accommodate development should be replaced at the rate of 2:1. Fruit- or nut-bearing trees planted in groves shall be exempt from this provision. Replacement trees shall be a minimum 15-gallon size.
- Recommended plant materials include but are not limited to deciduous and evergreen varieties that are drought tolerant or native. NOTE: Existing native trees with a 6 inches or greater stem diameter of 19 inch circumference measured at 4.5 feet above the average ground level of the tree base shall not be removed except under permit from the County and in accordance with any applicable ordinance, except as provided for herein. For the Valley

Region, native trees are defined as three or more palm trees in linear plantings 50 ft or greater in height in established historic windrows, or parkway plantings considered heritage trees.

- All building setback areas would be landscaped except for sites where no disturbance of the natural terrain within a setback is proposed, and the natural terrain precludes setback landscaping (e.g., mountainsides or hillsides).
- All slopes 5:1 ratio or greater, cut slopes 5 ft vertical height or greater, and fill slopes 3 ft vertical height or greater would be protected against damage from erosion. Ground cover requiring minimal or no irrigation, hardscape, or any combination thereof may be used. Trees and shrubs would be provided on slopes of 15 ft vertical height or greater, spaced sufficiently to allow adequate growth, and in visually attractive groupings.
- Adequate irrigation systems will be necessary to maintain plant materials in a healthy state. Irrigation will be provided by aerial and nonaerial water-serving methods.

V-5

The County of San Bernardino, in coordination with the District Landscape Architect, will ensure that the final project design incorporates the following windrow enhancement and planting guidelines for the interchange improvements as provided in the Interstate 10 (*I-10*) Corridor Planting Master Plan (January 1995):

- **Infill of Existing Historic Windrows:** Where feasible, infill plantings shall be provided at voids within the existing historic windrows. It is also recommended that single rows of eucalyptus be augmented with two or three rows of plantings to further enhance the effectiveness of the historic windrow. In areas where visibility is required for a sign, windrows can be planted behind the sign, continuing the essential wind abatement function. Infill shall be accomplished using one-gallon eucalyptus container plants installed in a consistent, linear alignment with the existing trees, at 10 feet (ft) on center. These trees shall be provided with water on a regular basis during establishment, if located in an area without a permanent irrigation system.
- **Establishment of New Windrows:** New windrows shall be installed using 1-gallon eucalyptus container plants planted at

10 ft on center. Where feasible, the trees shall be installed on a consistent linear alignment and shall be set at 30 ft from the edge of the outside travel lane, or along the outside of the right-of-way (ROW) fence where there is insufficient setback within the ROW.

- All oleanders shall be removed from the project and not replanted.
- The existing tree plantings in the interchanges at Cherry, Citrus, and Cedar Avenues shall be augmented with additional tree planting. At least 50 percent of these trees shall be deciduous; 50 percent would be small evergreen trees. These trees shall be planted in compliance with the California Department of Transportation (Caltrans) sight distance setbacks and outside the minimum 30 ft landscape setback. These trees shall be grouped in informal clusters.
- Texture and color contrast shall be provided in the groundplane within these interchanges with bands of flowers, low shrubs, and characteristic rock cobble and inert materials such as decomposed granite. These bands shall be scaled appropriate to the slope conditions of each interchange. A minimum of three contrasting materials shall be used on the groundplane of each interchange.
- The following plant palette shall be applied:

Trees:

<i>Eucalyptus camaldulensis</i>	red gum
<i>Eucalyptus sideroxylon</i>	pink ironbark
<i>Phoenix canariensis</i>	Canary Island date palm
<i>Cedrus deodara</i>	Deodar cedar
<i>Jacaranda mimosifolia</i>	Jacaranda
<i>Lagerstromia indica</i>	Crape myrtle

Shrubs:

<i>Raphiolepis indica</i>	India hawthorn
<i>Cistus purpureus</i>	Orchid spot rockrose
<i>Cassia artemisioides</i>	Feathery cassia
<i>Phormium tenax</i>	New Zealand flax

Ground Covers:

<i>Rosmarinus officinalis</i>	Rosemary
<i>Lantana montevidensis</i>	Lantana “New Gold”

- V-6** The County of San Bernardino will ensure that additional landscape improvements are planted within the project limits to mitigate for the

removal of eucalyptus trees along the north side of the eastbound off-ramp. The types and locations of these improvements would be determined during final design.

- V-7** The County of San Bernardino will ensure that a plan to implement attractive walls, medians, and other visually pleasing hardscape would be incorporated into the final design of the Interstate 10 (I-10)/Cedar Avenue Interchange project. The final height of any required sound walls would be determined following public review of the project during final design.
- V-8** The County of San Bernardino will ensure that walls will be incorporated in the final design according to the Interstate 10 (*I-10 Corridor Planting Master Plan*). The presence of sound walls, retaining walls, and other walls along I-10 provides an opportunity to create a unique regional feature for this corridor. The design of these walls requires compliance with California Department of Transportation (Caltrans) standards for sound attenuation (where the walls provide that function), safety requirements, and other pertinent standards. The wall design would also include the following features:
- Visual consistency with regard to exterior treatment, regardless of function, to provide an expression of the regional sense of place.
 - Plantings incorporated to the maximum extent feasible, especially vines, to cover wall spans susceptible to graffiti.
 - Exterior retaining wall surface treatment with a cobble texture to reflect the area's rural character and ecological heritage.
- V-9** The County of San Bernardino (County) will ensure that lighting fixtures will be designed to minimize glare on adjacent properties and into the night sky. Lighting would be shielded with nonglare hoods and focused within the project right-of-way (ROW). A lighting plan would be reviewed and approved by the County and Caltrans prior to approval of construction to ensure compliance with these criteria.

2.7 Cultural Resources

Regulatory Setting

“Cultural resources” as used in this document refers to all “built environment” resources (structures, bridges, railroads, water conveyance systems, etc.), culturally important resources, and archaeological resources (both prehistoric and historic), regardless of significance. Laws and regulations dealing with cultural resources include:

The National Historic Preservation Act of 1966 (NHPA), as amended sets forth national policy and procedures regarding historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for the National Register of Historic Places. Section 106 of NHPA requires federal agencies to take into account the effects of their undertakings on such properties and to allow the Advisory Council on Historic Preservation the opportunity to comment on those undertakings, following regulations issued by the Advisory Council on Historic Preservation [36 Code of Federal Regulations (CFR) 800]. On January 1, 2004, a Section 106 Programmatic Agreement (PA) between the Advisory Council, the Federal Highway Administration (FHWA), State Historic Preservation Officer (SHPO), and the Caltrans went into effect for Caltrans projects, both state and local, with FHWA involvement. The PA implements the Advisory Council’s regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to the Caltrans. The FHWA’s responsibilities under the PA have been assigned to the Caltrans as part of the Surface Transportation Project Delivery Program (23 United States Code [USC] 327).

Historic properties may also be covered under Section 4(f) of the U.S. Department of Transportation Act, which regulates the “use” of land from historic properties. See Section 2.1, Land Use, Parks, and Recreation Facilities, of the IS/EA for specific information regarding Section 4(f).

Historical resources are considered under The California Environmental Quality Act (CEQA), as well as California Public Resources Code (PRC) Section 5024.1, which established the California Register of Historical Resources. PRC Section 5024 requires state agencies to identify and protect state-owned resources that meet National Register of Historic Places listing criteria. It further specifically requires Caltrans to inventory state-owned structures in its rights-of-way.

Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the State Historic Preservation Officer (SHPO) before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the National Register or are registered or eligible for registration as California Historical Landmarks.

Affected Environment

This section is based on the *Historic Property Survey Report* (HPSR) (March 2006), the *Archaeological Survey Report* (ASR) (March 2006), and the *Historical Resources Evaluation Report* (HRER) (March 2006). Copies of these documents are on file and available for review at the County and Caltrans District 8 offices.

The HPSR was prepared in accordance with the January 2004 Programmatic Agreement (Section 106 PA) among the FHWA, the ACHP, the SHPO, and Caltrans. The HPSR also addresses the requirements of CEQA.

A records search was conducted at the San Bernardino Archaeological Information Center, San Bernardino County Museum, located in Redlands, California. A pedestrian archaeological survey of the Area of Potential Effects (APE) was completed on September 18, 2003, to document previously unrecorded archaeological resources.

An architectural resources survey of the APE was conducted on September 19, 2003, and February 3, 2006, to document all buildings and structures per the PA. A number of inventories, facilities, and persons were consulted as part of the cultural resources study, as detailed in the HPSR. The APE for the I-10/Cedar Avenue Interchange project was based on the maximum disturbance limits anticipated. An APE map is provided in the HPSR.

Archaeological Resources

No archaeological resources were identified within or immediately adjacent to the APE during the September 18, 2003, survey, or as a result of archival research and contact with interested parties.

Historical Resources

The single historical resource identified in the APE is discussed below. The APE map reference number listed below is shown on the APE Map in the HPSR to show the location of this resource.

APE Map Reference Number 3 (Primary Number 36-020331)

The September 19, 2003, and February 3, 2006, surveys resulted in the identification of one resource in the APE, Bloomington School (Washington Alternative Middle School), which required evaluation. Bloomington School (Washington Alternative Middle School) is comprised of three buildings: a 1937 Art Deco style Works Progress Administration (WPA) administration/auditorium building, a 1937 Art Deco style WPA classroom building, and a 1926 Spanish Colonial Revival style classroom building. The school appears to be eligible for listing in the California Register under Criterion 3 at the local level as a good example of Art Deco style WPA school architecture in Bloomington. The Spanish Colonial Revival style classroom building is a noncontributing feature of the property. Although the school has had some alterations, primarily the removal of doors and boarding or painting over of windows, it remains the only example of Art Deco style architecture and the only example of WPA school architecture in Bloomington. However, the alterations have compromised the integrity to the degree that the school is not eligible for listing in the National Register under any criteria. The school was identified as a significant historical resource for purposes of CEQA.

Other Resources Determined Not to be Eligible

Two bridges are within the APE: the Cedar Avenue overcrossing (OC), bridge number 54 0035, constructed in 1967; and the Cedar Avenue overhead (OH), bridge number 54C0103, constructed in 1966 and widened/extended in 1972. Both bridges are included in the California Historic Bridge Inventory as Category 5, not eligible for listing in the National Register.

A segment of the UPRR lies within the APE. However, the project has no potential to affect this resource, and it was not evaluated as part of this study.

It was determined that the other properties present within the APE, including state-owned resources, meet the criteria for Section 106 PA Attachment 4 (Properties Exempt for Evaluation).

Other Resources

There are no other cultural resources eligible for the National or California Registers in the APE.

Environmental Consequences

Archaeological Resources

There are no archaeological resources within the project disturbance limits.

Therefore, the I-10/Cedar Avenue Interchange project would not result in adverse impacts to archaeological resources, and no mitigation is required.

Historic Resources

The Bloomington School is not eligible for listing in the National Register. The school was identified as a significant historical resource for purposes of CEQA. The three buildings on the Bloomington School (Washington Alternative Middle School) property would not be affected by the construction and operation of the I-10/Cedar Avenue Interchange project. The project would not result in changes to these existing buildings. The project would require sliver acquisitions of property from the school property at the southeast corner of Cedar Avenue and Orange Avenue, and along the east side of Cedar Avenue, but this would not affect these three buildings. The existing chain-link fence east of Cedar Avenue along the west side of the playing fields, south of the school, would be demolished and replaced during construction of the project; however, this would not substantively alter the existing setting around these three buildings. The sliver acquisition of property along Cedar Avenue would result in the road and sidewalks being slightly closer to the three school buildings. However, this would not substantively alter the existing setting around the three buildings because they are already in proximity to existing Cedar Avenue. Therefore, the project will only result in minimal impact to the setting of the property.

Because the impacts on the school property are extremely minor and because the project will not impact the resource in a manner such that those physical characteristics that convey its historical significance (the actual buildings) would be damaged or impaired, the project will not impact the historical resource. The project will be completed in a manner consistent with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings (Secretary of the Interior's Standards)*. Therefore, Caltrans has determined that a finding of no impact is appropriate because there are no impacts to historical resource(s) pursuant to CEQA Guidelines §15064.5(b)(3). Additional discussion regarding the potential impacts of the project to historical resources under CEQA is provided in Appendix A, CEQA Checklist, of this document.

In summary, the I-10/Cedar Avenue would result in no short- or long-term adverse impacts on historic resources.

The No Build Alternative does not propose any construction on the project site. Therefore, the No Build Alternative would not result in adverse impacts related to archaeological and historic resources.

SHPO Concurrence

Caltrans, under the authority of FHWA, has determined that a Finding of No Historic Properties Affected, according to Section 106 PA Stipulation IX.A and 36 CFR 800.4(d)(1), is appropriate for this undertaking and requested SHPO's concurrence in this determination. SHPO concurred with this determination in a letter dated May 22, 2006. That letter is provided in Chapter 3. Subsequently, there have been no modifications to the project to warrant further Section 106 studies. Therefore, the HPSR and its determinations remain valid.

Section 4(f)

Section 4(f) of the Department of Transportation Act (23 CFR Part 774) prohibits the use of land from a publicly owned park, or recreation area, unless a *de minimis* determination has been made that: (1) there is no feasible and prudent alternative to the use of the land; and (2) the project includes all possible planning to minimize harm to the property. When a Programmatic Agreement for Section 106 is in place between Caltrans, SHPO, and FHWA, SHPO must be informed in writing that a non-response for the purposes of a "no adverse affect" or a "no historic properties affected" determination will be treated as the written concurrence for the *de minimis* determination. Under NEPA Assignment, Caltrans makes the final determination on the *de minimis* finding.

Alterations to the Washington Alternative Middle School buildings, primarily the removal of doors and boarding or painting over of windows, have compromised the buildings' integrity to the degree that the school is not eligible for listing in the National Register under any criteria. Therefore, the school is not eligible for protection as a historic property under Section 4(f). No historic properties eligible for protection under Section 4(f) were identified within the APE.

Public Participation

During preparation of the HPSR, the following were contacted by letter and invited to comment on the project and express any concerns:

- The Bloomington Preservation Foundation was sent a certified letter on May 3, 2004. No response was received.
- The Rialto Historical Society was sent a certified letter on May 3, 2004. No response was received.
- The San Bernardino County Museum was sent a certified letter on May 3, 2004. No response was received.

The County of San Bernardino met with the Bloomington Municipal Advisory Council (MAC), which represents the unincorporated county area, on December 2, 2003. The draft HPSR was submitted for comments to the MAC on April 20, 2005. No comments were received.

Native American consultation for the project was completed during the Section 106 process (see HPSR, April 2006) under the direction of Caltrans, District 8. On March 20, 2003, a fax was sent to the Native American Heritage Commission (NAHC) requesting the NAHC to conduct a search of the Sacred Lands File to identify areas of religious and cultural significance to the Native Americans. The Sacred Lands File search did not identify any Native American cultural resources on the project site or near the project area. However, the NAHC recommended eight Native American individuals/groups be contacted. Each of the Native American individuals/groups was contacted via certified mail from March 21 to April 8, 2003. The letters discussed the project and requested information on Native American heritage resources. No responses were received from any of the Native American individuals/groups. Attempts were made to contact each entity via telephone from April 7 to April 23, 2003. None of the Native American individuals/groups that were contacted knew of any historic properties of religious and cultural significance that might be affected by this undertaking. No further Native American consultation was necessary.

Avoidance, Minimization, and/or Mitigation Measures

The I-10/Cedar Avenue Interchange project would not result in adverse impacts related to archaeological and historic resources, and no mitigation measures are required.

The standard condition below would substantially reduce the potential for impacts related to the discovery of previously unknown cultural materials and human remains during construction of the I-10/Cedar Avenue Interchange project.

If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and importance of the find.

If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the NAHC, which will then notify the Most Likely Descendant (MLD). At this time, the person who discovered the remains will contact San Bernardino County Project Manager and Caltrans District 8 Environmental Planning Branch so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

PHYSICAL ENVIRONMENT

2.8 Hydrology and Floodplain

Regulatory Setting

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

In order to comply, the following must be analyzed:

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

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

Affected Environment

The following section provides an analysis of the potential impacts of the I-10/Cedar Avenue Interchange project on hydrology and floodplains. The project is not within a 100-year floodplain, based on the FEMA Flood Insurance Rate Map. Therefore, a Floodplain Evaluation was not prepared for the project.

The Santa Ana Regional Water Quality Control Board (SARWQCB) has jurisdiction within the project limits. There are no negotiated understandings or agreements with the SARWQCB pertaining to this project. The project area is located within the Middle Santa Ana River Hydrologic Area, Chino (Split) and Riverside Hydrologic Subareas, and the Colton Rialto Hydrologic area, Colton Hydrologic Subarea. Runoff within project limits drains toward the Santa Ana River Reach 4 (between Mission Boulevard in Riverside to San Jacinto Fault in San Bernardino). The Riverside HSA boundaries roughly encompass the Cities of Riverside, Colton, Grand Terrace, and Rialto.

The receiving waters within the project limits include the existing I-10 Channel. The I-10 Channel is a reinforced concrete-lined trapezoidal channel along the north side of I-10, which drains to the San Sevaine Channel (San Bernardino County Flood Control District) west of the I-10/Riverside Avenue interchange, which then drains into Reach 4 of the Santa Ana River. Therefore, Reach 4 of the Santa Ana River is considered the downstream receiving water body.

Elevations in the project area range from approximately 1,070 to 1,100 ft above mean sea level (amsl). The I-10 Channel, a concrete-lined channel, extends east-west along the north side of I-10, from east of Sierra Avenue to Riverside Avenue. Drainage from the slopes adjacent to I-10 and from the roads in the project area discharges into the I-10 Channel. Runoff from these areas is collected by a series of catch basins along Cedar Avenue and Valley Boulevard and is conveyed to the 66-inch storm drain system in Vine Avenue. There are seven existing catch basins at various locations on Cedar Avenue and Valley Boulevard. The drainage boundary extends west to Linden Avenue and on the east to Vine Avenue. Drainage areas between Larch and Vine Avenues currently drain southwest and are collected and conveyed south by an existing 66-inch storm drain system to the I-10 Channel.

The existing slopes are 2:1 along the eastbound and westbound I-10 on- and off-ramps. These slopes are stable and consist of vegetated and hard surfaces. The vegetation includes trees and shrubs and the hard surfaces include rock gravel and rock blanket.

Groundwater accounts for approximately 70 percent of the water used in San Bernardino County, and several aquifers are located within the Riverside Basin (which includes the project site).¹ Depth of groundwater is greater than approximately 200 ft below original ground based on wells records within Township and Range T1S/R5W/Section 22. The Riverside Groundwater Basin is divided into North and South basins in northwest Riverside County and southwest San Bernardino County. Both the Riverside North and South groundwater basins are located in the central part of the Santa Ana River watershed. The Riverside North basin is San Bernardino County and its southern boundary is the county line. The Riverside North Basin is bounded to the north by the Colton-Rialto groundwater basin, from which it receives about 22,000 acre-feet of subflow annually. Maximum aquifer depth in the Riverside

¹ Inland Empire Utilities Agency Web site: www.ieua.org.

North basin ranges from approximately 600 to 700 ft, with water-bearing units comprised of sand and gravel deposits.¹ Groundwater in the subbasin is found chiefly in alluvial deposits. Quaternary age alluvial deposits in the subbasin consist of sand, gravel, silt, and clay deposited by the Santa Ana River and its tributaries.²

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) 06071C8660F, 06071C8658F, and 06071C8666F for the area and the flood hazard, the project area is not located within a 100-year floodplain. The area of the project north of I-10 is within a 500-year floodplain.

Environmental Consequences

The project involves, at a minimum, I-10 Channel modifications, which include the extension of the corrugated steel pipe (CSP) beneath Cedar Avenue or construction of a reinforced concrete box section to accommodate the Cedar Avenue widening and westbound ramps improvements. Proposed channel improvements may also be needed to accommodate deficiencies in the I-10 Channel. The catch basins on Cedar Avenue, Valley Boulevard, and Slover Avenue will need to be relocated to their ultimate locations once the streets have been widened. The spillways on Vine Street will be modified or replaced with catch basins after completion of the culvert extension.

Proposed slopes will be constructed and maintained at 1:2 or flatter. After construction, the same type of slope protection will be used as in the existing condition. Erosion associated with project operation is considered minimal given the flattened slopes and that revegetation is included as permanent BMPs. Erosion potential during construction is discussed in detail later in Section 2.9, Water Quality and Storm Water Runoff.

The project would slightly increase the velocity and volume of flow within the project limits, but should have a negligible effect on the downstream flow. Existing concrete-lined conveyance systems are in place and should not be adversely affected by the additional flow or increased flow velocity; therefore there will be no permanent BMPs.

¹ City of Riverside, Urban Water Management Plan, December 2005.

² California's Groundwater Bulletin 118, February 2004.

The No Build Alternative would not result in the construction or operation of any modified transportation facilities in the project area. Therefore, the No Build Alternative would not result in any changes in the existing volumes and quality of flows in the project area.

Avoidance, Minimization, and/or Mitigation Measures

The I-10/Cedar Avenue Interchange project would require reconstruction of existing drainage structures and construction of new storm drain facilities. A hydrology analysis is required to be prepared during final design. The hydrology analysis will be reviewed and approved by Caltrans prior to completion of PS&E. The following standard measure will prevent adverse hydrology impacts associated with the I-10/Cedar Avenue Interchange project.

- HY-1** Prior to approval of Plans, Specifications, and Estimates (PS&E), the County of San Bernardino will review and approve a final hydrology analysis. The hydrology analysis will identify any on-site structures or modifications of existing drainage facilities necessary to accommodate the project and shall indicate project contributions to the regional storm water drainage system. These improvements will be shown on the final construction plans and specifications and will show all structural best management practices (BMPs).

2.9 Water Quality and Storm Water Runoff

The following section provides an analysis of the potential impacts of the I-10/Cedar Avenue Interchange project to water quality and storm water runoff. A Water Quality Assessment Report was not prepared for this project because: (1) drainage from the site does not flow directly into an impaired water body, and (2) the project does not involve a substantial change in land use. Water quality impacts as a result of the interchange improvements are evaluated in this section.

Regulatory Setting

Federal Requirements: Clean Water Act

In 1972, the Federal Water Pollution Control Act was amended, making the discharge of pollutants to the waters of the United States from any point source unlawful, unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. Known today as the Clean Water Act (CWA), Congress has amended it several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. Important CWA sections are:

- Sections 303 and 304 require states to promulgate water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity, which may result in a discharge to waters of the U.S. to obtain certification from the state that the discharge will comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).
- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Boards (RWQCB) administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and municipal separate storm sewer systems (MS4s).
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the United States. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

The objective of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”

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

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

State Requirements: Porter-Cologne Water Quality Control Act (California Water Code)

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

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

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

State Water Resources Control Board and Regional Water Quality Control Boards

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

National Pollution Discharge Elimination System (NPDES) Program

Municipal Separate Storm Sewer Systems (MS4)

Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of storm water discharges, including Municipal Separate Storm Sewer Systems (MS4s). The U.S. EPA defines an MS4 as “any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water,

that are designed or used for collecting or conveying storm water.” The SWRCB has identified Caltrans as an owner/operator of an MS4 pursuant to federal regulations. The Caltrans MS4 permit covers all Caltrans rights-of-way, properties, facilities, and activities in the state. The SWRCB or the RWQCB issues NPDES permits for five years, and permit requirements remain active until a new permit has been adopted.

The Caltrans MS4 Permit, under revision at the time of this update, contains three basic requirements:

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

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

Construction General Permit

Construction General Permit (Order No. 2009-009-DWQ), adopted on September 2, 2009, became effective on July 1, 2010. The permit regulates storm water discharges from construction sites which result in a Disturbed Soil Area (DSA) of one acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where

clearing, grading, and excavation results in soil disturbance of at least one acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop storm water pollution prevention plans; to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The 2009 Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters. Requirements apply according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring, and before construction and after construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective Storm Water Pollution Prevention Plan (SWPPP). In accordance with the Caltrans Standard Specifications, a Water Pollution Control Plan (WPCP) is necessary for projects with DSA less than one acre.

Section 401 Permitting

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

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

Affected Environment

Surface Water

As described earlier in Section 2.8, Hydrology & Floodplain, the project area is located in the Middle Santa Ana River (Split) Hydrologic Area (watershed), in the Riverside Hydrologic Subarea (HSA), meaning that runoff drains toward the middle segment of the Santa Ana River.

The receiving waters within the project limits include the existing I-10 Channel. The I-10 Channel is an existing reinforced concrete-lined trapezoidal channel along the north side of I-10, which drains to the San Sevaine Channel (San Bernardino County Flood Control District) west of the I-10/Riverside Avenue interchange, which then drains into the Santa Ana River Reach 4. Runoff from the project area is collected by a series of catch basins along Cedar Avenue and Valley Boulevard and is conveyed to the 66-inch storm drain system in Vine Avenue. There are seven existing catch basins at various locations on Cedar Avenue and Valley Boulevard. The drainage boundary extends west to Linden Avenue and on the east to Vine Avenue. Drainage areas between Larch and Vine Avenues currently drain southwest and are collected and conveyed south by an existing 66-inch storm drain system to the I-10 Channel.

Beneficial Uses

The project is within the Santa Ana RWQCB, Region 8. Beneficial uses of water are defined in the Santa Ana RWQCB's *Water Quality Control Plan for the Santa Ana River* (Basin Plan, January 1995, updated February 2008) as those necessary for the survival or well-being of humans, plants, and wildlife. Examples of beneficial uses include drinking water supplies, swimming, industrial and agricultural water supply, and the support of freshwater and marine habitats and their organisms.

According to the Basin Plan, there are no beneficial uses for the I-10 Channel. The Santa Ana RWQCB has designated the following beneficial uses for this Reach 4 of the Santa Ana River:

- **Groundwater Recharge (GWR):** Includes uses of water for natural or artificial recharge of groundwater. Groundwater recharge areas are used for several purposes such as future extraction, maintaining water quality, or halting saltwater intrusion into freshwater aquifers.
- **Contact Water Recreation (REC-1):** Includes uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include but are not limited to swimming, wading,

waterskiing, skin diving, scuba diving, surfing, whitewater activities, fishing, and use of natural hot springs.

- **Noncontact Water Recreation (REC-2):** Includes the uses of water for recreational activities involving proximity to water, but not normally involving body contact with water where ingestion of water is reasonably possible. These uses include but are not limited to picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, and aesthetic enjoyment in conjunction with the above activities.
- **Wildlife Habitat (WILD):** Includes uses of water that support terrestrial ecosystems, including but not limited to preservation and enhancement of terrestrial habitats, vegetation, wildlife (i.e., mammals, birds, reptiles, amphibians, and invertebrates), and wildlife water and food sources.
- **Warm Freshwater Habitat (WARM):** Waters support warm water ecosystems that may include but are not limited to preservation and enhancement of aquatic habitats, vegetation, fish, and wildlife, including invertebrates.
- **Spawning, Reproduction and Development (SPWN):** Waters support high quality aquatic habitats necessary for reproduction and early development of fish and wildlife.

Surface Water Quality Objectives

As required by the Porter-Cologne Act, the Santa Ana RWQCB has developed water quality objectives for waters within its jurisdiction to protect the beneficial uses of those waters and has published them in the Basin Plan. The Basin Plan also establishes implementation programs to achieve these water quality objectives and requires monitoring to evaluate the effectiveness of these programs. Water quality objectives must comply with the State antidegradation policy (State Board Resolution No. 68-16), which is designed to maintain high-quality waters while allowing some flexibility if beneficial uses are not unreasonably affected.

Surface water quality objectives as designated in the Basin Plan for all inland waters in the region are listed in Table 2.9.1. The Santa Ana River, Reach 4, has the following site-specific numeric water quality objectives as designated in the Basin Plan:

- **Total Dissolved Solids:** 550 mg/L
- **Total Inorganic Nitrogen:** 10 mg/L
- **Chemical Oxygen Demand:** 30 mg/L
- **Ammonia:** 0.098 mg/L NH₃-N

- **Cadmium:** 4 micrograms/liter ($\mu\text{g/L}$)
- **Copper:** 37 $\mu\text{g/L}$
- **Lead:** 4.1 $\mu\text{g/L}$

Water Quality Impairments

The SWRCB approved the 2010 Integrated Report (Clean Water Act Section 303(d) List/305(b) Report) on August 4, 2010. On November 12, 2010, the EPA approved the 2010 California 303(d) List of Water Quality Limited Segments. Reach 4 of the Santa Ana River is listed as impaired for pathogens. The potential source of pathogens impairment is listed as nonpoint sources. The proposed TMDL completion date is January 1, 2019. There are no existing TMDLs for Reach 4 of the Santa Ana River.

The project area is not located in a “high risk” area, defined as a location where spills from the State-owned ROWs, activities, or facilities can discharge directly to municipal or domestic water supply reservoirs or groundwater percolation facilities.¹

¹ Caltrans, Stormwater Management Program, District 8 Work Plan, Fiscal Year 2011-2012. April 2011.

Table 2.9.1 Surface Water Quality Objectives for Inland Surface Waters

Constituent	Concentration	Receiving Waters
Algae	Waste discharges shall not contribute to excessive algal growth in inland surface receiving waters.	All inland surface waters
Ammonia	Varies based on Ph and temperature. Ranges from 0.004 to 0.0224 mg/L un-ionized ammonia and 0.05 to 1.49 mg/L total ammonia.	COLD beneficial use designation
	Varies based on Ph and temperature. Ranges from 0.0006 to 0.0530 mg/L unionized ammonia and 0.119 to 2.27 mg/L total ammonia.	WARM beneficial use designation
Boron	Shall not exceed 0.75 mg/L as a result of controllable water quality factors.	All inland surface waters
Chlorine (residual)	Chlorine residual in wastewater discharged to inland surface waters shall not exceed 0.1 mg/L.	All inland surface waters
Coliform (fecal)	Logarithm means less than 200 organisms per 100 MI based on five or more samples per 30-day period and not more than 10 percent of the samples exceed 400 organisms per 100 MI for any 30-day period.	REC-1 beneficial use designation
	Logarithm means less than 2,000 organisms per 100 MI based on five or more samples per 30-day period and not more than 10 percent of the samples exceed 4,000 organisms per 100 MI for any 30-day period.	REC-2 beneficial use designation
Coliform (total)	Not to exceed 100 organisms per 100 MI.	MUN beneficial use designation
Color	Waste discharges shall not result in coloration of the receiving waters that causes a nuisance or adversely affects beneficial uses. The natural color of fish, shellfish or other inland surface water resources used for human consumption shall not be impaired.	All inland surface waters
Floatables	Waste discharges shall not contain floating materials, including solids, liquids, foam, or scum, that cause a nuisance or adversely affect beneficial uses.	All inland surface waters
Fluoride	Shall not exceed 0.7–1.2 mg/L as a result of controllable water quality factors depending on air temperature (refer to Basin Plan).	MUN beneficial use designation
Metals	Varies based on hardness.	All inland surface waters
Methylene blue-activated substances	Shall not exceed 0.05 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Nitrate	Shall not exceed 45 mg/L as NO ₃ or 10 mg/L as N.	MUN beneficial use designation
Oil and grease	Waste discharges shall not result in deposition of oil, grease, wax, or other materials in concentrations that result in a visible film or in coating objects in the water or that cause a nuisance or adversely affect beneficial uses.	All inland surface waters
Oxygen (dissolved)	Shall not be depressed below 5 mg/L a result of controllable water quality factors.	WARM beneficial use designation
	Shall not be depressed below 6 mg/L a result of controllable water quality factors.	COLD beneficial use designation
	Waste discharges shall not cause the median dissolved oxygen concentration to fall below 85 percent of saturation or the 95th percentile concentration or fall below 75 percent of saturation within a 30-day period.	All inland surface waters
Ph	Shall not be raised above 8.5 or depressed below 6.5 as a result of controllable water quality factors.	All inland surface waters
Radioactivity	Shall not exceed the California Code of Regulations, Title 22, standards of 5 pCi/L for combined radium-226 and radium-228, 15 pCi/L for gross alpha, 20,000 pCi/L for tritium, 8 pCi/L for strontium-90, 50 pCi/L for gross beta, and 20 pCi/L for uranium.	MUN beneficial use designation

Table 2.9.1 Surface Water Quality Objectives for Inland Surface Waters

Constituent	Concentration	Receiving Waters
Solids (suspended and settleable)	Shall not cause nuisance or adversely affect beneficial uses.	All inland surface waters
Sulfides	Shall not be increased as a result of controllable water quality factors.	All inland surface waters
Surfactants	Waste discharges shall not contain concentrations of surfactants that result in foam in the course of flow or use of the receiving water or that adversely affect aquatic life.	All inland surface waters
Taste and odor	Shall not contain taste- or odor-producing substances at concentrations that cause a nuisance or adversely affect beneficial uses.	All inland surface waters
Temperature	Shall not be raised above 90°F June through October or above 78°F during the rest of the year as a result of controllable water quality factors.	WARM beneficial use designation
	Shall not be increased by more than 5°F as a result of controllable water quality factors.	COLD beneficial use designation
Toxic substances	Shall not be discharged at levels that will bioaccumulate in aquatic resources to levels that are harmful to human health. Concentrations of toxic pollutants in the water column, sediments, or biota shall not adversely affect beneficial uses.	All inland surface waters
Turbidity	Where natural turbidity is between 0 and 50 NTU, increases shall not exceed 20 percent. Where natural turbidity is between 50 and 100 JTU, increases shall not exceed 10 NTU. Where natural turbidity is greater than 100 NTU, increases shall not exceed 10 percent.	All inland surface waters

Source: Water Quality Control Plan, Santa Ana Region, 1995 (updated February 2008).

°F = degrees Fahrenheit

Basin Plan = Santa Ana Regional Water Quality Control Board Water Quality Control Plan

COLD = Cold Freshwater Habitat

JTU = Jackson Turbidity Units

mg/L = milligrams per liter

ml = milliliters

MUN = Municipal Water Supply

N = nitrogen

NO₃ = nitrate

NTU = Nephelometric Turbidity Units

pCi/L = picocuries per liter

pH = percentage of hydrogen

REC-1 = Contact Water Recreation

REC-2 = Noncontact Water Recreation

WARM = Warm Freshwater Habitat

Groundwater

The project site is located in the Chino 3 Groundwater Management Zone, within the larger Upper Santa Ana River Management Zone. Depth to groundwater is expected at 250 to 260 ft bgs at the project site.¹ The entire Chino Groundwater Management

¹ California Department of Water Resources (DWR) Web site, http://wdl.water.ca.gov/gw/gw_data/hyd/Rpt_Hist_Data5_gw.asp?wellNumber=01S05W22M001S.

Zone is bounded on the east by the Rialto-Colton fault; on the southeast by the contact with impermeable rocks forming the Jurupa Mountains and low divides connecting the exposures. On the south the Chino Groundwater Management Zone is bounded by contact with impermeable rocks of the Puente Hills and by the Chino Fault; on the northwest by the San Jose fault; and the Cucamonga fault (Koehler 1983). The San Antonio Creek and Cucamonga Creek drain the surface of the Chino Groundwater Management Zone southward to join Santa Ana River. Annual mean precipitation ranges from 13 to 29 inches across the surface of the Chino Groundwater Management Zone and averages about 17 inches. Water bearing formations units in the Chino Subbasin includes Holocene and Upper Pleistocene alluvium.¹

Beneficial Uses

The Chino 3 Groundwater Management Zone, as designated in the Basin Plan, are as follows:

- **Municipal (MUN):** Includes uses of groundwater for community, military, municipal, or individual water supply systems.
- **Agricultural Supply (AGR):** Includes uses of groundwater for farming, horticulture, or ranching. These uses include but are not limited to irrigation, stock watering, and support of vegetation for range grazing.
- **Industrial Service Supply (IND):** Includes uses of groundwater for industrial activities that do not depend primarily on water quality such as mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, and oil well repressurization.
- **Industrial Process Supply (PROC):** Includes uses of groundwater for industrial activities that depend primarily on water quality, which include process water supply and all uses of water related to product manufacture or food preparation.

Groundwater Quality Objectives

The groundwater quality objectives for Santa Ana Region as designated in the Basin Plan are provided in Table 2.9.2.

¹ California's Groundwater Bulletin 118, Upper Santa Ana Valley Groundwater Basin, Chino Subbasin, January 20, 2006.

Table 2.9.2 Groundwater Quality Objectives for Groundwater Management Zones

Constituent	Concentration	Area
Arsenic	Shall not exceed 0.05 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Boron	Shall not exceed 0.75 mg/L as a result of controllable water quality factors.	Santa Ana Region
Chloride	Shall not exceed 500 mg/L as a result of controllable factors.	MUN beneficial use designation
Coliform (total)	Shall not exceed 2.2 organisms/100 MI median over any 7-day period as a result of controllable water quality factors.	MUN beneficial use designation
Color	Waste discharges shall not result in coloration of the receiving waters that causes a nuisance or adversely affects beneficial uses.	Santa Ana Region
Cyanide	Shall not exceed 0.2 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Fluoride	Shall not exceed 1.0 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Hardness	Shall not be increased as a result of waste discharges to levels that adversely affect beneficial uses.	MUN beneficial use designation
Oil and grease	Waste discharges shall not result in deposition of oil, grease, wax, or other materials in concentrations that cause a nuisance or adversely affect beneficial uses.	Santa Ana Region
Metals		
Barium	Shall not exceed 1.0 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Cadmium	Shall not exceed 0.01 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Chromium	Shall not exceed 0.05 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Cobalt	Shall not exceed 0.2 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Copper	Shall not exceed 1.0 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Iron	Shall not exceed 0.3 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Lead	Shall not exceed 0.05 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Manganese	Shall not exceed 0.05 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Mercury	Shall not exceed 0.002 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Selenium	Shall not exceed 0.01 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Silver	Shall not exceed 0.05 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Methylene blue-activated substances	Shall not exceed 0.05 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Ph	The pH of groundwater shall not be raised above 9 or depressed below 6 as a result of controllable water quality factors.	Santa Ana Region
Radioactivity	Shall not exceed the California Code of Regulations, Title 22, standards of 5 pCi/L for combined radium-226 and radium-228, 15 pCi/L for gross alpha, 20,000 pCi/L for tritium, 8 pCi/L for strontium-90, 50 pCi/L for gross beta, and 20 pCi/L for uranium.	MUN beneficial use designation
Sodium	Shall not exceed a sodium absorption rate of 9.	AGR beneficial use designation
Sulfate	Shall not exceed 500 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Taste and odor	Groundwater shall not contain taste- or odor-producing substances in concentrations that adversely affect beneficial uses.	Santa Ana Region
Toxic substances	All waters shall be maintained free of substances in concentrations that are toxic or that produce detrimental physiological responses in human, plant, animal, or aquatic life.	Santa Ana Region

AGR = agricultural water supply
mg/L = milligrams per liter
MI = milliliters

MUN = Municipal Water Supply
pCi/L = picocuries per liter
pH = percentage of hydrogen

The site-specific groundwater objectives for the Chino III Groundwater Management Zone are as follows:

- **Total Dissolved Solids:** 260 mg/L
- **Nitrate as Nitrogen:** 3.5 mg/L

Groundwater Quality Impairments

Groundwater in the Chino 3 Groundwater Management Zone is predominately calcium-sodium bicarbonate based. The primary water quality impairments are high concentrations of dissolved solids and nitrate.

Environmental Consequences

Short-Term Impacts During Construction

Pollutants of concern during construction include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. Each of these pollutants on its own or in combination with other pollutants can have a detrimental effect on water quality. During project-related construction activities, excavated soil would be exposed, and there would be an increased potential for soil erosion compared to existing conditions. During construction, the total disturbed area from¹ the Build Alternative 2A (Preferred Alternative) would be approximately 15.8 ac. In addition, chemicals, liquid products, and petroleum products (such as paints, solvents, and fuels), and concrete-related waste may be spilled or leaked, and have the potential to be transported off the project site in storm water runoff into receiving waters.

The project involves, at a minimum, I-10 Channel modifications, which would include the extension of the corrugated steel pipe (CSP) beneath Cedar Avenue or construction of a reinforced concrete box section to accommodate the Cedar Avenue widening and westbound ramps improvements. Proposed channel improvements may also be needed to accommodate deficiencies in the I-10 Channel. The catch basins on Cedar Avenue, Valley Boulevard, and Slover Avenue would need to be relocated to their ultimate locations once the streets have been widened. The spillways on Vine Street would be modified or replaced with catch basins after completion of the culvert extension.

¹ California's Groundwater Bulletin 118, Upper Santa Ana Valley Groundwater Basin, Chino Subbasin, January 20, 2006.

The I-10 Channel within the project area is concrete lined; therefore, erosion would not be a concern during construction at this location. However, during construction of the new reinforced concrete box section, chemicals, liquid products, petroleum products, and concrete-related waste spills would have a higher potential to impact water quality due to the vicinity of surface waters.

Under the General Construction Activity NPDES Permit, the project would be required to prepare a SWPPP and implement Construction Best Management Practices (BMPs) detailed in the SWPPP during construction activities. Construction BMPs would be designed to minimize erosion and prevent spills. When Construction BMPs are properly designed, implemented, and maintained to address pollutants of concern, as presented in Measure WQ-1 (provided below), no adverse water quality impacts would occur during construction of the project.

Dewatering may be necessary during construction. Dewatered groundwater may contain high levels of total dissolved solids, salinity, high nitrates, or other contaminants. Groundwater and any other non-storm water dewatering activities are subject to the requirements of the De Minimus Permit (Order No. R8-2009-0003). This permit requires discharges to conduct monitoring of dewatering discharges and adhere to effluent and receiving water limitations contained within the permit so that water quality of surface waters is ensured protection. Compliance with this permit and adherence to the receiving water limitations contained in the permit, as stipulated in Avoidance Measure WQ-2, would minimize water quality impacts during dewatering.

The No Build Alternative proposes no construction of transportation improvements in the project area. Therefore, the No Build Alternative would result in no short-term adverse impacts related to water quality.

Long-Term Impacts During Operation

Pollutants of concern during operation of a transportation facility include sediments, trash, petroleum products, metals, and chemicals. Alternative 2A (Preferred Alternative) would add 7.1 acres of new impervious surface area and a permanent increase in runoff. A permanent increase in runoff would increase the movement of pollutants into receiving waters.

The project would alter the land use in the project area, replacing vacant, commercial, and residential uses with transportation uses that would change the concentrations of pollutants in storm water runoff. For example, bacteria, viruses,

nutrients, and pesticides are typically higher in runoff from residential areas that have landscaping on site. Oil and grease and metals, from automobiles and machinery, are typically higher in runoff from commercial and transportation land uses. Therefore, runoff from the project would be expected to contain higher concentrations of metals and oil and grease and lower levels of bacteria, viruses, nutrients, and pesticides compared to existing conditions.

Roadway runoff in the project area is currently not treated. As part of the project, BMPs would be implemented to target constituents of concern in runoff from the project area. The Treatment BMPs would target constituents of concern from transportation facilities (sediments, trash, petroleum products, metals, and chemicals). Treatment BMP design would be finalized during the Plans, Specifications, and Estimates (PS&E) stage.

As stated above, when BMPs are implemented in accordance with NPDES Permit requirements, as stipulated in Measure WQ-3 below, operation of the project would not result in adverse impacts to water quality. Design Pollution Prevention and Treatment BMPs that address pollutants of concern would be implemented during project operation.

Under the No Build Alternative, there would not be an increase in impervious surface area or an increase in runoff. Therefore, the No Build Alternative would not result in an increase in pollutant loading. However, runoff would remain untreated.

Avoidance, Minimization, and/or Mitigation Measures

As part of Caltrans Project Delivery Storm Water Management Program described in the SWMP, selected Construction Site, Design Pollution Prevention, and Treatment BMPs would be incorporated into the final design of the I-10/Cedar Avenue Interchange project. Compliance with the standard requirements of the SWMP for potential short- and long-term impacts listed below is required as part of the construction and operation of the project.

WQ-1 During construction, the County of San Bernardino will comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) (Order No. 2009-0009-DWQ, NPDES No. CAS000002), and any subsequent permit, as they relate to construction activities for the

project. This will include submission of the Permit Registration Documents, including a Notice of Intent (NOI), risk assessment, site map, Storm Water Pollution Prevention Plan (SWPPP), annual fee, and signed certification statement to the State Water Resources Control Board (SWRCB) via the Storm Water Multi-Application and Report Tracking System (SMARTS) at least 7 days prior to the start of construction. Construction activities will not commence until a Waste Discharger Identification (WDID) number is received from the SMARTS. The SWPPP will be prepared by a Qualified SWPPP Developer (QSD); will meet the requirements of the Construction General Permit; and will identify potential pollutant sources associated with construction activities, identify non-storm water discharges, develop a water quality monitoring and sampling plan, and identify, implement, and maintain Best Management Practices (BMPs) to reduce or eliminate pollutants associated with the construction site. BMPs will include, but not be limited to, Good Housekeeping, Erosion Control, and Sediment Control BMPs. The BMPs identified in the SWPPP will be implemented during project construction. The County of San Bernardino will comply with the sampling and reporting requirements of the Construction General Permit. If required, a Rain Event Action Plan (REAP) will be prepared and implemented by a Qualified SWPPP Developer (QSP) within 48 hours prior to a rain event of 50 percent or greater probability of precipitation according to the National Oceanic and Atmospheric Administration (NOAA). The County of San Bernardino or their contractor shall also prepare and submit an Annual Report no later than September 1 of each year using the SMARTS. A Notice of Termination (NOT) will be submitted to the SWRCB within 90 days of completion of construction and stabilization of the site.

- WQ-2** The County of San Bernardino shall comply with the provisions of the General Waste Discharge Requirements for Discharges to Surface Waters that Pose and Insignificant (De Minimus) Threat to Water Quality, Order No. R8-2009-0003 NPDES No. CAG998001, as they relate to discharge of non-storm water dewatering wastes for the project. This shall include submitting to the Santa Ana Regional Water Quality Control Board a Notice of Intent at least 60 days prior to the start of construction, notification of discharge at least 5 days prior to

any planned discharges, and monitoring reports by the 30th day of each month following the monitoring period.

- WQ-3** The County of San Bernardino shall follow the procedures outlined in the *Storm Water Quality Handbooks, Project Planning and Design Guide* for implementing Design Pollution Prevention and Treatment best management practices (BMPs) for the project that address pollutants of concern. This shall include coordination with the SARWQCB with respect to feasibility, maintenance, and monitoring of treatment BMPs as set forth in Caltrans Statewide Storm Water Management Plan (SWMP).

2.10 Geology/Soils/Seismic/Topography

Regulatory Setting

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

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

Affected Environment

The analysis in this section is based on the *Geotechnical/Structures Design Report* (October 2003). The *Design Report* is on file and available for review at the County and Caltrans offices.

Climatic Conditions

The ground surface elevation in the project vicinity is approximately 1,100 ft above mean sea level. The annual rainfall ranges from about 11.18 inches to 15.7 inches, with nearly all precipitation occurring between October and May. The area has a semiarid climate with average high temperatures during the year ranging from approximately 59 to 68 degrees Fahrenheit (EF) (15 to 20 degrees Celsius [EC]) during the winter months to approximately 90 to 99EF (32 to 37EC) during the summer months. Average lows are generally above freezing in the winter months to about 59 to 68EF (15 to 20EC) in the summer months. Soil freeze/thaw conditions are not known to exist.

Regional Geology

The project site is within the Peninsular Ranges Geomorphic Province. The Province is characterized by a complex series of northwest-southeast-oriented mountain ranges

separated by similarly trending faults and extends 125 miles (mi) from the Transverse Ranges and the Los Angeles Basin south to the Mexican border and beyond. The total width of the Peninsular Ranges Province varies from 48 to 30 to 100 mi, including the offshore area. It is bounded on the east by the Colorado Desert and the south by the Gulf of California. The Peninsular Ranges Province contains extensive Cretaceous plutonic rocks intruded into older metamorphic rocks.

Locally, the site is within the Chino Basin, a deep alluvial-filled basin bounded on the north by the San Gabriel Mountains, on the south by the Jurupa and La Sierra Hills, on the west and southwest by the Puente and Chino Hills, and on the east by the San Jacinto Fault. Regional geologic maps for the area indicate that the site is underlain by Holocene alluvial fan deposits and older alluvium (Morton 1974). The depth of alluvium and depth to bedrock beneath the site is estimated to be 500 to 600 ft.

Subsurface Conditions

The project site is underlain by one soil type as described by the United States Department of Agriculture (USDA) Soil Conservation Service (SCS), the Tujunga sandy loam of the Tujunga-Soboba association. This soil is either buried beneath the existing embankment and roadway fill or has been removed by grading in the project area.

The Tujunga sandy loam is described by USDA SCS as a coarse-textured dominantly brownish soil formed on nearly level to moderately sloping terrain and very deep alluvial valley floors and is somewhat excessively and excessively drained.

Geologic Mapping

A field reconnaissance was performed based on the United States Geological Survey (USGS) 7.5-minute topographic quadrangle map for *Fontana, California*, map scale 1:24,000. Regional geologic maps reviewed for this study included the Generalized Geologic Map of Southwestern San Bernardino County, California (Morton 1974) and the Regional Geologic Map of San Andreas and Related Faults in Eastern San Gabriel Mountains, San Bernardino Mountains, San Jacinto Mountains and Vicinity, Los Angeles, San Bernardino, and Riverside Counties, California (Dibblee 1970).

A review of pertinent geologic literature, maps, and as-built plans provided by Caltrans indicates that the site is underlain by alluvial fan deposits, older alluvium, and fill soils. These units generally consist of various mixtures of sand, silt, clay, and gravel, with occasional cobbles and boulders. Bedrock is not present at the surface on or in the vicinity of the project site. The fill soils were placed during construction of

the freeway and railroad lines and are present primarily within the embankments and the eastbound I-10.

The Holocene alluvial fan deposits (Qf) in the project area consist of unconsolidated mixtures of sand, silt, and gravel that form the distal part of a broad south-sloping fan originating from the San Gabriel Mountains. The fan deposits are the most widespread alluvial unit in the project area. Pleistocene older alluvial deposits (Qoa) occur in the project area as isolated remnant units, primarily along the southern basin area. The older alluvium is similar in composition to the alluvial fan deposits, and no distinction between the two areas was made for the purposes of this project. Fine to medium-grained sandy soils observed south of the railroad crossing may be associated with the wind-blown sand deposits (Qds).

Cretaceous and older igneous (Kqd) and metamorphic rocks (Gn) are present in the Jurupa Hills south of the project area. The igneous rocks are primarily quartz diorite and the metamorphic rocks are primarily gneiss and schist.

The underlying bedrock units below the project site are at depths greater than 500 ft and therefore, are not applicable to the geotechnical and structural aspects of the I-10/Cedar Avenue Interchange project.

Existing Slopes

Existing slopes forming the northern and southern I-10 freeway embankments range up to approximately 35 ft high and lie at an overall 2:1 (horizontal:vertical [H:V]) slope gradient. As-built drawings indicate that the majority of the freeway mainline and the on- and off-ramp embankments are comprised of compacted fill. The as-built drawings indicate that the lower half of the northern freeway embankment slope may consist of native alluvial soils. Obvious signs of erosion and gross instability were not visually observed within these embankment slopes.

Embankment slopes bordering the railroad overhead bridge have a maximum height of approximately 30 ft and slope gradients ranging from 2:1 (H:V) to locally as steep as 1-1/2:1 (H:V). These slopes appear to be constructed of compacted fill. The 2:1 embankment slopes were visually observed to have no obvious signs of gross instability. Evidence of past erosion and minor surficial instability was observed on parts of the steeper 1-1/2:1 embankment slopes bordering Cedar Avenue.

The embankment slopes bordering I-10 are landscaped and are covered with trees, shrubs, and grasses. Exposed slopes bordering the railroad are generally covered with

low-lying vegetation and grasses. Detailed landscape plans will be developed during the Final Design phase of the project.

Natural Slope Stability

There are no natural slopes on the project site. Therefore, natural slope stability is not an issue for this project.

Water

Surface Water

Surface drainage flows primarily by surficial sheet flow over the existing contour of the project site and the surrounding areas. The site is not in a 100-year flood zone as shown on the FEMA Flood Hazard Map.

Groundwater

Depth to groundwater is greater than approximately 200 ft below the ground surface based on well records within Township and Range T1S/R5W/Section 22. The local and regional groundwater flow direction is to the southwest.

Fluctuations of the groundwater level, localized zones of perched water, and soil moisture content should be anticipated during and following the rainy season. Irrigation of landscaped areas can also cause local groundwater levels to fluctuate.

Regional Faulting and Seismicity

The project site is in the highly seismic southern California region within the influence of several fault systems considered to be active or potentially active. An active fault is defined as a fault that has exhibited movement within Holocene time (the last 11,000 years). A potentially active fault is defined as a fault with a history of movement within Pleistocene time (between 11,000 and 1.6 million years ago). These active and potentially active faults are capable of producing potentially damaging seismic shaking at the project site. It is also anticipated that the project site will periodically experience moderate to high ground acceleration as the result of moderate to large magnitude earthquakes. The most substantial geologic hazard to the project is the potential for moderate to severe seismic shaking, which is likely to occur during the design life of the project.

At least three major active faults, the San Jacinto, Cucamonga, and San Andreas Fault Zones, are located relatively close to the project site. Numerous other faults may also represent substantial hazards to the project site. However, these three faults are considered to potentially impact the project site with the highest peak ground

acceleration due to an MCE. No known active faults traverse the project site. No landslide potential is anticipated due to the relatively flat topography across the site.

Faults classified as active or potentially active by the state have not been identified on or in the immediate vicinity of the project site. The site is not within a designated Alquist-Priolo Earthquake Fault Zone (Hart and Bryant 1997) where a site specific fault investigation is required. In addition to the known faults, recent research indicates that blind faults (faults that apparently have not broken the surface and display little or no surface expression) may underlie the Los Angeles Basin and adjacent areas to the west. Faults of this type are thought to have been responsible for the Whittier Narrows earthquake of 1987 and the Northridge earthquake of 1994. With the current understanding of the regional tectonic setting, it is believed that blind faulting is not present under the project site vicinity.

Ground Rupture

Ground surface rupture is usually confined to the narrow surface trace of an active fault. Because no known active fault traces project toward or cross the project site, the potential for ground surface rupture is considered low.

Existing Bridge Structures

Available bridge information for the Cedar Avenue overcrossing and overhead were reviewed to obtain information regarding typical foundation types and conditions in the project area. The following information on the existing bridge foundations was obtained from the documents titled *Caltrans As-Built Plans for the Cedar Avenue Overcrossing and Overhead* (July 16, 1967), *As-Built Plans for the Cedar Avenue Overhead at the Railroad* (De Leuw, Cather and Company, July 1971), and *Caltrans Project Study Report* (October 2001).

Cedar Avenue Overcrossing (Caltrans Bridge Structure No. 54-35)

The northbound and southbound lanes of Cedar Avenue (two lanes each way with left-turn lanes at the ramp terminals) over the I-10 mainline are supported by the Cedar Avenue overcrossing bridge structure. This bridge, completed in 1967, is approximately 269 ft long and 94 ft wide. The minimum vertical clearance above the freeway mainline is approximately 26 ft on the north side of Bent No. 2.

The bridge is constructed of steel girders supported on a south abutment (Abutment No. 1), a north abutment (Abutment No. 3), and an intermediate bent (Bent No. 2). The abutments and bent are founded on spread footings. Abutment footings shown on

the as-built drawings are 5 ft wide and 1.2 ft thick. The as-built drawings indicate the bent is founded on a continuous footing measuring 5 ft wide by 109.5 ft long.

The approximate bottoms of the foundation elevations for the Cedar Avenue/I-10 bridge structure are provided in Table 2.10.1.

Table 2.10.1 Bottom of Foundation Elevations

Bridge Structure	Foundation Element	Approximate Elevation Above Mean Sea Level
Cedar Avenue/I-10 Overcrossing	Abutment 1	1,107.5 ft
	Bent 2	1,062 ft
	Abutment 3	1,103 ft

Source: *Design Report* (Kleinfelder, Inc., August 1, 2003).
ft = feet
I-10 = Interstate 10

Cedar Avenue Overhead (Bridge over Union Pacific Railroad, Caltrans Bridge Structure No. 54C-103)

The bridge over the UPRR tracks was originally completed in 1967 and included a bridge span of 70 ft in length and 94 ft wide. The bridge was constructed of concrete box girders with a south abutment (Abutment No. 1) and a north abutment (Abutment No. 2). The box girders are supported on strutted abutments measuring up to approximately 30 ft high. The wing wall retaining walls are founded on spread footings measuring up to 2.33 ft deep and 16.25 ft wide. The retaining wall footings also included a keyway up to 2 ft wide by 1 ft deep.

The as-built plans indicate the bridge over Cedar Avenue at the UPRR was extended south approximately 95.58 ft in 1971. The southward extension included a 1-1/2:1 (H:V) embankment slope on the south end, a new abutment (Abutment No. 1A) at the top of the embankment, and a series of 12 pier supports at the toe of the embankment. The original south abutment retaining wall (Abutment No. 1) was left in place as a mid-span vertical bent structure.

The new south abutment (Abutment No. 1A) is supported on 20 cast-in-drilled-hole (CIDH) piles 24 inches in diameter and up to approximately 40 ft deep. The pier supports are founded on 12 CIDH piles 24 inches in diameter and up to approximately 21 ft deep.

The approximate bottoms of the foundation elevations for the Cedar Avenue overcrossing at the UPRR are provided in Table 2.10.2.

Table 2.10.2 Bottom of Foundation Elevations

Bridge Structure	Foundation Element	Approximate Elevation Above Mean Sea Level
Cedar Avenue/Union Pacific Overhead	Abutment 1	1,084 ft
	Abutment 2	1,084 ft
	Abutment 1A CIDH Piles	1,069 ft
	Pier Supports	1,069 ft

CIDH = cast-in-drilled hole
ft = feet

Existing Retaining Walls

Existing retaining walls bordering the northern UPRR alignment were observed and range up to approximately 10 ft high. As-built drawings indicate the walls are founded on spread footings. The walls are designed for equivalent fluid weight of 36 pounds per cubic foot (toe pressure) and 27 pounds per cubic foot (heel pressure).

Environmental Consequences

Natural Landmarks and Outstanding Geological Features

There are no natural landmarks, outstanding geological features, or substantive topographic features on the project site or in the project area. No adverse impacts are anticipated, and no mitigation measures are required.

Seismic Design Parameters

Based on available boring logs from the Logs of Test Borings for the bridges crossing the Cedar Avenue interchange and the UPRR and in accordance with Table B.1 of Caltrans Seismic Design Criteria (SDC), Version 1.2 (2001), the project site is classified as Soil Profile Type D.

The project would be constructed according to seismic design parameters used for the preliminary design of the proposed structures using the California Seismic Hazard Map 1996 (Mualchin 1996) and procedures outlined in Caltrans SDC, Version 1.2 (2001), and Caltrans Guidelines for Foundation Investigations and Reports (GFIR), Version 1.2 (2002). No adverse impacts are anticipated. Implementation of Mitigation Measure G-1, provided later, would reduce potential project impacts related to seismicity.

Liquefaction and Earthquake Induced Settlement

Soil liquefaction is a phenomenon in which saturated, cohesionless soils lose their strength due to the buildup of excess pore water pressure during cyclic loading such

as that induced by earthquakes. The primary factors affecting the liquefaction potential of soil are the intensity and duration of earthquake shaking, the soil type and relative density, overburden pressures, and the depth to groundwater. Soils most susceptible to liquefaction are clean, loose, uniformly graded, fine-grained sands, and nonplastic silts that are saturated. Silty sands, under certain site conditions, may also be susceptible to liquefaction.

The potential impacts of liquefaction at the project site may include settlement of the ground surface; additional downdrag forces on foundation piles as a result of soil settlement above the liquefied layers; and reduction of shear strength of the liquefied soil, resulting in reduced load carrying capacity.

The potential for liquefaction at the project site was evaluated using existing data. Based on the soil description on as-built plans and fine contents of subsurface materials, the potential for liquefaction below the project site is low. Therefore, no adverse impacts are anticipated.

Dynamic compaction is the densification of granular soils as the result of earthquake shaking. This generally occurs in loose to medium dense sand above groundwater. The potential impact of dynamic compaction is settlement of the ground surface. Due to the density of the subsurface soils and depth to groundwater, the potential for settlement due to dynamic compaction at the project site would be low. Therefore, no adverse impacts are anticipated.

Cut Slopes

No permanent cut slopes are anticipated for the I-10/Cedar Avenue Interchange project.

Approach embankments constructed of compacted fill soils would be required for the on- and off-ramps. Per LAN Engineering's letter to Caltrans dated May 30, 2007, the slopes will need to be designed steeper than 1:4 due to restrictive existing ROW and the need to conform to the existing slope. It is anticipated that the fill slopes would be constructed at a 1:2 (H:V) inclination. The Caltrans June 1, 2007, concurrence with the 2:1 slopes is on file at Caltrans District 8. Therefore, no adverse impacts are anticipated.

Avoidance, Minimization, and/or Mitigation Measures

- G-1** During final design, the County of San Bernardino will prepare a *Final Geotechnical/Structures Design Report* for the project, refining the existing *Preliminary Design Report*. The *Final Design Report* will include detailed site testing and design recommendations based on the recommendations in the *Preliminary Design Report*. The recommendations of the *Final Design Report* will be incorporated into the final design for the project.

2.11 Paleontology

Regulatory Setting

Paleontology is the study of life in past geologic time based on fossil plants and animals. A number of federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as a part of federally authorized or funded projects. 16 United States Code (USC) 431-433 prohibits appropriating, excavating, injuring, or destroying any object of antiquity situated on federal land without the permission of the Secretary of the Department of Government having jurisdiction over the land. 23 United States Code (USC) 305 authorizes funds be appropriated and used for archeological and paleontological salvage as necessary by the highway department of any state, in compliance with 16 USC 431-433 above. 16 United States Code (USC) 470(aaa) prohibits the excavation, removal or damage of any paleontological resources located on Federal land. 23 Code of Federal Regulations (CFR) 1.9(a) states that the use of federal funds must be in conformity with federal and state law. Under California law, paleontological resources are protected by the California Environmental Quality Act.

Affected Environment

This section is based on the *Paleontology Resources Identification and Evaluation Report* (PIR/PER) (July 2008).

The Cedar Avenue interchange is shown on the USGS Fontana, California 7.5-minute topographic quadrangle (1967, photo revised 1980) in Section 22, Township 1 South, Range 5 West, San Bernardino Baseline Meridian (SBBM). Additional work associated with the interchange would also occur in portions of Sections 21, 27, and 28, and also in Township 1 South, Range 5 West, SBBM.

Paleontological Literature Review

The paleontological resources literature review was conducted using available references to identify sedimentary formations with paleontological resource sensitivity and fossil localities within the vicinity of the I-10/Cedar Avenue Interchange project. This included a review of available geologic maps and literature and a formal locality search through both the Los Angeles County and San Bernardino County Museums.

Geologic mapping (Morton, 2003; Morton and Miller, 2003) indicates that the project is located on middle Pleistocene alluvium and young (Holocene) alluvium sediments

derived from Lytle Creek. However, the literature review and locality search indicate that Pleistocene sediments old enough to contain Ice Age fossils can locally be found beginning at 3 ft below the surface (Q. Lake, personal communication to Robert Reynolds at LSA). To the west, these basin-filling sediments are truncated at the eastern edge of the Chino Hills by the Chino Fault, part of the Whittier Fault system (Rogers 1965). The Red Hill Fault and Cucamonga Fault Zone lie to the northwest. The Rialto-Colton, San Jacinto, and San Andreas faults lie to the northeast (Bortugno and Spittler 1986). The Chino Hills to the west contain fossiliferous Miocene marine and continental sediments. The sedimentary rocks in the Santa Ana Mountains to the south consist of fossiliferous early Tertiary marine sandstones and Pleistocene to Holocene alluvial deposits. The San Gabriel Mountains to the north are composed of granitic and metamorphic rocks, as are the San Bernardino Mountains to the northeast. The Jurupa Hills to the south are also composed of granitic and metamorphic rocks, including Paleozoic limestone that has metamorphosed to marble.

Pleistocene sediments cropping out at the surface and below depths of 3 ft in the western San Bernardino Basin have a high potential to contain significant, nonrenewable paleontological resources. The literature review indicated that seven paleontological resource localities are known in this part of the western San Bernardino Basin (Reynolds and Reynolds 1991). Some localities in the San Bernardino Basin include: a saber-cat (*Smilodon* sp.) that was reported 5 ft below surface, a mastodon (*Mammut* sp.) that was located approximately 3 to 4 ft below the surface, a mammoth (*Mammuthus* sp.) that was recovered from a depth of 5 ft, an Ice Age horse (*Equus* sp.) and antelope, and a giant ground sloth and camel (*Camelops* sp.) that were discovered 11 ft below surface. Specific information regarding these localities is provided in the PIR/PER (July 2008) prepared for this project. Sediments within the project disturbance limits that might have a high potential to contain important, nonrenewable paleontological resources are not visible due to previous road and interchange construction. The paleontological resources records search indicated that resource sites are known to occur in sediments in the vicinity of the project site at depths beginning as shallow as 3 ft, below the late Pleistocene-Holocene sediments (Qyf, Morton, 2003) mapped on the surface I-10/Cedar Avenue Interchange project.

The Natural History Museum of Los Angeles County (LACM) does not have any recorded localities within the project area, and the closest locality they do have (LACM 1207) is located south/southwest of the project area between Norco and

Corona within sediments similar to those that may occur below the I-10/Cedar Avenue Interchange project. Fossil deer, *Odocoileus* sp., was found at this locality.

The LACM believes that shallow excavations (no deeper than 3.3 ft) within the project area are unlikely to encounter paleontological resources, but deeper excavations (below 3.3 ft) that extend into older Quaternary deposits may contain paleontological resources and should be monitored closely to quickly and professionally recover fossil resources without impeding development. The LACM further recommends that any collected resources be placed in an accredited scientific institution.

According to the locality search from the San Bernardino County Museum (SBCM), the project area is underlain primarily by Pleistocene alluvial fan deposits with a thin veneer of Holocene fan deposits overlying Pleistocene alluvial fan deposits on the project's east and west ends. The surficial Holocene deposits have a paleontological sensitivity rating of low, while the Pleistocene sediments located over much of the project, and just beneath the surface on the east and west ends of the project, have a high paleontological sensitivity. The high sensitivity is based on the occurrence of numerous paleontological finds throughout San Bernardino and Riverside Counties. Finds include: Mammoth, mastodon, ground sloths, dire wolves, saber-tooth cats, large and small horses, camels, and bison. The SBCM's search indicates that no localities are within the project area, and the closest locality is approximately 4.0 mi away from the project area.

The paleontological resource sensitivity map from the Planning Department of San Bernardino County indicates that the project area has a potential for significant paleontological resources at depths greater than 3 ft. The literature review indicated that several paleontological resource localities are known from this part of the western San Bernardino Basin (Reynolds and Reynolds 1991, Reynolds 2004, SBCM RPLI). The documented paleontological resource localities in this area suggest that there is a high potential for important vertebrate fossils to be encountered by construction excavation below a depth of 3 ft in the San Bernardino Basin (Reynolds and Reynolds 1991, Reynolds 2004, SBCM RPLI).

Environmental Consequences

Table 2.11.1 lists the depths of excavation proposed for designated areas of the project and what types of sediment are anticipated to be encountered. Although the location of the Potential Contractor Yard is considered to be a sensitive area

containing native older Pleistocene alluvial sediments that have been known to contain paleontological resources at depths deeper than 3 ft below the surface, excavation in the Potential Contractor Yard will consist of surface grubbing and removal of vegetation and will not exceed a depth of 3 ft. In addition, the majority of the excavation activities for the project would occur in areas of existing fill or previously disturbed soils. Therefore, no impacts to paleontological resources are anticipated, and it is not necessary to prepare a Paleontological Mitigation Plan (PMP) for the project.

The No Build Alternative would not include any excavation in the project area. Therefore, the No Build Alternative would not result in adverse impacts related to paleontological resources.

Avoidance, Minimization, and/or Mitigation Measures

The I-10/Cedar Avenue Interchange project would not result in adverse impacts related to paleontological resources. Therefore, no minimization or avoidance measures are required.

Table 2.11.1 Depth of Excavations

Area of Excavation	Depth of Excavation	Type of Soils	Notes
Retaining wall along the east side of Cedar from Valley Boulevard to I-10 westbound off-ramp.	3 ft	Fill	
Retaining wall along the east side of Cedar from Valley Boulevard to I-10 westbound off-ramp.	3 ft	Fill	
Retaining wall along west side of Cedar from railroad crossing abutment south to new access road	3 ft	Fill	
Retaining wall along west side of Cedar from railroad crossing abutment south to new access road.	3 ft	Fill	
Retaining wall along south side of eastbound off-ramp.	3 ft	Fill	
Retaining wall along south side of eastbound on-ramp.	3 ft	Fill	
Retaining wall north side of westbound off-ramp	3 ft	Fill	
Box culvert and concrete trapezoidal channel realignment along north side of westbound off-ramp	3 ft	Fill	
Abutment walls	N/A	Fill	Excavation will not exceed depth of previous fill
Column footings located at the centerline of the I-10 freeway and extending the width of the bridge widening.	8.2 ft	Fill	
The south abutment wall (Abutment 1) will have a footing depth of 3.3 ft and 24 inches CIDH Piles to a depth of 6.5 ft.	3.3–6.5 ft	Fill	
The north abutment wall (Abutment 4)	3.3 ft	Fill	No piles
Pier 2 is located half way between Abutment 1 and Pier 3. Pier 3 marks the middle of the railroad bridge. Pier 2 has 24-inch piles along the width of the bridge.	8 ft	Depth of fill in the railroad bed is unknown	Pile will be driven to 8 feet. ¹
Pier 3 marks the middle of the railroad bridge.	1.6 ft	Depth of fill in the railroad bed is unknown	
Grubbing and vegetation removal will occur in the area of the Potential Contractor Yard.	Less than 3 ft	Native soils	Excavation will not exceed 3 ft. ²

Source: LAN Engineering 2007.

¹ There is no way to avoid potential paleontological resources with driven piles.

² Personal Communication with William Nascimento, July 11, 2008.

CIDH = cast-in-drilled hole

ft = feet

I-10 = Interstate 10

2.12 Hazardous Wastes and Materials

Regulatory Setting

Hazardous materials, including hazardous substances and wastes are regulated by many state and federal laws. Statutes govern the generation, treatment, storage and disposal of hazardous materials, substances, and waste, and also the investigation and mitigation of waste releases, air and water quality, human health and land use.

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

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

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

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

Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

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

Project-Specific Concerns

Aerially Deposited Lead

Aerially deposited lead (ADL) from past use of leaded fuels is a concern in unpaved areas adjacent to roads due to past use of leaded fuels. Lead is regulated as a toxic pollutant under the federal CWA and the Porter-Cologne Water Quality Control Acts, as well as under the federal and California safe drinking water acts.¹ The California Department of Toxic Substances Control (DTSC) Variance allows for reuse soil that may contain ADL during construction of state ROW if that soil that meets the following specifications.²

9.a.1 Lead contaminated soil containing 500 µg/L (micrograms per liter) extractible lead or less (based on a modified waste extraction test using deionized water as the extractant) and 1,411 mg/kg (milligrams per kilogram) or less total lead may be used as fill provided that this soil is placed a minimum of (5) five ft above the maximum water table elevation and covered with at least one (1) foot of nonhazardous soil.

Soil that exceeds the allowed lead concentrations in this condition 9.a.1 may still be used as fill, if it meets the concentration levels described in 9.a.2 below and other requirements of condition 9.a.2 are met.

9.a.2 Lead contaminated soil containing less than 50 mg/L extractible lead (based on a modified waste extraction test using deionized water as the extractant) and 3,397 mg/kg or less total lead may be used as fill provided that this soil is placed a minimum of (5) five ft above the maximum water table elevation and

¹ LaGrega et al. Principals of Hazardous Material Management. 1994.

² DTSC Letter. Caltrans Lead Contaminated Soil Variance Modification, District 8, Second Modification, September 12, 2003.

protected from infiltration by a pavement structure which will be maintained by Caltrans.”

Asbestos-Containing Materials and Lead-Based Paint

New uses of asbestos-containing materials (ACM) were banned by the United States EPA in 1989. Revisions to regulations issued by the Occupational Safety & Health Administration (OSHA; June 30, 1995) require that all thermal system insulation, surfacing materials, and resilient flooring materials installed prior to 1981 be considered presumed asbestos-containing materials (PAC) and treated accordingly. As described in the ISA, other common sources of ACM include cement pipe and sheeting; brake shoes and clutch discs on autos; plaster, stucco, drywall, and joint compound; pipe insulation; roofing felts and mastics; acoustic ceiling material; fireproofing material in high-rise buildings; window putty; block insulation; and duct wrap.¹ ACM have also been documented in the rail shim sheet packing, bearing pads, support piers, and expansion joint material of bridges, as well as asphalt and concrete.² To rebut the designation as PAC, OSHA requires that these materials be surveyed, sampled, and assessed in accordance with 40 CFR 763 (AHERA).

Lead was historically added to paint to make it more durable. Buildings and other structures built before 1950 are very likely to contain lead-based paint (LBP). The federal government banned the use of LBP in residential structures in 1978. Therefore, structures built before 1978 are generally considered to potentially contain LBP unless proven otherwise through sampling and analysis.³

Pavement-Marking Materials

Yellow traffic stripe and pavement-marking materials (paint, thermoplastic, permanent tape, and temporary tape) contain metals such as chromium and lead. As described in Caltrans Standard Specifications, Remove Traffic Stripe and Pavement Marking (SSP XE 15-300, July 1999), these materials may exceed hazardous waste

¹ DTSC Letter. Caltrans Lead Contaminated Soil Variance Modification, District 8. December 13, 2002.

² E-mail from Rosanna Roa, Hazardous Waste Coordinator, California Department of Transportation, District 8, March 1, 2001.

³ www.epa.gov. Accessed January 23, 2006.

criteria under Title 22, California Code of Regulations, and require disposal at a Class I or II disposal site.

Affected Environment

A Hazardous Waste Initial Site Assessment (ISA) (June 2006), *ISA Update Memorandum* (June 2012), Aerially Deposited Lead Investigation Report (ADL Report) (March 2008) and Asbestos and Lead-Based Paint Survey (ALBPS) (January 2008) were prepared for the project. The ISA and the ISA Update Memorandum are on file and available for review at the County of San Bernardino Department of Public Works and the Bloomington Branch Library.

The ISA was prepared to determine whether the project could be affected by any recorded or visible hazardous waste problems. The ISA included the following:

- A search of government records was conducted to obtain a listing of properties or known incidents from state or federal databases for hazardous waste sites within the project area
- A site survey was conducted (from available public ROW) to identify any visible potential contamination
- A visual review of historical aerial photographs was conducted to identify previous land uses.

The information provided within the ISA is limited to the information currently available through FirstSearch's records searches and observations made during the visual site survey. The findings are valid as of June 2012. However, changes in site conditions can occur with the passage of time, whether due to natural processes or human intervention on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge.

Groundwater

The California Department of Water Resources (DWR) maintains a groundwater well in the project vicinity.¹ The depth to the groundwater in this well ranges from approximately 240 to 250 ft below ground surface (bgs). When the ground surface

¹ California Department of Water Resources (DWR) Web site, http://wdl.water.ca.gov/gw/gw_data/hyd/Rpt_Hist_Data5_gw.asp?wellNumber=01S05W22M001S.

elevation of the well (1,090 ft) is compared with the ground surface elevations of the project area (1,100 ft), depth to groundwater is expected at 250 to 260 ft bgs at the project site. Regional groundwater is anticipated to flow south consistent with the topographic gradient.

Records Search

The records search (completed for a 0.25 mi radius around the project site) identified several hazardous releases in the vicinity of the project site, as shown on Figure 2.12-1 and as described in Table 2.12.1. These included three instances of leaking underground storage tanks (LUST) and six spills of hazardous substances. All three LUST cases were closed. Based on the information obtained from the records search, including four recorded releases of hazardous materials within 0.10 mi of the project site (ISA Update 2012) and six recorded spills of hazardous materials at the adjacent West Colton Railyard (ISA 2006), there is a potential for unrecorded, illegal dumping or contamination of groundwater in the project vicinity.

Historical Aerial Photographs

A review of aerial photographs indicated that historical uses of the project site were primarily agricultural until approximately 1966. Major road alignments have been in place in the area since 1938 and include but are not limited to Cedar Avenue, I-10, and Slover Avenue. After 1966, transportation facilities and commercial and residential uses began to dominate the area. Undisturbed vacant parcels with historic agricultural uses may be affected by previous pesticide use. Dichloro-diphenyl-trichloroethane (DDT) was a common pesticide used on orchards and crops and is listed by the EPA as a toxin and a probable human carcinogen.

Soils in unpaved areas adjacent to roads may contain ADL from past use of leaded vehicle fuels. Land uses adjacent to the project site consist predominantly of residential and commercial uses, including three gasoline stations at the intersection of Cedar Avenue and Valley Boulevard. Debris and evidence of former structures were observed on vacant parcels in the southwest and southeast quadrants of the interchange.

ACM have been documented in some building materials used prior to 1981 as well as in rail shim sheet backing, bearing pads, support piers and expansion joint materials of bridges, and in concrete and asphalt.

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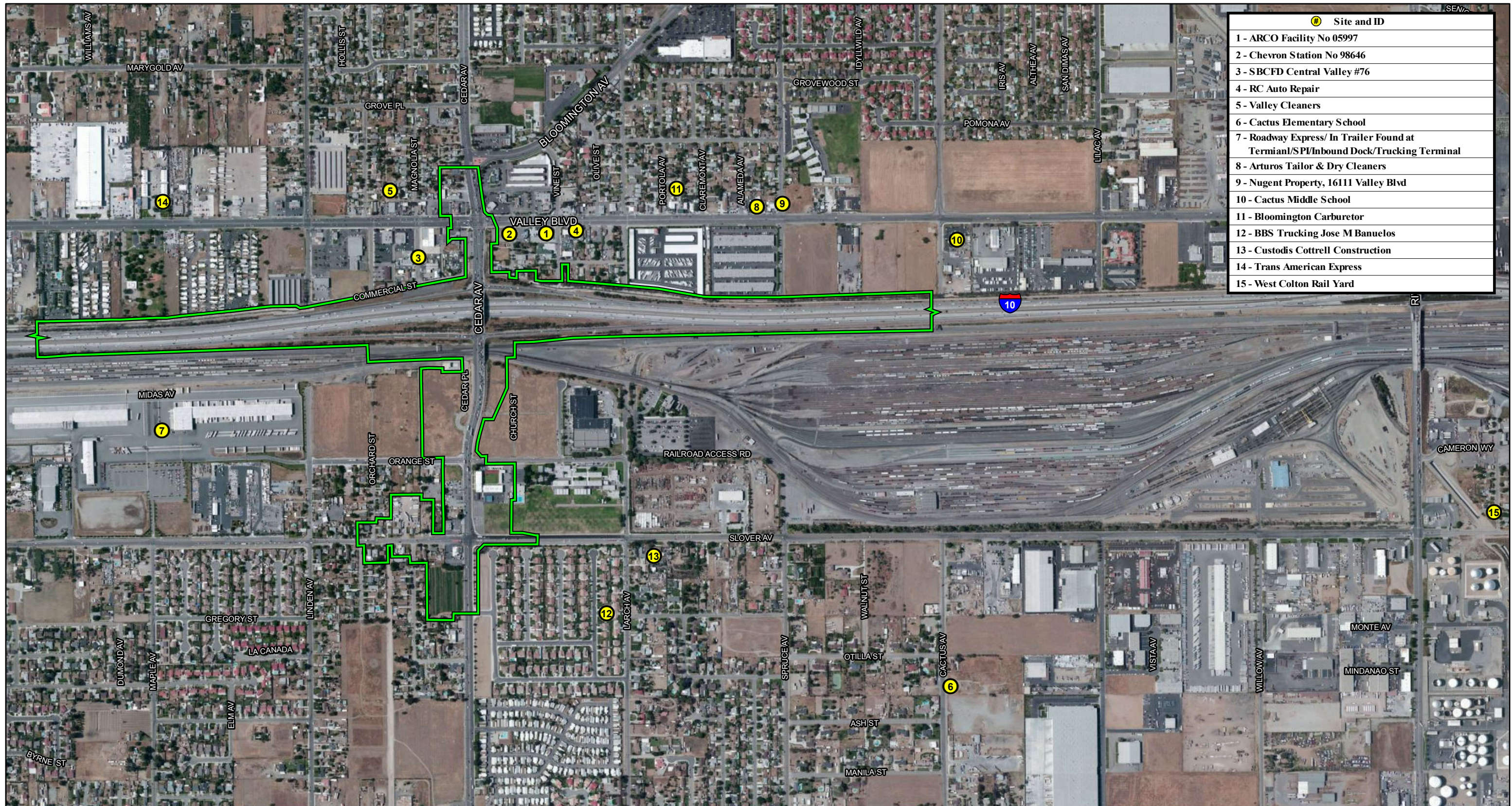



FIGURE 2.12-1

LEGEND

 Project Location



0 390 780
FEET

Note: The sites plotted on Figure 2 are based on available information provided in the FirstSearch Database Report. Most of the sites on the Figure were identified by address. However, one release site that was plotted on the Figure is based on approximate intersection information because no address was available. Therefore, there is no way of identifying the exact location of the release for this site.

SOURCE: TBM (2008)

I:\lm230\gis\HazardSites.mxd (6/4/2012)

I-10 / Cedar Avenue Interchange

Hazardous Releases

08-SBD-10 P.M. 17.8/19.3

EA# 1A8300

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Table 2.12.1 Hazardous Releases

Map ID No.	Address, Distance from Subject Site	Database	Status
1.	ARCO Facility No 05997 18792 Valley Blvd (0.09 mile northeast of the project site)	RCRAGN RCRANLR	The facility is listed as a gas station facility, and the status is listed as "SGN," Small Quantity Generator and "NLR," No Longer Reporting. No violation or improper activity was reported. No other information is provided. Based on the database types and status, it is unlikely that this site will pose a concern during construction of the project.
2.	Chevron Station No 98646 18745 Valley Blvd (0.02 mile northeast of the project site)	RCRAGN RCRANLR LUST	The facility is listed as a gas station facility, and the status is listed as "SGN," Small Quantity Generator and "NLR," No Longer Reporting. A leaking underground storage tank (LUST) was also discovered, containing gasoline. The leak from the LUST impacted soil only. The case was closed as of June 24, 1997. Based on this information, it is unlikely that this site will pose a concern during construction of the project.
3.	SBCFD Central Valley No. 76 10174 Magnolia St (0.03 mile northwest of the project site)	LUST	A LUST was discovered on March 5, 1997. The LUST contained diesel fuel and impacted soil only. The case was closed as of November 13, 1997, and no further information was received. Based on this information, it is unlikely that this site will pose a concern during construction of the project.
4.	RC Auto Repair 18855 Valley Blvd (0.05 mile northeast of the project site)	ERNS	The facility is listed as an auto repair facility, and the status is listed as "Fixed Facility." A waste oil spill was reported on February 10, 1993. No water or land was impacted. No other information is available at this time. Based on the distance from the site and its cross-gradient location, it is unlikely that this facility will pose a concern during construction of the project.
5.	Valley Cleaners 18610 Valley Blvd (0.07 mile northwest of the project site)	RCRAGN	The facility is listed as a cleaner facility, and the status is listed as "SGN," Small Quantity Generator. No violation or improper activity was reported. No other information is provided. Based on the database types, status and the distance from the site, it is unlikely that this site will pose a concern during construction of the project.
6.	Cactus Elementary School 10050 Cactus Ave (0.58 mile southeast of the project site)	STATE OTHER	According to the FirstSearch database, the site is listed as "Cactus Elementary School;" however, it is also known as Cactus Joint Unified School District, Colton Joint USD- Cactus Elementary Property School Site. A site investigation of the school property was performed due to potential impacts to soils from agricultural use. As of March 16, 2005, the Department of Toxic Substances Control (DTSC) has approved the Preliminary Environmental Assessment (PEA) for this facility and determined that the facility requires "No Further Action." Based on the database types, status, and distance from the site, it is unlikely that this facility would pose a concern during construction of the project.

Table 2.12.1 Hazardous Releases

Map ID No.	Address, Distance from Subject Site	Database	Status
7.	Roadway Express/ In Trailer Found at Terminal/SPI/Inbound Dock/Trucking Terminal 18298 Slover Ave (0.10 mile southwest of the project site)	RCRAGN ERNS	<p>The facility is listed as a cleaner facility, and the status is listed as "SGN," Small Quantity Generator. No violation or improper activity was reported. No other information is provided. Based on the database types and status, it is unlikely that this site will pose a concern during construction of the project.</p> <p>On July 6, 2007, a spill of metallic mercury was reported. Cleanup was conducted by Ocean Blue. No further information is provided. Because clean up was conducted, this site is not likely to pose an environmental concern.</p> <p>On March 22, 2004, an incident was discovered. Nitric acid and ammonium biofluoride were released from a 55-gallon drum due to the drum overpressuring from the heat. The materials were absorbed and cleaned up. Because clean up was conducted, this site is not likely to pose an environmental concern.</p> <p>On September 5, 2003, a caller reported release of combustible liquid from a 2.5-gallon pail when it was punctured by a forklift. Cleanup was completed immediately. Because clean up was conducted, this site is not likely to pose an environmental concern.</p>
8.	Arturos Tailor & Dry Cleaners 19059 Valley Blvd (0.11 mile northeast of the project site)	RCRAGN	<p>The facility is listed as a cleaner facility, and the status is listed as "SGN," Small Quantity Generator. No violation or improper activity was reported. No other information is provided. Based on the database type, status, and the distance from the site, it is unlikely that this site will pose a concern during construction of the project.</p>
9.	Nugent Property 16111 Valley Blvd (0.12 mile northeast of the project site)	LUST	<p>A LUST was discovered on March 5, 1997. The LUST site contained hydrocarbons and impacted soil only. The case was closed as of May 26, 1999. Based on the current status and the distance from the site, it is unlikely that this site will pose a concern during construction of the project.</p>
10.	Cactus Middle School Valley Blvd/Cactus Ave (0.13 mile northeast of the project site)	STATE OTHER	<p>According to the FirstSearch database, the site is listed as "Cactus Middle School;" however, it is also known as Cactus Joint Unified School District, Colton Joint USD-Proposed Middle School Valley Boulevard. A site investigation of the school property was performed due to potential impacts to soils from agricultural use. As of March 16, 2005, the DTSC has approved the PEA for this facility and determined that the facility requires "No Further Action." Based on the current status, it is unlikely that this facility would pose a concern during construction of the project.</p>

Table 2.12.1 Hazardous Releases

Map ID No.	Address, Distance from Subject Site	Database	Status
11.	Bloomington Carburetor 18966 Valley Blvd B (0.14 mile northeast of the project site)	RCRAGN	The facility is listed as a body shop, and the status is listed as "SGN," Small Quantity Generator. No violation or improper activity was reported. No other information is provided. Based on the database type and status, it is unlikely that this site will pose a concern during construction of the project.
12.	BBS Trucking Jose M Banuelos 10591 Tumbleweed Dr (0.17 mile southeast of the project site)	RCRAGN	The facility is listed as a private trucking facility, and the status is listed as "Transporter." No violation or improper activity was reported. No other information is provided. Based on the database type and status, it is unlikely that this site will pose a concern during construction of the project.
13.	Custodis Cottrell Construction 10545 Larch Ave (0.18 mile southeast of the project site)	RCRAGN	The facility is listed as a construction facility, and the status is listed as "LGN," Large Quantity Generator. No violation or improper activity was reported. No other information is provided. Based on the database types, status, and distance from the site, it is unlikely that this site will pose a concern during construction of the project.
14.	Trans American Express 18324 Valley Blvd (0.18 mile northwest of the project site)	RCRAGN	The facility is listed as a private facility, and the status is listed as "SGN," Small Quantity Generator. No violation or improper activity was reported. No other information is provided. Based on the database type and status, it is unlikely that this site will pose a concern during construction of the project.
15.	West Colton Rail Yard 19700 Slover Ave (0.89 mile southeast of the project site)	RCRAGN	The status is listed as "LGN," Large Quantity Generator. No violation or improper activity was reported. No other information is provided. Based on the database type and status, it is unlikely that this site will pose a concern during construction of the project.

Source: *Environmental FirstSearch Report*. May 18, 2012.

Note: The sites plotted on Figure 2.12-1 are based on available information provided in the FirstSearch Database Report. Most of the sites on the figure were identified by address. However, release site No. 10 that was plotted on the figure is based on approximate intersection information because no address was available. Therefore, there is no way of identifying the exact location of the release for this site.

Visual Site Survey

A visual survey of the project site was conducted on May 23, 2012. Power pole-mounted electrical transformers observed within the project limits during the visual site survey may contain polychlorinated biphenyls (PCBs) if manufactured between

1929 and 1977.¹ Electrical transformers are not considered an environmental concern unless they are observed to be leaking.

Visual signs of minor ground surface staining on the project site were observed. Signs indicating the presence of an underground petroleum pipeline adjacent to Slover Avenue were noted.

Environmental Consequences

Permanent Impacts

Implementation of the project would include expansion of the existing road, ramp, and freeway areas. Hazardous materials such as lead and ACM as well as past hazardous materials spills associated with any property acquired for the project would be remediated as part of the project. The potential for hazardous materials spills that occur as a result of traffic accidents or through operation of businesses that use hazardous materials under the I-10/Cedar Avenue Interchange project would be similar to the existing condition. Therefore, substantial permanent impacts (direct or indirect) related to hazardous materials are not anticipated as a result of the I-10/Cedar Avenue Interchange project.

The No Build Alternative would not change the land use of the project area. Hazardous waste spills or leaks that occurred would be subject to remediation under pertinent regulations. A change in permanent impacts (direct or indirect) related to hazardous materials is not anticipated under the No Build Alternative.

Temporary Impacts

Direct Impacts

Temporary impacts from hazardous materials may occur during construction when existing structures and soils are disturbed, releasing toxic substances into the environment. These potential impacts would be reduced with the implementation of Mitigation Measures HW-1 to HW-9, provided later.

Aerially Deposited Lead

Construction of the project would result in the demolition of several commercial and residential structures as well as parts of existing road and overhead and overpass structures and the disruption of vacant land adjacent to the existing road, which may contain ADL.

¹ United States Environmental Protection Agency Web site www.epa.gov.

If these areas contain lead, disruption during demolition activities may release lead into the environment and would create risk of human exposure. Lead is or has been used in commercial, residential, road, and ceramic paints; in electric batteries and other devices; as a gasoline additive; for weighting; in gunshot; and for other purposes. It is recognized as toxic to human health and the environment and is widely regulated in the United States. Structures constructed prior to 1978 are presumed to contain LBP unless proven otherwise, although structures constructed after 1978 may also contain LBP. Lead is regulated as a criteria pollutant under the federal CAA. Lead is regulated as a toxic pollutant under the federal CWA and the State Porter-Cologne Water Quality Control Act, as well as under the federal and California Safe Drinking Water Acts. ADL from past use of leaded vehicle fuels is a concern in unpaved areas adjacent to roads. There is a potential for these hazardous materials to be released into the environment if not properly handled and removed for disposal. Mitigation Measures HW-1 and HW-5, provided below, would reduce potential adverse impacts related to ADL.

The ADL survey was conducted to support proposed construction of on- and off-ramp realignments (eastbound and westbound) and bridge widening at the Cedar Avenue interchange with I-10 in the City of Bloomington. All survey work was limited to the existing ROW along the outside shoulders of the frontage roads intersecting the Cedar Avenue overpass with the I-10. The objective of the survey was to evaluate lead concentrations in the subsurface soil profile within the construction zone and to make recommendations for any special handling or disposal of lead impacted soil.

21 hand-auger borings were advanced along accessible portions of the existing ROW in the proposed construction area. Each boring was advanced to an approximate depth of three feet below ground surface (bgs) unless refusal was encountered. 83 soil samples were collected from the 21 hand-auger borings at depths ranging from 0.5 to three feet bgs. All soil samples were analyzed for total lead – total threshold limit concentration (TTLC) by Environmental Protection Agency (EPA) method 6010B. TTLC ranged from 1.59 to 116 mg/kg in the samples. Based on the results, TTLCs did not exceed the California TTLC of 1,000 mg/kg in any of these samples. Total lead concentrations in 14 of the 83 samples exceeded 25 mg/kg and were analyzed by Soluble Lead (Cal WET-Citric) method. Cal WET-Citric concentrations ranged from less than 2.0 (reporting limit) to 9.60 mg/L in the samples. Based on the results, soluble lead exceeded the Soluble Threshold Limit Concentration (STLC) of 5-mg/L in two of the 14 samples. Two of the 14 samples exhibited a Cal WET-Citric concentration greater than 5-mg/L and were analyzed for soluble lead following the

Toxicity Characteristic Leaching Procedure (TCLP) extraction method. The TCLP concentrations were reported at 0.202 and 0.623 mg/L. Results were below the TCLP threshold of 5-mg/L. These two samples were also analyzed for pH. 10 undisturbed soil samples were also collected for Volatile Organic Compounds (VOC) analyses at the 1.5 to two-foot bgs depth interval. The concentrations of VOC were reported to be less than the respective laboratory reporting limits in all undisturbed soil samples.

The DTSC variance allows for reuse of materials exceeding the STLC and TCLP for lead if the soluble concentrations do not exceed 0.5 mg/L using a less rigorous extraction test that incorporates distilled water as the solvent rather than the Cal WET citric acid or TCLP acetic acid extract ant. This method is identified as the DHS modified Cal WET-DI test. 10 samples were analyzed for soluble lead using the Cal WET-DI test. All soluble lead results did not exceed 0.5 mg/L. The concentration of ADL is present in near surface soils within the proposed construction zone.

An inspection of the bridge and roadway was conducted to determine the condition of painted surfaces and random surfaces suitable for lead-based paint (LBP) sampling. Only patches of paints, most likely graffiti cover, on the bridge structure, and white and yellow road striping paint on the roadways were observed. Paint chip samples were collected from Gray Paint (graffiti cover) patches on the bridge and North and South side white roadway stripe for laboratory testing. Test results indicated that the lead content is below 0.5 percent by weight. Based on the test results, it is unlikely the site will pose a concern during construction of the project.

No other painted surfaces were observed on the Cedar Avenue Interchange Bridge during the survey.

Pavement Marking Materials

The project may require the removal and disposal of yellow traffic stripe and pavement marking materials (paint, thermoplastic, permanent tape, and temporary tape). Yellow paints made prior to 1995 may exceed hazardous waste criteria under Title 22, California Code of Regulations, and require disposal in a Class I disposal site. There is a potential for these hazardous materials to be released into the environment if not properly handled and removed for disposal. Mitigation Measure HW-2, provided below, would reduce potential adverse impacts related to these materials.

A yellow painted center divider stripe on the bridge roadway was also observed. However, the bridge was operational during the testing activities; therefore, the

yellow roadway center dividing strip was not accessible for testing. The yellow stripe was observed to be in good and intact condition. There could be up to 300 linear ft of yellow center stripe on the roadway of the Cedar Avenue Bridge. Since the yellow stripe could not be tested, it is presumed to be LBP.

No other painted surfaces were observed on the Cedar Avenue Interchange Bridge during the survey.

Asbestos

New uses of ACM were banned by the EPA in 1989. Revisions to regulations issued by OSHA (June 30, 1995) require that all thermal system insulation, surfacing materials, and resilient flooring materials installed prior to 1981 be considered PAC and treated accordingly. ACM have also been documented in the rail shim sheet packing, bearing pads, support piers, and expansion joint material of bridges, as well as asphalt and concrete.¹ To rebut the designation as PAC, OSHA requires that these materials be surveyed, sampled, and assessed in accordance with 40 CFR 763 (AHERA). There is a potential for these hazardous materials to be released into the environment if not properly handled and removed for disposal. Mitigation Measures HW-4 and HW-5, provided below, would reduce potentially adverse impacts related to ACM and PACM.

An inspection of the accessible portions of the structure was conducted to determine whether suspect ACMs were present. Representative bulk material samples were collected of suspect ACM containing materials.

ACMs were detected in the samples of guardrail post shims. Laboratory analysis indicates that the shim material contains 65 percent asbestos. The materials could be crushed by hand pressure and are therefore considered a friable ACM material. Of the all of the guardrail posts on the bridge, 21 were observed to have ACM shims, representing an estimated total area of approximately 10.5 square feet of asbestos containing material. Of the guardrail posts on the street to the north of the bridge, four were observed to have ACM shims, representing an estimated total area of approximately 2 square feet of asbestos containing material.

¹ E-mail from Rosanna Roa, Hazardous Waste Coordinator, California Department of Transportation, District 8, March 1, 2001.

PCBs

Power pole-mounted electrical transformers were observed within the project limits. PCBs were used in electrical transformers manufactured between 1929 and 1977.¹ SCE, the local electrical service provider, disclosed in a memorandum that the concentration of PCBs in 96 percent of its transformers was less than 50 parts per million (ppm). In the remaining 4 percent of SCE transformers, the concentration of PCBs is between 50 ppm and 100 ppm, well below the EPA's designation of 500 ppm as PCB-containing.² Utility companies have replaced most PCB-containing transformers over the past 20 years. None of the transformers in the project limits appeared to be leaking as observed at a distance during the site visit. Transformers would not be considered to be an environmental concern unless they are determined to be leaking. Mitigation Measure HW-6, provided below, would reduce potentially adverse impacts related to transformers.

Spills

The government records search from the 2006 ISA listed several cases of accidental spills in the West Colton Railyard. The spills included the release of hydrocarbons, sodium aluminate, sulfuric acid, and PCBs. The exact locations of the spills are not known. Soils adjacent the railroad tracks in the vicinity of the project site should be assumed to be impacted by these spills. There is a potential for these hazardous materials to be released into the environment if not properly handled and removed for disposal. Mitigation Measures HW-5, HW-7, HW-8 and HW-9, provided below, would reduce potentially adverse impacts related to previous spills in the area.

Other Materials

There is the potential to encounter previously unknown contaminants at the commercial properties to be acquired as part of Alternative 2A due to poor housekeeping, improperly stored chemicals, or past spills. If not handled properly, there is the potential for these contaminants to affect the environment. Mitigation Measures HW-7, HW-8 and HW-9, provided below, would avoid or substantially reduce the potentially adverse project impacts related to previously unknown contaminants discovered during construction.

¹ United States Environmental Protection Agency web site, <http://www.epa.gov>.

² United States Environmental Protection Agency web site, <http://www.epa.gov>.

Indirect

Indirect hazardous materials impacts to adjacent properties are possible during construction of the I-10/Cedar Avenue Interchange project through spills and release of hazardous substances into the air, soil, or groundwater. However, the mitigation measures that are required to prevent adverse direct impacts, described in the following section, would also prevent potentially adverse indirect impacts to off-site locations during construction of the project.

The No Build Alternative would not change the existing condition with respect to hazardous materials. The No Build Alternative would not result in the construction or operation of transportation improvements. Therefore, the No Build Alternative would not result in adverse impacts related to hazardous materials and wastes.

Avoidance, Minimization, and/or Mitigation Measures

The following measures are recommended prior to construction:

HW-1 As discussed above, concentrations of ADL are present in near surface soils within the proposed construction zone. Special Provision 10-1 Material Containing Lead will be followed prior to and during removal of the materials containing ADL. The Contractor shall prepare a project specific Lead Compliance Plan to prevent or minimize worker exposure to lead while handling material containing aurally deposited lead. Attention is directed to Title 8, California Code of Regulations, Section 1532.1, "Lead," for specific California Department of Industrial Relations, Division of Occupational Safety and Health (Cal-OSHA) requirements when working with lead.

The Lead Compliance Plan shall contain the elements listed in Title 8, California Code of Regulations, Section 1532.1(e)(2)(B). Before submission to the Engineer, the Lead Compliance Plan shall be approved by an Industrial Hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene. The plan shall be submitted to the Engineer for review and acceptance at least 7 days prior to beginning work in areas containing aurally deposited lead.

The Lead Compliance Plan shall include perimeter air monitoring incorporating upwind and downwind locations as shown on the plans or as approved by the Engineer. Monitoring shall be by personal air

samplers using National Institute of Safety and Health Method 7082. Sampling shall achieve a detection limit of 0.05 µg/m³ of air per day. Daily monitoring shall take place while the Contractor clears and grubs and performs earthwork operations. A single representative daily sample shall be analyzed for lead. Results shall be analyzed and provided to the Engineer within 24 hours. Average lead concentrations shall not exceed 1.5 µg/m³ of air per day. If concentrations exceed this level the Contractor shall stop work and modify the work to prevent release of lead. Monitoring shall be done under the direction of, and the data shall be reviewed by and signed by a Certified Industrial Hygienist.

The Contractor shall not work in areas containing aerially deposited lead within the project limits, unless authorized in writing by the Engineer, until the Engineer has accepted the Lead Compliance Plan.

Prior to performing work in areas containing aerially deposited lead, personnel who have no prior training, including State personnel, shall complete a safety training program provided by the Contractor. The safety training program shall meet the requirements of Title 8, California Code of Regulations, Section 1532.1, "Lead," and the Contractor's Lead Compliance Program.

HW-2

The yellow stripe was observed to be intact and in good condition during the LBP investigation; therefore, no special handling is required. However, if the presumed yellow LBP should be disturbed during future bridge work, the paint in poor/flaky condition must be removed (scraped), collected, and properly disposed of. All this work should be completed following Occupational Safety & Health Administration (OSHA) [Standards – 28CFR1926.62 App A] for workers, who will potentially be exposed to lead through inhalation, and conducted by an abatement company certified by the State of California Department of Health Services. In addition, removal of traffic striping and pavement markings shall be conducted in accordance with Caltrans Standard Special Provisions (SSPs) 14-001, 15-301, and 15-305.

- HW-3** During final design, the County of San Bernardino shall determine whether dewatering of groundwater will be necessary during construction of the project. Dewatering will require compliance with the State General Permit or an individual permit from the Santa Ana Regional Water Quality Control Board (SARWQCB), consistent with National Pollutant Discharge Elimination System (NPDES) requirements. The SARWQCB will decide which permit is applicable and whether sampling is required once it receives and reviews the Notice of Intent (NOI).
- HW-4** As discussed above, materials that contain greater than one percent asbestos were reported at guardrail post shims. Prior to and during removal of the materials containing asbestos, Special Provisions 5-1 Asbestos Containing Material and 10-1 Sampling and Removal of Asbestos Containing Materials will be followed. The Contractor shall notify the Bay Area Air Quality Management District as required by National Emission Standards for Hazardous Air Pollutants (NESHAP), 40CFR Part 61, and California Air Resources Control Board rules. A copy of the completed notification form and attachments shall be provided to the Engineer prior to submittal to the Air District. Notification shall take place a minimum of ten days prior to demolition or alteration. The Contractor shall also notify other local permitting agencies and utility companies prior to demolition or alternation. Codes and standards included within the Special Provision 5-1 will also be followed during removal and disposal of materials containing asbestos.
- Removal and management of ACM shall be performed by a contractor who is registered pursuant to Section 6501.5 of the Labor Code and certified pursuant to Section 7058.6 of the Business and Professions Code. Asbestos removal shall conform to Cal/OSHA requirements in Title 8 Section 1529 and 341. Packaging, storage, transporting, and disposing of ACM, shall conform to Title 22, Division 4.5, Chapters 11, 12 and 13 of the California Code of Regulations.
- In addition, prior to removal of the materials containing ACM, the Contractor shall prepare an Asbestos Compliance Plan (ACP) to prevent or minimize exposure to asbestos. Attention is directed to Title

8, California Code of Regulations, Construction Safety Orders, Section 5192 (b) and Section 1529, “Asbestos”, Occupational Safety and Health Guidance Manual published by the National Institute of Occupational Safety and Health (NIOSH) and the USEPA for elements of the ACP.

HW-5

At least 10 days prior to any demolition or renovation of a structure, the County of San Bernardino shall require proper notification and submittal of fees to the South Coast Air Quality Management District (SCAQMD) (refer to SCAQMD Rule 1403). Failure to do so may result in the County being cited for regulatory noncompliance. Notification would fall under Section 7-1.01F, Air Pollution Control, and Section 7-1.04, Permits and Licenses of the Standard Specifications. Contractors shall adhere to the requirements of SCAQMD Rule 1403 during renovation and demolition activities.

HW-6

For the WBS 165.10.50 (Perform Preliminary Site Investigation for Hazardous Waste) project phase, the County of San Bernardino shall ensure that any leaking utility pole-mounted transformers are considered a potential polychlorinated biphenyl (PCB) hazard unless tested and are handled accordingly. If any transformers are proposed to be disturbed or removed during construction activities, the testing for potential PCB hazards shall be conducted during Project Approval/ Environmental Document (PA/ED).

HW-7

For the WBS 165.10.50 (Perform Preliminary Site Investigation for Hazardous Waste) project phase, the County of San Bernardino shall ensure that soils adjacent to the railroad tracks that will be disturbed during construction of the project are sampled for petroleum hydrocarbons, volatile organic compounds, semi-volatile compounds, polychlorinated biphenyls (PCBs), and metals based on use and spills in this area to determine whether they require special handling and disposal. All sampling activities will occur prior to Project Approval/ Environmental Document (PA/ED).

HW-8

The potential exists for unknown hazardous contamination to be revealed during project construction. During construction, the County of San Bernardino shall ensure that for any previously unknown

hazardous waste/material encountered during construction, the procedures outlined in Caltrans Unknown Hazards Procedures are followed.

- HW-9** Prepare a site-specific Health and Safety Plan consistent with Caltrans requirements to address contact, handling, and disposal of potentially contaminated groundwater and soil. The Plan shall include:
- Identification of key personnel
 - Summary of risk assessment for workers, the community, and the environment
 - Air Monitoring Plan
 - Emergency Response Plan

2.13 Air Quality

Regulatory Setting

The Federal Clean Air Act (FCAA) as amended in 1990 is the federal law that governs air quality. The California Clean Air Act of 1988 is its companion state law. These laws, and related regulations by the United States Environmental Protection Agency (U.S. EPA) and California Air Resources Board (ARB), set standards for the quantity of pollutants that can be in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and State ambient air quality standards have been established for six transportation-related criteria pollutants that have been linked to potential health concerns. The criteria pollutants are: carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM, broken down for regulatory purposes into particles of 10 micrometers or smaller – PM₁₀ and particles of 2.5 micrometers and smaller – PM_{2.5}, lead, and sulfur dioxide (SO₂). In addition, State standards exist for visibility-reducing particles, sulfates, hydrogen sulfide (H₂S), and vinyl chloride. The NAAQS and State standards are set at a level that protects public health with a margin of safety and are subject to periodic review and revision. Both State and federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics within their general definition.

Federal and State air quality standards and regulations provide the basic scheme for project-level air quality analysis under the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). In addition to this type of environmental analysis, a parallel “Conformity” requirement under the CAA also applies.

The Federal Clean Air Act Section 176(c) prohibits the U.S. Department of Transportation (USDOT) and other Federal agencies from funding, authorizing, or approving plans, programs or projects that are not first found to conform to state Implementation Plan (SIP) for achieving the goals of Clean Air Act requirements related to the NAAQS. “Transportation Conformity” takes place on two levels: the regional—or planning and programming—level, and the project level. The project must conform at both levels to be approved. Conformity requirements apply only in nonattainment and “maintenance” (former nonattainment) areas for the NAAQS, and only for the specific NAAQS that are or were violated. U.S. EPA regulations at 40 Code of Federal Regulations (CFR) govern the conformity process.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the standards set for carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM₁₀ and PM_{2.5}), and in some areas sulfur dioxide (SO₂). California has attainment or maintenance areas for all of these transportation-related “criteria pollutants” except SO₂, and also has a nonattainment area for lead. However, lead is not currently required by the CAA to be covered in transportation conformity analysis. Regional conformity is based on Regional Transportation Plans (RTPs) and Federal Transportation Improvement Programs (FTIPs) that include all of the transportation projects planned for a region over a period of at least 20 years for the RTP) and 4 years (for the FTIP). RTP and FTIP conformity is based on use of travel demand and air quality models to determine whether or not the implementation of those projects would conform to emission budgets or other tests showing that requirements of the Clean Air Act and the SIP are met. If the conformity analysis is successful, the Metropolitan Planning Organization (MPO), Federal Highway Administration (FHWA), and Federal Transit Administration (FTA), make determinations that the RTP and FTIP are in conformity with the SIP for achieving the goals of the FCAA. Otherwise, the projects in the RTP and/or FTIP must be modified until conformity is attained. If the design concept, scope, and “open to traffic” schedule of a proposed transportation project are the same as described in the RTP and FTIP, then the project is deemed to meet regional conformity requirements for purposes of project-level analysis.

Conformity at the project-level also requires “hot spot” analysis if an area is “nonattainment” or “maintenance” for carbon monoxide (CO) and/or particulate matter (PM₁₀ or PM_{2.5}). A region is “nonattainment” if one or more of the monitoring stations in the region measures violation of the relevant standard and U.S. EPA officially designates the area nonattainment. Areas that were previously designated as nonattainment areas but subsequently meet the standard may be officially redesignated to attainment by U.S. EPA and are then called “maintenance” areas. “Hot spot” analysis is essentially the same, for technical purposes, as CO or particulate matter analysis performed for NEPA purposes. Conformity does include some specific procedural and documentation standards for projects that require a hot spot analysis. In general, projects must not cause the “hot spot”-related standard to be violated, and must not cause any increase in the number and severity of violations in nonattainment areas. If a known CO or particulate matter violation is located in the project vicinity, the project must include measures to reduce or eliminate the existing violation as well.

Affected Environment

The analysis of potential air quality impacts of the I-10/Cedar Avenue Interchange Project is based on the *Air Quality Analysis* (December 2012). The *Air Quality Analysis* is on file and available for review at the County of San Bernardino Department of Public Works and the Bloomington Branch Library.

South Coast Air Basin

The ARB coordinates and oversees the State and federal air pollution control programs in California. The ARB maintains air quality monitoring stations throughout California in conjunction with local air districts. Data collected at these stations are used by the ARB to classify air basins as attainment or nonattainment with respect to each pollutant and to monitor progress in attaining the defined NAAQS. The ARB has divided the State into 15 air basins. Substantial authority for air quality control within the air basins has been given to local air districts that regulate stationary-source emissions and develop local nonattainment plans.

Climate

The project site is located in unincorporated San Bernardino County. This area is in the South Coast Air Basin (Basin) that includes Orange County and the nondesert parts of Los Angeles, Riverside, and San Bernardino Counties. Air quality regulation in the Basin is administered by the South Coast Air Quality Management District (SCAQMD), a regional agency created for the Basin.

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

The annual average temperature (in degrees Fahrenheit [°F]) varies little throughout the Basin, ranging from the low to middle 60s. With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological station closest to the site monitoring temperature is the Fontana Kaiser Station.¹ The annual average maximum

¹ Western Regional Climatic Center, www.wrcc.dri.edu, accessed June 7, 2006.

temperature recorded at this station is 79.4°F, and the annual average minimum is 52.3°F. January is typically the coldest month in this area of the Basin.

The majority of annual rainfall in the Basin occurs between November and April. Summer rainfall is minimal and generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern portion of the Basin along the coastal side of the mountains. The climatological station closest to the site that monitors precipitation is the Fontana Kaiser Station. Average rainfall measured at this station varied from 3.65 inches in January to 0.34 inch or less between May and October, with an average annual total of 15.32 inches. Patterns in monthly and yearly rainfall totals are unpredictable due to fluctuations in the weather.

The Basin experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of the Pacific High. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. Inversion layers are important in determining O₃ formation. O₃ and its precursors will mix and react to produce higher concentrations under an inversion. The inversion will also simultaneously trap and hold directly emitted pollutants such as CO. PM₁₀ is both directly emitted and created indirectly in the atmosphere as a result of chemical reactions. Concentration levels are directly related to inversion layers due to the limitation of mixing space.

Air Pollution Constituents

Pursuant to the federal CAA of 1970, the EPA established NAAQS for six major pollutants, termed criteria pollutants. Criteria pollutants are defined as those pollutants for which the federal and state governments have established ambient air quality standards (AAQS), or criteria, for outdoor concentrations in order to protect public health. The NAAQS are two-tiered: primary, to protect public health, and secondary, to prevent degradation to the environment (e.g., impairment of visibility, damage to vegetation and property).

The six criteria pollutants are O₃, CO, particulate matter (PM₁₀ and PM_{2.5}), NO₂, SO₂, and lead.

In April 2003, the EPA was cleared by the White House Office of Management & Budget (OMB) to implement the 8-hour ground-level O₃ standard. ARB provided the

EPA with California's recommendations for 8-hour O₃ area designations on July 15, 2003. The recommendations and supporting data were an update to a report submitted to the EPA in July 2000. On December 3, 2003, the EPA published its proposed designations. EPA's proposal differs from the State's recommendations, primarily on the appropriate boundaries for several nonattainment areas. ARB responded to the EPA's proposal on February 4, 2004. On April 15, 2004, EPA announced the new nonattainment areas for the 8-hour O₃ standard. The designation and classification became effective on June 15, 2004. The Transportation Conformity requirement became effective on June 15, 2005.

The EPA proposed a PM_{2.5} implementation rule in September 2003 and made final designations in December 2004. The PM_{2.5} standard complements existing national and State AAQS that target the full range of inhalable PM₁₀.

These standards were addressed in the SIP. The primary standards for these pollutants are shown in Table 2.13.1.

Air quality monitoring stations are maintained by the local air districts and state air quality regulating agencies. Data collected at permanent monitoring stations are used by the EPA to identify regions as attainment or nonattainment, depending on whether the regions met the requirements stated in the primary NAAQS. Nonattainment areas have additional restrictions required by the EPA. In addition, different classifications of attainment, such as marginal, moderate, serious, severe, and extreme, are used to classify each air basin on a pollutant-by-pollutant basis. The classifications are used as a foundation to create air quality management strategies to improve air quality and comply with the NAAQS. The Basin's attainment status for each of the criteria pollutants is listed previously in Table 2.13.1.

Local Air Quality

The project site is within the jurisdiction of the SCAQMD. The SCAQMD maintains ambient air quality monitoring stations throughout the Basin. The Fontana Air Quality Monitoring Station (approximately 6 mi from the project site) monitors four of the six criteria pollutants: O₃, NO₂, SO₂, and particulate matter. Air quality trends identified from data collected at both air quality monitoring stations between 2009 and 2011 are listed in Table 2.13.2 and discussed below. From the ambient air quality data listed, it can be seen that CO levels are below the relevant state and federal standards. One-hour O₃ levels exceeded the

Table 2.13.1 State and Federal Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State Standard ¹	Federal Standard ¹	Principal Health and Atmospheric Effects	Typical Sources	Attainment Status	
						Federal	State
Ozone (O ₃) ²	1 hr 8 hrs 8 hrs (conformity process ³)	0.09 ppm 0.070 ppm ---	--- ⁴ 0.075 ppm ⁵ 0.08 ppm (4th highest in 3 years)	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants. Biogenic VOCs may also contribute.	Low-altitude ozone is almost entirely formed from ROG _s or VOC _s and NO _x in the presence of sunlight and heat. Major sources include motor vehicles and other mobile sources, solvent evaporation, and industrial and other combustion processes.	Extreme Nonattainment (8 hr)	Nonattainment (1 hr and 8 hr)
Carbon Monoxide (CO)	1 hr 8 hrs 8 hrs (Lake Tahoe)	20 ppm 9 ppm ⁶ 6 ppm	35 ppm 9 ppm ---	CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.	Attainment/Maintenance	Attainment
Respirable Particulate Matter (PM ₁₀) ²	24 hrs Annual	50 µg/m ³ 20 µg/m ³	150 µg/m ³ --- ²	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many aerosol and solid compounds are part of PM ₁₀ .	Dust- and fume-producing industrial and agricultural operations; combustion smoke; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources (wind-blown dust, ocean spray).	Serious Nonattainment	Nonattainment
Fine Particulate Matter (PM _{2.5}) ²	24 hrs Annual 24 hrs (conformity process ³)	--- 12 µg/m ³ ---	35 µg/m ³ 15 µg/m ³ 65 µg/m ³ (4th highest in 3 years)	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter – a toxic air contaminant – is in the PM _{2.5} size range. Many aerosol and solid compounds are part of PM _{2.5} .	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical (including photochemical) reactions involving other pollutants including NO _x , SO _x , ammonia, and ROG _s .	Nonattainment	Nonattainment

Nitrogen Dioxide (NO ₂)	1 hr	0.18 ppm	0.100 ppm/ (98th percentile over 3 years) 0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain. Part of the "NO _x " group of ozone precursors.	Motor vehicles and other mobile sources; refineries; industrial operations.	Attainment/Maintenance	Nonattainment
	Annual	0.030 ppm					
Sulfur Dioxide (SO ₂)	1 hr	0.25 ppm	0.075 ppm ⁸ (98th percentile over 3 years)	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel not used.	Attainment/Unclassified	Attainment/Unclassified
	3 hrs	---	0.5 ppm				
	24 hrs	0.04 ppm	0.14 ppm				
	Annual	---	0.030 ppm				
Lead (Pb) ⁹	Monthly	1.5 µg/m ³	---	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also a toxic air contaminant and water pollutant.	Lead-based industrial processes like battery production and smelters. Lead paint, leaded gasoline. Aerially deposited lead from gasoline may exist in soils along major roads.	Nonattainment (Los Angeles County only)	Nonattainment (Los Angeles County only)
	Quarterly	---	1.5 µg/m ³				
	Rolling 3-month average	---	0.15 µg/m ³				
Sulfate	24 hrs	25 µg/m ³	---	Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.	Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.	Attainment/Unclassified	Attainment/Unclassified
Hydrogen Sulfide (H ₂ S)	1 hr	0.03 ppm	---	Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death. Headache, nausea.	Industrial processes such as refineries and oil fields, asphalt plants, livestock operations, sewage treatment plants, and mines. Some natural sources like volcanic areas and hot springs.	Attainment/Unclassified	Attainment/Unclassified
Visibility Reducing Particles (VRP)	8 hrs	Visibility of 10 miles or more at relative humidity less than 70%	---	Reduces visibility. Produces haze. ¹⁰	See particulate matter above.	Attainment/Unclassified	Attainment/Unclassified
Vinyl Chloride ⁹	24 hrs	0.01 ppm	---	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes.	Attainment/Unclassified	Attainment/Unclassified

Source: California Air Resources Board, June 7, 2012; California Air Resources Board, Area Designations, <http://www.arb.ca.gov/deg/desig/desig.htm>, accessed December 2012.

¹ State standards are "not to exceed" unless stated otherwise. Federal standards are "not to exceed more than once a year" or as noted above.

² Annual PM₁₀ NAAQS revoked October 2006; was 50 µg/m³ (24 hr). PM_{2.5} NAAQS tightened October 2006; was 65 µg/m³. In September 2009, the U.S. EPA began reconsidering the PM_{2.5} NAAQS. The 2006 action was partially vacated by a court decision.

- ³ The 65 $\mu\text{g}/\text{m}^3$ $\text{PM}_{2.5}$ (24 hr) NAAQS was not revoked when the 35 $\mu\text{g}/\text{m}^3$ NAAQS was promulgated in 2006. Conformity requirements apply for all NAAQS, including revoked NAAQS, until emission budgets for the newer NAAQS are found adequate or SIP amendments for the newer NAAQS are completed.
- ⁴ Prior to June 2005, the 1 hr NAAQS was 0.12 ppm. The 1 hr NAAQS is still used only in 8 hr ozone early action compact areas, of which there are none in California. However, emission budgets for 1 hr ozone may still be in use in some areas where 8 hr ozone emission budgets have not been developed.
- ⁵ As of September 16, 2009, the U.S. EPA is reconsidering the 2008 8 hr ozone NAAQS (0.075 ppm). The U.S. EPA is expected to tighten the primary NAAQS to somewhere in the range of 60–70 ppb and to add a secondary NAAQS.
- ⁶ Rounding to an integer value is not allowed for the State 8 hr CO standard. Violation occurs at or above 9.05 ppm. Violation of the Federal standard occurs at 9.5 ppm due to integer rounding.
- ⁷ Final 1 hr NO_2 NAAQS published in the Federal Register on February 9, 2010, effective March 9, 2010. Initial nonattainment area designations should occur in 2012 with conformity requirements effective in 2013. Project-level hot-spot analysis requirements, while not yet required for conformity purposes, are expected.
- ⁸ The U.S. EPA finalized a 1 hr SO_2 standard of 75 ppb in June 2010.
- ⁹ The ARB has identified vinyl chloride and the particulate matter fraction of diesel exhaust as toxic air contaminants. Diesel exhaust particulate matter is part of PM_{10} and, in larger proportion, $\text{PM}_{2.5}$. Both the ARB and the U.S. EPA have identified lead and various organic compounds that are precursors to ozone and $\text{PM}_{2.5}$ as toxic air contaminants. There are no exposure criteria for adverse health effects due to toxic air contaminants, and control requirements may apply at ambient concentrations below any criteria levels specified above for these pollutants or the general categories of pollutants to which they belong. Lead NAAQS are not required to be considered in Transportation Conformity analysis.
- ¹⁰ Not related to the Regional Haze program under the FCAA, which is oriented primarily toward visibility issues in national parks and other “Class I” areas.

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

ARB = California Air Resources Board

FCCA = Federal Clean Air Act

hr, hrs = hour, hours

NAAQS = national ambient air quality standards

NO_x = oxides of nitrogen

ppb = parts per billion

ppm = parts per million

ROGs = reactive organic gases

SIP = State Implementation Plan

SO_x = oxides of sulfur

U.S. EPA = United States Environmental Protection Agency

VOCs = volatile organic compounds

Table 2.13.2 Ambient Air Quality Standards at the Fontana Air Monitoring Station

Pollutant		Standard	2009	2010	2011	
<i>Carbon Monoxide^a</i>						
Max 1-hr concentration (ppm)			2.4	2.7	1.6	
No. days exceeded:	State	> 20 ppm/1-hr	0	0	0	
	Federal	> 35 ppm/1-hr	0	0	0	
Max 8-hr concentration (ppm)			1.45	1.44	1.15	
No. days exceeded:	State	> 9.1 ppm/8-hr	0	0	0	
	Federal	> 9.5 ppm/8-hr	0	0	0	
<i>Ozone</i>						
Max 1-hr concentration (ppm)			0.142	0.143	0.144	
No. days exceeded:	State	> 0.09 ppm/1-hr	45	28	39	
<i>Ozone</i>						
Max 8-hr concentration (ppm)			0.128	0.100	0.124	
No. days exceeded:	State	> 0.070 ppm/8-hr	65	52	53	
	Federal	> 0.075 ppm/8-hr	48	33	39	
<i>Particulates (PM₁₀)</i>						
Max 24-hr concentration (ppm)			75	62	84	
No. days exceeded:	State	> 50 µg/m ³	11	6	4	
	Federal	> 150 µg/m ³	0	0	0	
<i>Particulates (PM_{2.5})</i>						
Max 24-hr concentration (ppm)			46.4	42.6	60.1	
No. days exceeded:	Federal	> 35 µg/m ³	2	2	2	
<i>Nitrogen Dioxide</i>						
Max 1-hr concentration (ppm): State			> 0.25 ppm/1-hr	0.106	0.072	0.076
No. days exceeded			0	0	0	
Annual avg. concentration (ppm)			0.024	0.023	0.021	
Standard exceeded?	State	> 0.030 ppm	No	No	No	
	Federal	> 0.053 ppm	No	No	No	

Source: EPA and ARB, 2009–2011.
 ARB = California Air Resources Board
 CO = carbon monoxide
 EPA = United States Environmental Protection Agency
 hr = hour
 µg/m³ = micrograms per cubic meter
 NO₂ = nitrogen dioxide
 O₃ = ozone
 PM₁₀ = particulate matter less than 10 microns in diameter
 PM_{2.5} = particulate matter less than 2.5 microns in diameter
 ppm = parts per million

state standard in each of the past 3 years. O₃ exceeded the state 1-hour standard from 40 to 55 times per year during the last 3 years. Eight-hour O₃ levels exceeded the federal standard in each of the past 3 years. O₃ exceeded the federal 8-hour standard from 39 to 48 times per year during the last 3 years. The PM₁₀ level in the project area exceeded the state standard from 4 to 11 days in the past 3 years and has not exceeded the federal PM₁₀ since 2007. The PM_{2.5} levels exceeded the federal standard from 2 days per year in the past three years. The NO₂, SO₂, and lead levels in the project area did not exceed the state or federal standards in the past 3 years.

Environmental Consequences

Permanent Impacts

Regional Air Quality Conformity

The project is listed in the 2012 financially constrained RTP, which was found to conform by the Southern California Association of Governments (SCAG) on April 4, 2012, and the FHWA and the FTA made a regional conformity finding on June 4, 2012. The project is also included in the financially constrained 2013 FTIP. The 2013 FTIP was determined to conform by the FHWA and the FTA on December 14, 2012 (Project ID: 1830, I-10 at Cedar Avenue between Slover and Valley—reconstruct interchange, widen from 4–6 lanes with right and left turn lanes. Add aux lane on eastbound on and off ramps). The design concept and scope of the project is consistent with the project description in the 2012 RTP and the 2013 FTIP and the open to traffic assumptions of SCAG’s regional emissions analysis.

Project-Level Air Quality Conformity

Long-term emissions would improve from the enhanced traffic flow due to the interchange improvements under the I-10/Cedar Avenue Interchange Project. The objective of the project is to lessen traffic congestion and improve public safety. The interchange improvement project is not expected to generate any additional traffic that would not already be occurring with or without the project. Therefore, no new long-term regional emissions would result from implementation of the project. The project would improve traffic movement in the project vicinity, thereby lowering the total pollutants emitted by motor vehicles.

Because the project is located in an attainment/maintenance area for federal CO standards and a nonattainment area for federal PM_{2.5} and PM₁₀ standards, a local hot-spot analysis for conformity purposes is required. Based on the results of the conformity requirement decision flow charts provided in the *Air Quality Analysis*, the I-10/Cedar Avenue Interchange Project is not expected to result in any concentrations exceeding the 1-hour or 8-hour CO concentrations. Therefore, a detailed CALINE4 CO hot-spot analysis was not required.

Carbon Monoxide Hot Spot Analysis

Caltrans has developed a Transportation Project-Level Carbon Monoxide Protocol (Protocol) (December 1997) for assessing CO impacts of transportation projects. The procedures and guidelines comply with the following regulations without imposing additional requirements: Section 176I of the 1990 CAAA, federal conformity rules,

State and local adoptions of the federal conformity rules, NEPA, and CEQA requirements (CCR title 21§1509.3[25]).

Two conformity requirement decision flow charts are provided in the Protocol and are provided as Appendix I. An explanatory discussion of the steps (as identified in Figure 1 of the Protocol, Requirements for New Projects) used to determine the conformity requirements that apply to new projects is provided below.

3.1.1 Is the project exempt from all emissions analyses? (See Table 1 of Protocol.) **NO.** The project is not exempt from all emissions analyses.

3.1.2 Is the project exempt from regional emissions analysis? (See Table 2 of Protocol.) **NO.** Although the project is an interchange reconfiguration project, it includes additional through lanes on Cedar Avenue. Therefore, it is not exempt for regional emissions analysis.

3.1.3 Is the project locally defined as regionally significant? **YES.** As mentioned above, the project will increase the number of through lanes on Cedar Avenue. Therefore, the project is potentially significant.

3.1.4 Is the project in a federal attainment area? **NO.** The project is located within an attainment/ maintenance area for the federal CO standard. Therefore, the project is subject to a regional conformity determination.

3.1.5 Are there a currently conforming RTP and TIP? **YES.**

3.1.6 Is the project included in the regional emissions analysis supporting the currently conforming RTP and TIP? **YES.** The project is included in the SCAG 2012 RTP and the 2013 FTIP (Project ID: 1830, I-10 at Cedar Avenue between Slover and Valley—reconstruct interchange, widen from 4–6 lanes with right and left turn lanes. Add aux lane on eastbound on and off ramps).

3.1.7 Has the project design concept and/or scope changed significantly from that in the regional analysis? **NO.**

3.1.9 Examine local impacts. (Proceed to Section 4.)

Section 4 of the Protocol assesses local analysis. Assessment of the project's effect on localized ambient air quality is based on analysis of CO and PM₁₀ emissions, with the focus on CO. Localized emissions of CO and PM₁₀ may increase with implementation of the project. CO is used as an indicator of a project's direct and indirect impact on local air quality because CO does not readily disperse in the local environment in cool weather when the wind is fairly still. As stated in the Protocol, the determination of project-level CO impacts should be carried out according to the Local Analysis flow chart shown in Figure 3 of the Protocol. The following discussion provides explanatory remarks for every step of the local analysis in Figure 3 of the protocol.

Level 1: Is the project in a CO nonattainment area? **NO**. The project site is located in a federal attainment/maintenance area.

Level 1 (cont.): Was the area redesignated as "attainment" after the 1990 Clean Air Act? **YES**.

Level 1 (cont.): Has "continued attainment" been verified with the local Air District, if appropriate? **YES**. The basin was designated as attainment by the EPA on June 11, 2007. (Proceed to Level 7.)

Level 7: Does the project worsen air quality? **NO**. Because the following conditions (listed in Section 4.7.1 of the CO Protocol) are not met, the project would not potentially worsen air quality.

a. The project significantly increases the percentage of vehicles operating in cold start mode. Increasing the number of vehicles operating in cold start mode by as little as 2% should be considered potentially significant.

The percentage of vehicles operating in cold start mode is the same or lower for the intersection under study compared to those used for the intersection in the attainment plan. It is assumed that all vehicles in the intersection are in a fully warmed-up mode. Therefore, this criterion is not met.

b. The project significantly increases traffic volumes. Increases in traffic volumes in excess of 5% should be considered potentially significant. Increasing the traffic volume by less than 5% may still be potentially significant if there is also a reduction in average speeds.

Based on the Supplement to Interstate 10/Cedar Avenue Interchange TOA Memorandum (AECOM, December 2012), the project would not increase the daily traffic volumes along I-10 or Cedar Avenue. The 2036 traffic volumes with and without the project are shown in Table 2.13.3. Therefore, this criterion is not met.

Table 2.13.3 2036 Traffic Volumes With and Without Project

Roadway Link	Without Project Traffic Volumes	Alternative 2A Traffic Volumes
Cedar Avenue north of Bloomington Avenue	30,000	30,000
Cedar Avenue between Bloomington Avenue and Valley Boulevard	36,500	36,500
Cedar Avenue between Valley Avenue and Westbound I-10 Ramps	52,000	52,000
Cedar Avenue between Westbound I-10 Ramps and Eastbound I-10 Ramps	43,600	43,600
Cedar Avenue between Eastbound I-10 Ramps and Orange Street	38,700	38,700
Cedar Avenue between Orange Street and Slover Avenue	35,300	35,300
Cedar Avenue South of Slover Avenue	28,400	28,400
Valley Boulevard East of Cedar Avenue	20,800	20,800

Source: *Air Quality Analysis*, LSA Associates, December 2012
I-10 = Interstate 10

- c. *The project worsens traffic flow. For uninterrupted roadway segments, a reduction in average speeds (within a range of 3 to 50 mph) should be regarded as worsening traffic flow. For intersection segments, a reduction in average speed or an increase in average delay should be considered as worsening traffic flow.*

As shown in Tables 2.13.4, and 2.13.5, the project would improve the Level of Service (LOS) at the intersections within the project area. Therefore, this criterion is not met.

The project is not expected to result in any concentrations exceeding the 1-hour or 8-hour CO standards. Therefore, a detailed CALINE4 CO hot-spot analysis was not required.

Table 2.13.4 2036 without Project Intersection Levels of Service

Intersection		AM Peak Hour			PM Peak Hour		
		V/C	Delay (sec)	LOS	V/C	Delay (sec)	LOS
1.	Cedar Avenue/Bloomington Avenue	0.60	11.0	B	0.63	8.8	A
2.	Cedar Avenue/Valley Boulevard	0.72	22.2	C	1.01	48.3	F
3.	Cedar Avenue/I-10 Westbound Ramps	0.91	25.3	C	1.01	44.2	F
4.	Cedar Avenue/I-10 Eastbound Ramps	1.21	77.7	F	1.13	61.5	F
5.	Cedar Avenue/Orange Street	0.66	6.5	A	0.76	8.2	A
6.	Cedar Avenue/Slover Avenue	0.92	34.4	C	1.06	69.2	F

Source: *Air Quality Analysis*, LSA Associates, Inc., December 2012.

I-10 = Interstate 10

LOS = level of service

sec = seconds

V/C = volume/capacity ratio

Table 2.13.5 2036 with Alternative 2A Intersection Levels of Service

Intersection		AM Peak Hour			PM Peak Hour		
		V/C	Delay (sec)	LOS	V/C	Delay (sec)	LOS
1.	Cedar Avenue/Bloomington Avenue	0.63	14.9	B	0.62	10.5	B
2.	Cedar Avenue/Valley Boulevard	0.74	25.9	C	0.74	28.4	C
3.	Cedar Avenue/I-10 Westbound Ramps	0.49	14.9	B	0.67	18.1	B
4.	Cedar Avenue/I-10 Eastbound Ramps	0.66	27.3	C	0.63	21.3	C
5.	Cedar Avenue/Orange Street	0.47	7.2	A	0.53	5.5	A
6.	Cedar Avenue/Slover Avenue	0.61	23.7	C	0.72	27.3	C

Source: *Air Quality Analysis*, LSA Associates, Inc., December 2012.

I-10 = Interstate 10

LOS = level of service

sec = seconds

V/C = volume/capacity ratio

The project is not expected to result in any concentrations exceeding the one-hour or eight-hour CO standards. Therefore, a detailed Caline4 CO hotspot analysis was not required.

Particulate Matter (PM_{10} and $PM_{2.5}$) Analyses

The project is within a nonattainment area for federal $PM_{2.5}$ and PM_{10} standards; therefore, per 40 CFR Part 93, analyses are required for conformity purposes.

However, the EPA does not require hot-spot analyses, either qualitative or quantitative, for projects that are not listed in Section 93.123(b) (1) as an air quality concern. The I-10/Cedar Avenue Interchange Project does not qualify as a project of air quality concern (POAQC) because:

- i. The project is not a new or expanded highway project. The project is an interchange reconstruction project that does not increase the capacity of I-10. This type of project improves freeway interchange operations by reducing traffic

congestion and improving merge operations. Based on the *Traffic Analysis* (October 2003, the *Supplement* to the Traffic Analysis, January 2009, and the Supplement to the Traffic Operations Analysis (December 2012), the project would increase the capacity of Cedar Avenue. However, the traffic volumes along Cedar Avenue would not exceed the 125,000 average daily trips threshold for a POAQC. In addition, as the project interchange serves a primarily residential area, the truck traffic percentage would not exceed the 8 percent threshold for POAQC. The future traffic volumes along Cedar Avenue, are shown in Table 2.13.3.

- ii. The project does not affect intersections that are at LOS D, E, or F with a substantial number of diesel vehicles. Based on the *Traffic Analysis*, the project would reduce the delay and improve the LOS at the intersections in the project vicinity. The LOS conditions in the project vicinity with and without the project are shown in Tables 2.13.4 and 2.13.5.
- iii. The project does not include the construction of a new bus or rail terminal.
- iv. The project does not expand an existing bus or rail terminal.
- v. The project is not in or affecting locations, areas, or categories of sites that are identified in the PM_{2.5} and PM₁₀ applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

The project-level fugitive dust hot-spot analysis was presented to SCAG's Transportation Conformity Working Group (TCWG) for discussion and review on July 25, 2006. Per Caltrans Headquarters policy, all nonexempt projects need to go through review by the TCWG. This project was approved and concurred upon by Interagency Consultation at the TCWG meeting as a project not having adverse impacts on air quality and meets the requirements of the CAA and 40 CFR 93.116. Therefore, the I-10/Cedar Avenue Interchange Project would not create a new, or worsen an existing, PM₁₀ or PM_{2.5} violation. The TCWG meeting notes listing the project determination have been included in Appendix H.

Federal Highway Administration Air Quality Conformity Analysis Determination

FHWA issued the required Air Quality Conformity Analysis Determination for this project on 12/20/12. In the letter, FHWA states that, based on the information provided, FHWA finds that the project-level conformity determination for the I-10 Cedar Avenue Interchange Project conforms to the State Implementation Plan (SIP) in accordance with 40 CFR Part 93. The letter from the Caltrans to FHWA requesting the Air Quality Conformity Analysis Determination and the Air Quality Conformity

Analysis Determination letter provided by FHWA are included in Appendix H of this document.

Qualitative Project-Level MSAT Discussion

In addition to the criteria air pollutants for which there are federal AAQS, the EPA also regulates air toxics. Most air toxics originate from humanmade sources, including on-road mobile sources, nonroad mobile sources (e.g., airplanes), area sources (e.g., dry cleaners), and stationary sources (e.g., factories or refineries).

Controlling air toxic emissions became a national priority with the passage of the CAA Amendments (CAAA) of 1990, whereby Congress mandated that the EPA regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in its latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources that are listed in its Integrated Risk Information System (IRIS).¹ In addition, the EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from its 1999 National Air Toxics Assessment (NATA).² These are acrolein, benzene, 1,3-butadiene, diesel particulate matter plus diesel exhaust organic gases (diesel particulate matter), formaldehyde, naphthalene, and polycyclic organic matter (POM). While the FHWA considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future EPA rules.

The 2007 EPA rule mentioned above requires controls that will dramatically decrease Mobile Source Air Toxics (MSAT) emissions through cleaner fuels and cleaner engines. According to an FHWA analysis using EPA's MOBILE6.2 model, even if vehicle activity (vehicle miles travelled [VMT]) increases by 145 percent as assumed, a combined reduction of 72 percent in the total annual emission rate for the priority MSAT is projected from 1999 to 2050, as shown in Figure 2.13-1. The projected reduction in MSAT emissions would be slightly different in California due to the use of the EMFAC2011 emission model in place of the MOBILE6.2 model.

¹ <http://www.epa.gov/ncea/iris/index.html>.

² <http://www.epa.gov/ttn/atw/nata1999/>.

Air toxics analysis is a continuing area of research. While much work has been done to assess the overall health risk of air toxics, many questions remain unanswered. In particular, the tools and techniques for assessing project-specific health outcomes as a result of lifetime MSAT exposure remain limited. These limitations impede the ability to evaluate how the potential health risks posed by MSAT exposure should be factored into project-level decision-making within the context of NEPA.

In September 2009, the FHWA issued guidance¹ to advise FHWA division offices as to when and how to analyze MSATs in the NEPA process for highways. This document is an update to the previous guidance released in February 2006. The guidance is described as interim because MSAT science is still evolving. As the science progresses, FHWA will update the guidance. This analysis follows the FHWA guidance.

Information that is Unavailable or Incomplete

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

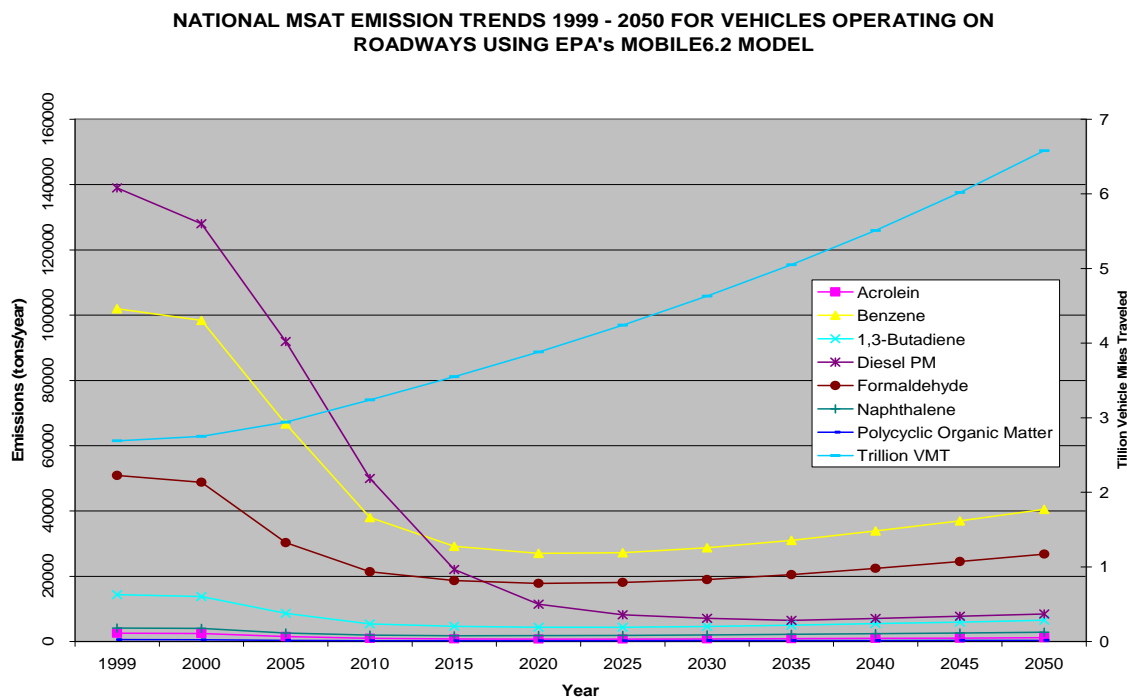
The EPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. It is the lead authority for administering the CAA and its amendments and has specific statutory obligations with respect to hazardous air pollutants and MSATs. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. It maintains IRIS, which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects."² Each report contains assessments of noncancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). Two HEI studies are

¹ <http://www.fhwa.dot.gov/environment/airtoxic/100109guidmem.htm>.

² EPA, <http://www.epa.gov/ncea/iris/index.html>.

Figure 2.13-1



summarized in Appendix D of FHWA’s Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents. Among the adverse health effects linked to MSAT compounds at high exposures are cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations¹ or in the future as vehicle emissions substantially decrease.²

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts, with each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70-year)

¹ HEI, <http://pubs.healtheffects.org/view.php?id=282>.

² HEI, <http://pubs.healtheffects.org/view.php?id=306>.

assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable. The results produced by the EPA's MOBILE6.2 model, the California EPA's EMFAC2011 model, and the EPA's DraftMOVES2009 model in forecasting MSAT emissions are highly inconsistent. Indications from the development of the MOVES model are that MOBILE6.2 significantly underestimates diesel particulate matter emissions and significantly overestimates benzene emissions.

Regarding air dispersion modeling, an extensive evaluation of EPA's guideline CAL3QHC model was conducted in a National Cooperative Highway Research Program (NCHRP) study,¹ which documents poor model performance at 10 sites across the country, 3 where intensive monitoring was conducted, plus an additional 7 with less intensive monitoring. The study indicates a bias of the CAL3QHC model to overestimate concentrations near highly congested intersections and underestimate concentrations near uncongested intersections. The consequence of this is a tendency to overstate the air quality benefits of mitigating congestion at intersections. Such poor model performance is less difficult to manage for demonstrating compliance with NAAQS for relatively short time frames than it is for forecasting individual exposure over an entire lifetime, especially given that some information needed for estimating 70-year lifetime exposure is unavailable. It is particularly difficult to reliably forecast MSAT exposure near roadways and to determine the portion of time that people are actually exposed at a specific location.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSATs because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI.² As a result, there is no national consensus on air dose response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel particulate matter. The EPA³ and the HEI⁴ have not established a

¹ EPA, http://www.epa.gov/scram001/dispersion_alt.htm#hyroad.

² <http://pubs.healtheffects.org/view.php?id=282>.

³ <http://www.epa.gov/risk/basicinformation.htm#g>.

⁴ <http://pubs.healtheffects.org/getfile.php?u=395>.

basis for quantitative risk assessment of diesel particulate matter in ambient settings.

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the CAA to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires the EPA to determine a “safe” or “acceptable” level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld the EPA’s approach to addressing risk in its two-step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than safe or acceptable.

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision-makers, who would need to weigh this information against project benefits such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, which are better suited for quantitative analysis.

Qualitative Project-Level MSAT Analysis

For each alternative in this analysis, the amount of MSAT emitted would be proportional to the VMT, assuming that other variables such as fleet mix are the same for each alternative. As shown in Table 2.13.6, the VMT estimated for each of the Build Alternatives is identical to that for the No Build Alternative. Thus, it is expected that there would be no appreciable difference in overall MSAT emissions among the various alternatives. Also, regardless of the alternative chosen, emissions will likely be lower than present levels in the design year as a result of the EPA’s national control programs, which are projected to reduce annual MSAT emissions by

72 percent between 1999 and 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

Long-Term Regional Vehicle Emission Impacts

The purpose of the project is to alleviate substantial traffic congestion and delays during the morning and afternoon peak periods and to accommodate projected future traffic volumes at the I-10/Cedar Avenue interchange. The project would not generate new vehicular traffic trips since it would not construct new homes or businesses. However, there is a possibility that some traffic currently utilizing other routes would be attracted to use the improved facility, thus resulting in increased VMT along I-10. Therefore, the potential impact of the interchange project on regional vehicle emissions was calculated using traffic data for the project region and emission rates from the EMFAC2011 emission model.

A supplemental traffic analysis (November 2012) estimated the impact that the project would have on regional VMT and vehicle hours traveled (VHT), as shown in Table 2.13.6. This VMT and VHT data, along with EMFAC2011 emission rates, were used to calculate the CO, reactive organic gases (ROGs), NO_x, SO_x, PM₁₀, and PM_{2.5} emissions for the 2016 opening year and 2036 regional conditions. The results of the modeling are summarized in Tables 2.13.7 and 2.13.8. As shown in Tables 2.13.7 and 2.13.8, when compared to the without project conditions, the project would not increase the vehicle emissions within the region. Therefore, the project would not contribute substantially to regional vehicle emissions.

Table 2.13.6 Regional Traffic Data

Scenario	VMT	VHT	Avg Speed (mph)
Existing	211,126,958	13,419,949	15.732
2016 without Project	218,041,615	13,859,468	15.732
2016 with Project	218,041,615	13,858,723	15.733
2036 without Project	258,930,448	16,458,502	15.732
2036 with Project	258,930,448	16,457,594	15.733

Source: *Air Quality Analysis*, LSA Associates, Inc., November 2012.

Avg = average

mph = miles per hour

VMT = vehicle miles traveled per day

VHT = vehicle hours traveled per day

Short-Term, Construction-Related Impacts

During construction, short-term degradation of air quality may occur due to the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other activities related to construction. Emissions from construction equipment also are anticipated and would include CO, NO_x, volatile organic

Table 2.13.7 2016 Regional Vehicle Emissions (tons/day)

Pollutant	Existing Emissions	2014 Without Project Emissions	2014 With Project Emissions	Project Increase from Existing	Project Increase from No Project
CO	863	579	579	-284	0
ROG	51	31	31	-20	0
NO _x	137	98	98	-39	0
SO _x	15	13	13	-0	0
PM ₁₀	8	6	6	-2	0
PM _{2.5}	175,500	183,777	183,777	8,277	0
CO ₂	863	579	579	-284	0

Source: *Air Quality Analysis*, LSA Associates, Inc., November 2012.

CO = carbon monoxide

CO₂ = carbon dioxide

tons/day = tons per day

gm/mile = grams per mile

NO_x = nitrogen oxide

PM_{2.5} = particulate matter less than 2.5 microns in size

PM₁₀ = particulate matter less than 10 microns in size

ROG = reactive organic gas

SO_x = sulfur oxide

Table 2.13.8 2036 Regional Vehicle Emissions (tons/day)

Pollutant	Existing Emissions	2036 Without Project Emissions	2036 With Project Emissions	Project Increase from Existing	Project Increase from No Project
CO	863	319	319	-544	0
ROG	51	17	17	-34	0
NO _x	137	51	51	-86	0
SO _x	15	16	16	1	0
PM ₁₀	8	7	7	-1	0
PM _{2.5}	175,500	221,430	221,430	45,930	0
CO ₂	863	319	319	-544	0

Source: *Air Quality Analysis*, LSA Associates, Inc., December 2012.

CO = carbon monoxide

CO₂ = carbon dioxide

tons/day = tons per day

NO_x = nitrogen oxide

PM_{2.5} = particulate matter less than 2.5 microns in size

PM₁₀ = particulate matter less than 10 microns in size

ROG = reactive organic gas

SO_x = sulfur oxide

compounds (VOCs), particulate matter, and toxic air contaminants such as diesel exhaust particulate matter. Ozone is a regional pollutant that is derived from NO_x and VOCs in the presence of sunlight and heat.

Site preparation and roadway construction would involve clearing, cut-and-fill activities, grading, removing or improving existing roadways, paving roadway surfaces and sandblasting operations for removal of striping, retaining walls, and bridge railings. Construction-related effects on air quality from most highway projects would be greatest during the site preparation phase because most engine emissions are associated with the excavation, handling, and transport of soils to and from the site. If not properly controlled, these activities would temporarily generate particulate matter and small amounts of CO, SO₂, NO_x, and VOCs. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. Particulate matter emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. Particulate matter emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of equipment operating. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

Construction activities for large development projects are estimated by the EPA to add 1.09 tonne (1.2 tons) of fugitive dust per acre of soil disturbed per month of activity. If water or other soil stabilizers are used to control dust, the emissions can be reduced by up to 50 percent. Caltrans Standard Specifications (Section 10) pertaining to dust minimization requirements requires use of water or dust-palliative compounds and will reduce potential fugitive dust emissions during construction.

In addition to dust-related particulate matter emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO₂, NO_x, VOCs and some soot particulate (PM₁₀ and PM_{2.5}) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles are delayed. These emissions would be temporary and limited to the immediate area surrounding the construction site.

SO₂ is generated by oxidation during combustion of organic sulfur compounds contained in diesel fuel. Off-road diesel fuel meeting federal standards can contain up to 5,000 parts per million (ppm) of sulfur, whereas on-road diesel is restricted to less than 15 ppm of sulfur. However, under California law and ARB regulations, off-road diesel fuel used in California must meet the same sulfur and other standards as on-road diesel fuel, so SO₂-related issues due to diesel exhaust would be minimal. Some phases of construction, particularly asphalt paving, would result in short-term odors in the immediate area of each paving site. Such odors would be quickly dispersed below detectable thresholds as distance from the site increases.

Lead Particulates

Areas near freeways may contain lead particulates deposited in prior years when most motor fuel contained lead. Construction of Alternative 2A could temporarily release airborne lead compounds during site clearing for the relocated ramps. Contractors will be required to survey the soil for lead prior to clearing.

Naturally Occurring Asbestos

The I-10/Cedar Avenue Interchange Project is in San Bernardino County, which is not among the counties listed as containing serpentine and ultramafic rock. Therefore, the impact from naturally occurring asbestos (NOA) during construction of Alternative 2A would be minimal to none.

Because the No Build Alternative does not propose any construction in the project area, it would not result in any short-term adverse impacts related to construction and dust emissions.

Avoidance, Minimization, and/or Mitigation Measures

Operation of the I-10/Cedar Avenue Interchange Project would not result in long-term adverse air quality impacts. Therefore, no avoidance, minimization, or mitigation measures are required for the operation of the project.

Construction of the I-10/Cedar Avenue Interchange Project may result in adverse short-term air quality impacts related to equipment operations and fugitive dust and vehicle emissions. The standard conditions and mitigation measures provided in the following sections would substantially reduce those potentially adverse short-term air quality impacts during construction of the project.

Standard Conditions

SCAQMD Standard Conditions

The following standard conditions identified by the SCAQMD would be implemented during construction of the I-10/Cedar Avenue Interchange Project and would avoid, substantially reduce, or minimize air pollutant emissions associated with construction activities.

- SC-1** The construction contractor will adhere to the requirements of the South Coast Air Quality Management District (SCAQMD) rules and regulations on cutback and emulsified asphalt paving materials.
- SC-2** To reduce fugitive dust emissions, the construction contractor will adhere to the requirements of South Coast Air Quality Management District (SCAQMD) Rule 403. The Best Available Control Measures (BACMs) specified in SCAQMD's Rule 403 will be incorporated into the project construction. The BACMs are listed in Table 2.13.9.

Caltrans Standard Specifications

Most of the construction impacts to air quality are short-term in duration and, therefore, will not result in adverse or long-term conditions. Implementation of the following measures would reduce any air quality impacts resulting from construction activities:

- The construction contractor shall comply with Caltrans Standard Specifications Section 7-1.01F and Section 10 of Caltrans Standard Specifications (1999).
 - Section 7, “Legal Relations and Responsibility,” addresses the contractor’s responsibility on many items of concern, such as air pollution; protection of lakes, streams, reservoirs, and other water bodies; use of pesticides; safety; sanitation; convenience of the public; and damage or injury to any person or property as a result of any construction operation. Section 7-1.01F specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.
 - Section 10 is directed at controlling dust. If dust-palliative materials other than water are to be used, material specifications are contained in Section 18.
- Apply water or dust-palliatives to the site and equipment as frequently as necessary to control fugitive dust emissions.
- Spread soil binder on any unpaved roads used for construction purposes and on all project construction parking areas.
- Wash off trucks as they leave the right-of-way (ROW) as necessary to control fugitive dust emissions.
- Properly tune and maintain construction equipment and vehicles. Use low-sulfur fuel in all construction equipment as provided in California Code of Regulations Title 17, Section 93114.

Table 2.13.9 Best Available Control Measures

Source Category	Control Measure	Guidance
Backfilling	01-1 Stabilize backfill material when not actively handling; and 01-2 Stabilize backfill material during handling; and 01-3 Stabilize soil at completion of activity.	<ul style="list-style-type: none"> Mix backfill soil with water prior to moving Dedicate water truck or high capacity hose to backfilling equipment Empty loader bucket slowly so that no dust plumes are generated Minimize drop height from loader bucket
Clearing and grubbing	02-1 Maintain stability of soil through pre-watering of site prior to clearing and grubbing; and 02-2 Stabilize soil during clearing and grubbing activities; and 02-3 Stabilize soil immediately after clearing and grubbing activities.	<ul style="list-style-type: none"> Maintain live perennial vegetation where possible Apply water in sufficient quantity to prevent generation of dust plumes
Clearing forms	03-1 Use water spray to clear forms; or 03-2 Use sweeping and water spray to clear forms; or 03-3 Use vacuum system to clear forms.	<ul style="list-style-type: none"> Use of high pressure air to clear forms may cause exceedance of Rule requirements
Crushing	04-1 Stabilize surface soils prior to operation of support equipment; and 04-2 Stabilize material after crushing.	<ul style="list-style-type: none"> Follow permit conditions for crushing equipment Pre-water material prior to loading into crusher Monitor crusher emissions opacity Apply water to crushed material to prevent dust plumes
Cut and fill	05-1 Pre-water soils prior to cut and fill activities; and 05-2 Stabilize soil during and after cut and fill activities.	<ul style="list-style-type: none"> For large sites, pre-water with sprinklers or water trucks and allow time for penetration Use water trucks/pulls to water soils to depth of cut prior to subsequent cuts
Demolition-mechanical/manual	06-1 Stabilize wind erodible surfaces to reduce dust; and 06-2 Stabilize surface soil where support equipment and vehicles will operate; and 06-3 Stabilize loose soil and demolition debris; and 06-4 Comply with AQMD Rule 1403.	<ul style="list-style-type: none"> Apply water in sufficient quantities to prevent the generation of visible dust plumes
Disturbed soil	07-1 Stabilize disturbed soil throughout the construction site; and 07-2 Stabilize disturbed soil between structures	<ul style="list-style-type: none"> Limit vehicular traffic and disturbances on soils where possible If interior block walls are planned, install as early as possible Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes
Earth-moving activities	08-1 Preapply water to depth of proposed cuts; and 08-2 Reapply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 ft in any direction; and 08-3 Stabilize soils once earth-moving activities are complete.	<ul style="list-style-type: none"> Grade each project phase separately, timed to coincide with construction phase Upwind fencing can prevent material movement on site Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes

Table 2.13.9 Best Available Control Measures

Source Category	Control Measure	Guidance
Importing/ exporting of bulk materials	09-1 Stabilize material while loading to reduce fugitive dust emissions; and 09-2 Maintain at least 6 inches of freeboard on haul vehicles; and 09-3 Stabilize material while transporting to reduce fugitive dust emissions; and 09-4 Stabilize material while unloading to reduce fugitive dust emissions; and 09-5 Comply with Vehicle Code Section 23114.	<ul style="list-style-type: none"> • Use tarps or other suitable enclosures on haul trucks • Check belly-dump truck seals regularly and remove any trapped rocks to prevent spillage • Comply with track-out prevention/mitigation requirements • Provide water while loading and unloading to reduce visible dust plumes
Landscaping	10-1 Stabilize soils, materials, slopes	<ul style="list-style-type: none"> • Apply water to materials to stabilize • Maintain materials in a crusted condition • Maintain effective cover over materials • Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slopes • Hydroseed prior to rain season
Road shoulder maintenance	11-1 Apply water to unpaved shoulders prior to clearing; and 11-2 Apply chemical dust suppressants and/or washed gravel to maintain a stabilized surface after completing road shoulder maintenance.	<ul style="list-style-type: none"> • Installation of curbing and/or paving of road shoulders can reduce recurring maintenance costs • Use of chemical dust suppressants can inhibit vegetation growth and reduce future road shoulder maintenance costs
Screening	12-1 Pre-water material prior to screening; and 12-2 Limit fugitive dust emissions to opacity and plume length standards; and 12-3 Stabilize material immediately after screening.	<ul style="list-style-type: none"> • Dedicate water truck or high capacity hose to screening operation • Drop material through the screen slowly and minimize drop height • Install wind barrier with a porosity of no more than 50 percent upwind of screen to the height of the drop point
Staging areas	13-1 Stabilize staging areas during use; and 13-2 Stabilize staging area soils at project completion.	<ul style="list-style-type: none"> • Limit size of staging area • Limit vehicle speeds to 15 miles per hour • Limit number and size of staging area entrances/exits
Stockpiles/ bulk material handling	14-1 Stabilize stockpiled materials. 14-2 Stockpiles within 100 yards of off-site occupied buildings must not be greater than 8 ft in height; or must have a road bladed to the top to allow water truck access or must have an operational water irrigation system that is capable of complete stockpile coverage.	<ul style="list-style-type: none"> • Add or remove material from the downwind portion of the storage pile • Maintain storage piles to avoid steep sides or faces
Traffic areas for construction activities	15-1 Stabilize all off-road traffic and parking areas; and 15-2 Stabilize all haul routes; and 15-3 Direct construction traffic over established haul routes.	<ul style="list-style-type: none"> • Apply gravel/paving to all haul routes as soon as possible to all future roadway areas • Barriers can be used to ensure vehicles are only used on established parking areas/haul routes

Table 2.13.9 Best Available Control Measures

Source Category	Control Measure	Guidance
Trenching	16-1 Stabilize surface soils where trencher or excavator and support equipment will operate; and 16-2 Stabilize soils at the completion of trenching activities.	<ul style="list-style-type: none"> Pre-watering of soils prior to trenching is an effective preventive measure. For deep trenching activities, pre-trench to 18 inches soak soils via the pre-trench and resuming trenching Washing mud and soils from equipment at the conclusion of trenching activities can prevent crusting and drying of soil on equipment
Truck loading	17-1 Pre-water material prior to loading; and 17-2 Ensure that freeboard exceeds 6 inches (CVC Section 23114)	<ul style="list-style-type: none"> Empty loader bucket such that no visible dust plumes are created Ensure that the loader bucket is close to the truck to minimize drop height while loading
Turf overseeding	18-1 Apply sufficient water immediately prior to conducting turf vacuuming activities to meet opacity and plume length standards; and 18-2 Cover haul vehicles prior to exiting the site.	<ul style="list-style-type: none"> Haul waste material immediately off-site
Unpaved roads/ parking lots	19-1 Stabilize soils to meet the applicable performance standards; and 19-2 Limit vehicular travel to established unpaved roads (haul routes) and unpaved parking lots.	<ul style="list-style-type: none"> Restricting vehicular access to established unpaved travel paths and parking lots can reduce stabilization requirements
Vacant land	20-1 In instances where vacant lots are 0.10 ac or larger and have a cumulative area of 500 sf or more that are driven over and/or used by motor vehicles and/or off-road vehicles, prevent motor vehicle and/or off-road vehicle trespassing, parking and/or access by installing barriers, curbs, fences, gates, posts, signs, shrubs, trees or other effective control measures.	

Source: SCAQMD, Rule 403, June 2005.

ac = acre(s)

AQMD = Air Quality Management District

CVC = California Vehicle Code

ft = foot/feet

mph = miles per hour

sf = square foot/square feet

- Develop a dust control plan documenting sprinkling, temporary paving, speed limits, and expedited revegetation of disturbed slopes as needed to minimize construction impacts to existing communities.
- Locate equipment and materials storage sites as far away from residential and park uses as practical. Keep construction areas clean and orderly.
- Establish Environmentally Sensitive Areas (ESAs) for sensitive air receptors within which construction activities involving extended idling of diesel equipment would be prohibited, to the extent that is feasible.
- Use track-out reduction measures such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic.
- Cover all transported loads of soils and wet materials prior to transport, or provide adequate freeboard (space from the top of the material to the top of the truck) to reduce particulate matter less than 10 microns in size (PM₁₀) and deposition of particulate matter during transportation.
- Remove dust and mud that are deposited on paved public roads due to construction activity and traffic to decrease particulate matter.
- Route and schedule construction traffic to avoid peak travel times as much as possible to reduce congestion and related air quality impacts caused by idling vehicles along local roads.
- Install mulch or plant vegetation as soon as practical after grading to reduce windblown particulate in the area.

Compliance with these standard SCAQMD and Caltrans conditions would substantially reduce fugitive dust (PM₁₀) and equipment emissions generated during construction of the I-10/Cedar Avenue Interchange project.

Mitigation Measures for Construction Impacts

The following measures would be implemented during construction of the I-10/Cedar Avenue Interchange Project to further reduce air pollutants generated by construction vehicles and equipment exhaust:

- AQ-1** The California Department of Transportation (Caltrans) shall ensure that the construction contractor selects construction equipment based on low emission factors and high energy efficiency, to the extent feasible, consistent with the construction equipment requirements for the project. Caltrans shall ensure that the construction grading plans

include a statement that all construction equipment will be tuned and maintained in accordance with the manufacturer's specifications.

- AQ-2** The construction contractor shall use electric- or diesel-powered equipment in lieu of gasoline-powered engines where feasible.
- AQ-3** The California Department of Transportation (Caltrans) shall ensure that construction grading plans include a statement that work crews will shut off equipment when not in use.
- AQ-4** The California Department of Transportation (Caltrans) shall ensure that the construction contractor times the construction activities so as not to interfere with peak-hour traffic and to minimize obstruction of through traffic lanes adjacent to the project disturbance limits. If necessary to maintain smooth traffic flow, a flagperson shall be retained to maintain safety adjacent to existing roads.
- AQ-5** The California Department of Transportation (Caltrans) shall require the construction contractor to support and encourage ridesharing and transit incentives for the construction crew.

Climate Change

Climate change is analyzed at the end of this chapter. Neither the United States Environmental Protection Agency (U.S. EPA) nor Federal Highway Administration (FHWA) has promulgated explicit guidance or methodology to conduct project-level greenhouse gas analysis. As stated on FHWA's climate change website (<http://www.fhwa.dot.gov/hep/climate/index.htm>), climate change considerations should be integrated throughout the transportation decision-making process—from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process will facilitate decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project level decision-making. Climate change considerations can easily be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

Because there have been more requirements set forth in California legislation and executive orders regarding climate change, the issue is addressed in a separate

California Environmental Quality Act (CEQA) discussion at the end of this chapter and may be used to inform the National Environmental Policy Act (NEPA) decision. The four strategies set forth by FHWA to lessen climate change impacts do correlate with efforts that the State has undertaken and is undertaking to deal with transportation and climate change; the strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and reduction in the growth of vehicle hours travelled.

2.14 Noise

Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969 and the California Environmental Quality Act (CEQA) provide the broad basis for analyzing and abating highway traffic noise effects. The intent of these laws is to promote the general welfare and to foster a healthy environment. The requirements for noise analysis and consideration of noise abatement and/or mitigation, however, differ between NEPA and CEQA.

California Environmental Quality Act

CEQA requires a strictly baseline versus build analysis to assess whether a project will have a noise impact. If a project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless such measures are not feasible. The rest of this section will focus on the NEPA-23 Code of Federal Regulations (CFR) 772 noise analysis; please see Chapter 4 of this document for further information on noise analysis under CEQA.

National Environmental Policy Act and 23 CFR 772

For highway transportation projects with FHWA (and Caltrans, as assigned) involvement, the Federal-Aid Highway Act of 1970 and the associated implementing regulations (23 CFR 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations contain noise abatement criteria (NAC) that are used to determine when a noise impact would occur. The NAC differ depending on the type of land use under analysis. For example, the NAC for residences (67 dBA L_{eq}) are lower than the NAC for commercial areas (72 dBA L_{eq}). Table 2.14.1 lists the noise abatement criteria for use in the NEPA-23 CFR 772 analysis. Table 2.14.2 lists the noise levels of common activities to enable readers to compare the actual and predicted highway noise-levels discussed in this section with common activities.

In accordance with Caltrans *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects* (May 2011) a noise impact occurs when the future noise level with the project results in a substantial increase in noise level (defined as a 12 dBA or more increase), or when the future noise level with the project approaches or exceeds the NAC. Approaching the NAC is defined as coming within 1 dBA of the NAC.

Table 2.14.1 Noise Abatement Criteria

Activity Category	NAC, Hourly A-Weighted Noise Level, dBA $L_{eq}(h)$	Description of Activities
A	57 Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose
B	67 Exterior	Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals
C	72 Exterior	Developed lands, properties, or activities not included in Categories A or B above
D	--	Undeveloped lands
E	52 Interior	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums

Source: FHWA 23 CFR 772.

Table 2.14.2 Noise Levels of Common Activities

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Jet Fly-over at 300m (1000 ft)	110	Rock Band
Gas Lawn Mower at 1 m (3 ft)	100	
Diesel Truck at 15 m (50 ft), at 80 km (50 mph)	90	Food Blender at 1 m (3 ft)
Noisy Urban Area, Daytime	80	Garbage Disposal at 1 m (3 ft)
Gas Lawn Mower, 30 m (100 ft) Commercial Area	70	Vacuum Cleaner at 3 m (10 ft)
Heavy Traffic at 90 m (300 ft)	60	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	50	Large Business Office Dishwasher Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	30	Library
Quiet Rural Nighttime	20	Bedroom at Night, Concert Hall (Background)
	10	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

Source: Caltrans Technical Noise Supplement, November 2009

If it is determined that the project will have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into the project plans and specifications. This document discusses noise abatement measures that would likely be incorporated into the project.

Caltrans *Traffic Noise Analysis Protocol* sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. A minimum 5 dBA reduction in the future noise level must be achieved for an abatement measure to be considered feasible. Other considerations include topography, access requirements, other noise sources and safety considerations. The reasonableness determination is basically a cost-benefit analysis. Factors used in determining whether a proposed noise abatement measure is reasonable include: resident acceptance, the absolute noise level, build versus existing noise, environmental impacts of abatement, public and local agencies input, newly constructed development versus development pre-dating 1978 and the cost per benefited residence.

Affected Environment

The analysis of the potential noise impacts of the I-10/Cedar Avenue Interchange project is based on the *Noise Analysis* (October 2007). The *Noise Impact Analysis* is on file and available for review at the County of San Bernardino Department of Public Works and the Bloomington Branch Library.

The primary source of noise in the project area is generated by traffic on I-10 and Cedar Avenue. Ambient (20-minute) noise measurements were conducted to document the existing noise levels at 13 representative sensitive receptor locations along the project alignment. These locations are shown on Figure 2.14-1. There were 56 sensitive receptors identified in the project study area. The locations of the monitored receptors were chosen to represent the surrounding noise-sensitive land uses in the project area. These noise-sensitive land uses include residences, a church, and a school. The noise level measurements were performed using a Larson Davis Model 824 Type 1 sound level meter (Serial No. 1612). Table 2.14.3 shows the existing monitoring noise levels in the project area. These noise measurements were used to calibrate the noise model and to predict the noise levels at all 56 modeled sensitive receptors in the project area.

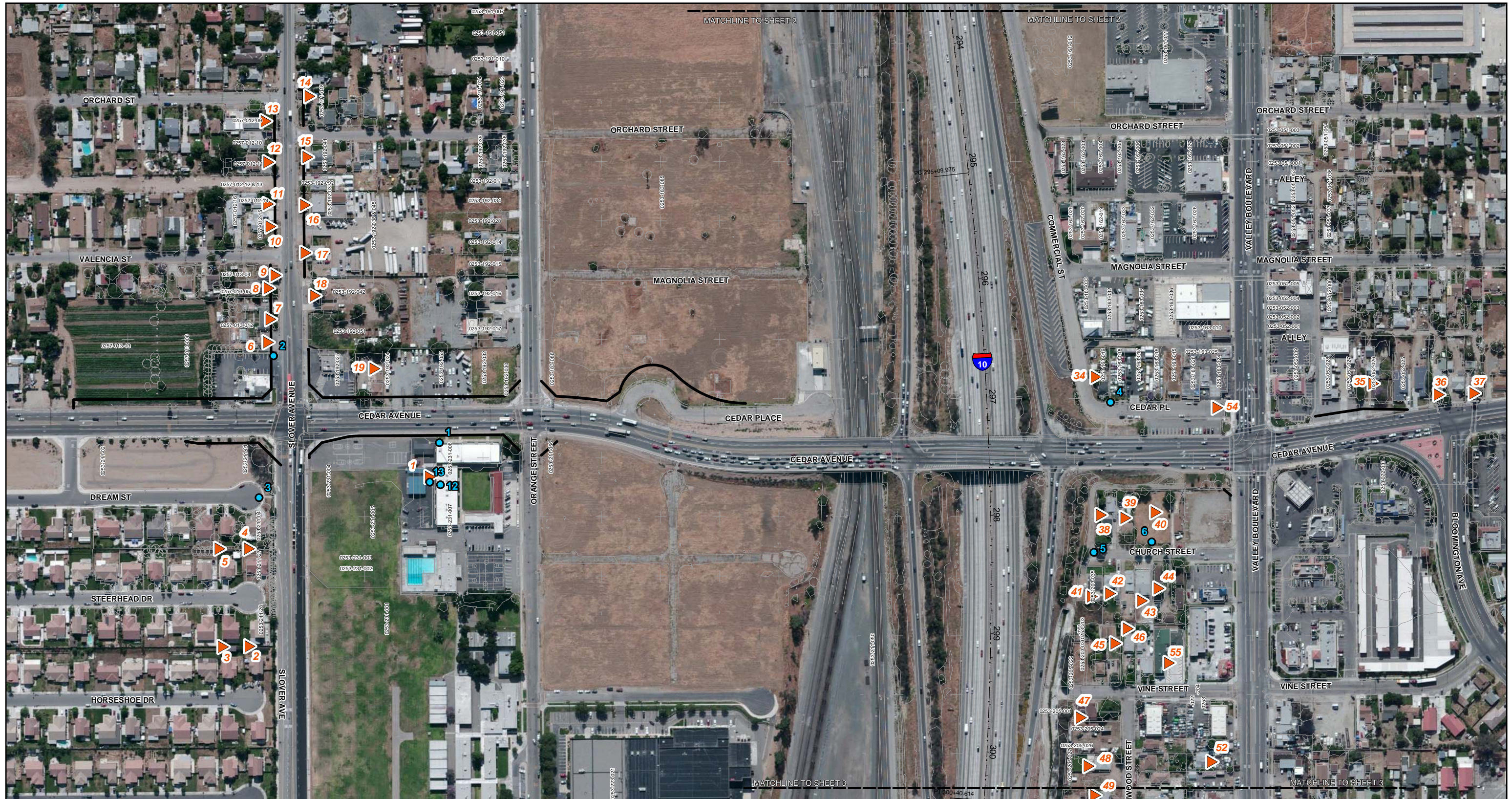
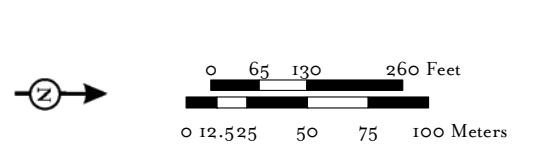


FIGURE 2.14-1
SHEET 1 OF 3



- Legend**
- ▲ Modeled Receptor Location
 - Monitor Location
 - Existing Roadway Geometrics
 - Parcel Boundaries / Existing ROW
 - Proposed ROW
 - I-10 Centerline

I-10/Cedar Avenue Interchange Project
Monitored and Modeled Receptor Locations

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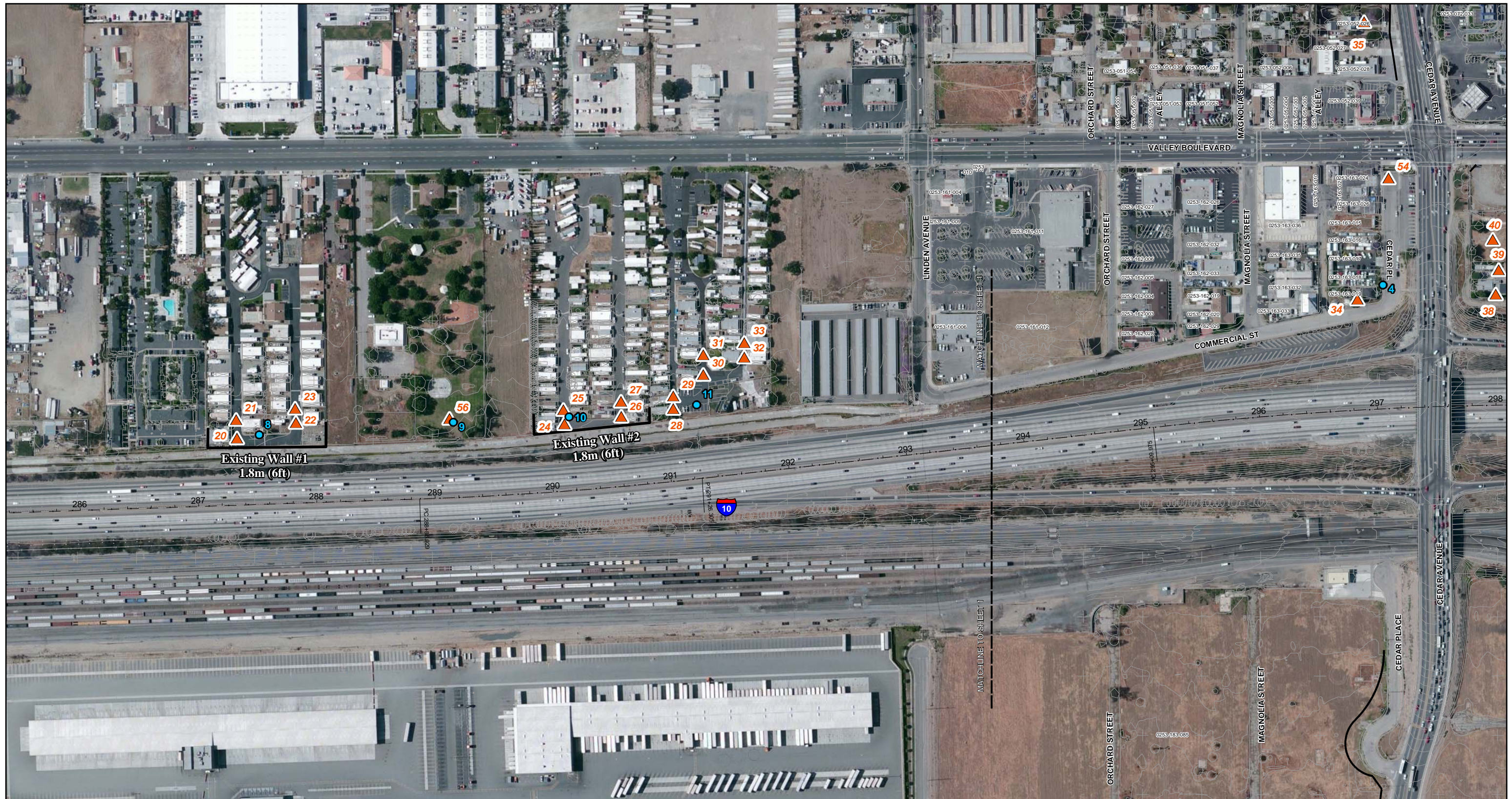
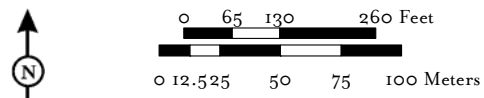


FIGURE 2.14-1
SHEET 2 OF 3

I-10/Cedar Avenue Interchange Project
Monitored and Modeled Receptor Locations

- Legend
- ▲ Modeled Receptor Location
 - Monitor Location
 - Existing Soundwall
 - Existing Roadway Geometrics
 - Parcel Boundaries / Existing ROW
 - Proposed ROW
 - I-10 Centerline



SOURCE: LAN ENGINEERING; Bing (c. 2009)

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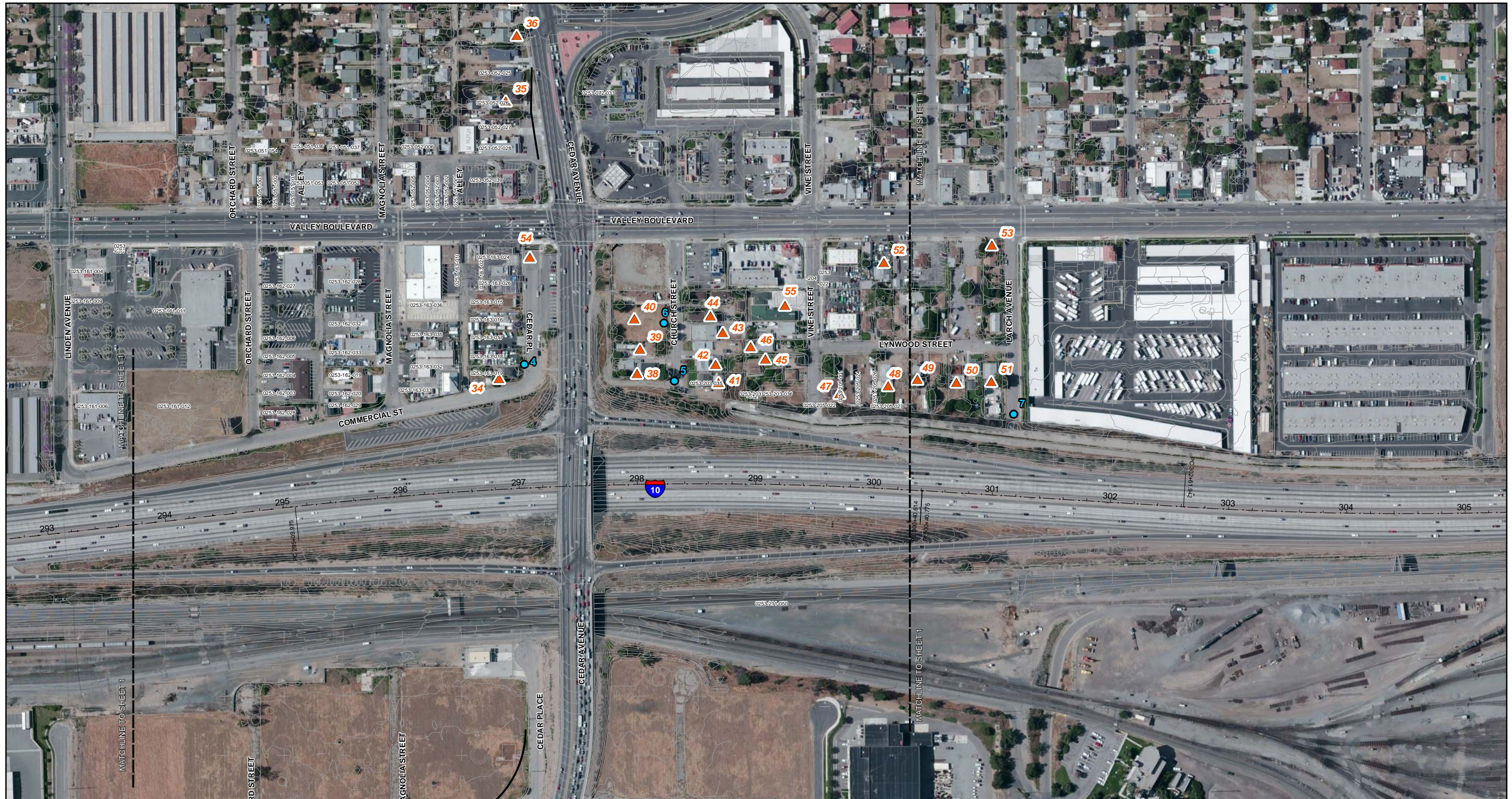
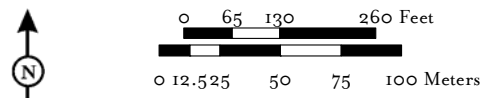


FIGURE 2.14-1
SHEET 3 OF 3

Legend

- ▲ Modeled Receptor Location
- Monitor Location
- Existing Roadway Geometrics
- Parcel Boundaries / Existing ROW
- Proposed ROW
- I-10 Centerline



I-10/Cedar Avenue Interchange Project
Monitored and Modeled Receptor Locations

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Table 2.14.3 Summary of Field-Measured Data

Monitor No. ¹	Location Description	Existing Noise Sources	Date	Start Time	Duration (minutes)	Activity Category	Measured Sound Level dBA L _{eq}	15-Minute Traffic Counts (Auto/MT/HT)
R-1	10435 Cedar Avenue. Colton Joint Unified School District Educational Services Center.	Traffic on Cedar Avenue	3/25/03	8:39 a.m.	20	B (67)	71	Cedar Avenue (362/24/13)
R-2	18667 Slover Avenue. Near intersection of Slover Avenue and Cedar Avenue.	Traffic on Cedar Avenue and Slover Avenue	3/25/03	9:15 a.m.	20	B (67)	66	Cedar Avenue (191/18/21) Slover Avenue (103/14/8)
R-3	10517 Dream Street, at end of cul-de-sac.	Traffic on Cedar Avenue, I-10, and Commercial Street	3/25/03	9:50 a.m.	20	B (67)	62	Cedar Avenue (208/8/10) Slover Avenue (58/6/7)
R-4	10164 Commercial Street.	Traffic on I-10 and I-10 westbound off-ramp	3/25/03	10:30 a.m.	20	B (67)	65	Cedar Avenue (700/29/25)
R-5	10166 Church Street.	Traffic on Cedar Avenue	3/25/03	11:27 a.m.	20	B (67)	64	I-10 (860/44/61)
R-6	Between 10156 and 10134 Church Street.	Traffic on I-10	3/25/03	12:01 p.m.	20	B (67)	63	Cedar Avenue (650/28/29)
R-7	End of Larch Avenue cul-de-sac.	Traffic on I-10	3/25/03	12:31 p.m.	20	B (67)	72	None
R-8	18219 Valley Boulevard. Bloomington Mobile Home Park. North of the I-10 freeway.	Traffic on I-10	10-5-04	9:23 a.m.	20	B (67)	73	I-10 WB (1140/47/158)
R-9	18313 Valley Boulevard. Ayala Park. Between the chain-link fence and the basketball court.	Traffic on I-10	10-5-04	10:00 a.m.	20	B (67)	74	I-10 WB (970/61/154)
R-10	18363 Valley Boulevard. Idle Wheel Senior Mobile Home Park. North of the I-10 freeway.	Traffic on I-10	10-5-04	10:32 a.m.	20	B (67)	70	I-10 WB (890/34/178)
R-11	18411 Valley Boulevard. Log Cabin Mobile Home Park. North of the I-10 freeway.	Traffic on I-10	10-5-04	11:08 a.m.	20	B (67)	75	I-10 WB (930/68/174)
R-12	10435 Cedar Avenue. Washington Alternative Middle School. Classroom interior noise measurement in classroom number 30. Nearest classroom to Cedar Avenue.	Faint traffic on Cedar Avenue	6-27-07	1:39 p.m.	20	E (52)	38	None
R-13	10465 Cedar Avenue. Washington Alternative Middle School Exterior noise measurement at classroom number 30.	Traffic on Cedar Avenue and bird noise	6-27-07	1:39 p.m.	20	B (67)	62	None

Source: *Noise Analysis* (LSA Associates, Inc., October 2007).

¹ The receptor locations are shown on Figure 2.15-1.

I-10 = Interstate 10

The existing and future noise levels were modeled using the traffic volumes from the traffic study prepared by LSA (October 2003). Table 2.14.4 summarizes the results of the existing traffic noise modeling. As shown, 50 of the 56 modeled receptor locations currently approach or exceed the NAC. Of the 56 modeled receptor locations, 52 would approach or exceed the NAC without the project during 2030 conditions.

Environmental Consequences

Permanent Impacts

Traffic Noise

Potential noise impacts associated with project operations are solely from traffic noise created by vehicles that use the roads in the project area. Traffic noise was evaluated as a worst-case scenario. The I-10/Cedar Avenue Interchange project was modeled using Caltrans Sound32 model and CAD maps provided by the project engineering consultant (February 2003). A total of 56 modeled sensitive receptor locations where residential uses, a church, two parks, and a school currently exist were evaluated in the model using coordinates obtained from the CAD maps.

Traffic volumes counted during the ambient noise monitoring were used in Sound32 for existing settings to calibrate the modeling result. The model input and output data for the calibration model runs are included in Appendix A of the Noise Analysis. The existing condition was then modeled to determine whether a substantial noise increase would occur. The model input and output data for the existing conditions are included in Appendix B of the Noise Analysis. The results of the existing traffic noise modeling were shown earlier in Table 2.14.4. Future year 2030 sound levels at the representative sensitive receptor locations along the project corridor were determined without sound walls. The model input and output data for the future no project conditions are included in Appendix C of the Noise Analysis. The model input and output data for the future with project without sound wall conditions for Alternative 2A are included in Appendix D of the Noise Analysis. The traffic noise model results for existing conditions and 2030 with and without project conditions are shown in Table 2.14.4. The modeled future traffic noise levels were compared to the modeled existing noise levels (after calibration) from Sound32 to determine whether a substantial noise increase would occur. The modeled future traffic noise levels were also compared to the NAC to determine whether a traffic noise impact would occur.

Table 2.14.4 Projected Traffic Noise Level, L_{eq} , dBA

Modeled Receptor No. ¹	Location	No. of Units Represented	Existing Noise Level	Future 2030 No Build	Future 2030 Alt. 2a	Alt. 2a Change from Existing Level
1	104035 Cedar Avenue	1	66 ²	68	68	2
2	10515 Steerhead Drive	2	60	62	61	1
3	10523 Steerhead Drive	2	60	61	61	1
4	10517 Dream Street	2	62	64	64	2
5	10525 Dream Street	2	61	63	63	2
6	18657 Slover Avenue	1	68	71	N/A ³	N/A
7	18653 Slover Avenue	1	68	71	N/A	N/A
8	18643 Slover Avenue	1	67	70	N/A	N/A
9	18639 Slover Avenue	1	69	72	N/A	N/A
10	18619 Slover Avenue	1	67	70	70	3
11	18605 Slover Avenue	1	67	69	69	2
12	18593 Slover Avenue	2	67	70	69	2
13	18575 Slover Avenue	1	66	69	69	3
14	18560 ½ Slover Avenue	1	68	71	70	2
15	10485 Orchard Street	1	69	72	70	1
16	18600 Slover Avenue	2	69	72	71	2
17	18630 Slover Avenue	1	69	72	72	3
18	18694 Slover Avenue	1	67	69	69	2
19	Cedar Avenue	1	67	68	N/A	N/A
20	18219 Valley Boulevard No. 25	2	74	75	74	0
21	18219 Valley Boulevard No. 24	2	73	73	73	0
22	18219 Valley Boulevard No. 37	2	73	74	74	1
23	18219 Valley Boulevard No. 36	2	73	73	73	0
24	18363 Valley Boulevard No. 17	2	73	74	75	2
25	18363 Valley Boulevard No. 16	2	72	73	74	2
26	18363 Valley Boulevard No. 37	2	73	74	75	2
27	18363 Valley Boulevard No. 36	2	72	73	74	2
28	18363 Valley Boulevard No. 19	2	76	77	76	0
29	18411 Valley Boulevard No. 18	2	75	75	75	0
30	18411 Valley Boulevard No. 23	2	74	74	74	0
31	18411 Valley Boulevard No. 25	2	72	73	73	1
32	18411 Valley Boulevard No. 50	2	73	73	73	0
33	18411 Valley Boulevard No. 49	2	72	73	73	1
34	10164 Commercial Street	1	66	67	67	1
35	10026 Cedar Avenue	1	65	66	67	2
36	Cedar Avenue	1	68	69	69	1
37	9964 Cedar Avenue	1	69	70	70	1
38	10166 Church Avenue	1	66	67	67	1
39	10156 Church Avenue	1	66	67	67	1
40	10134 Church Avenue	1	66	67	67	1
41	10137 Church Avenue	1	68	69	69	1
42	10147 Church Avenue	1	67	68	68	1
43	10163 Church Avenue	1	65	66	66	1
44	10169 Church Avenue	1	65	66	66	1
45	10154 Vine Street	2	67	68	68	1
46	10146 Vine Street	1	66	67	67	1
47	18821 Lynwood Street	1	72	73	73	1
48	18845 Lynwood Street	1	72	72	72	0
49	18857 Lynwood Street	1	71	72	72	1
50	18875 Lynwood Street	2	71	72	72	1
51	10176 Lynwood Street	2	71	71	71	0
52	Valley Boulevard	1	69	69	69	0
53	18899 Valley Boulevard	1	71	72	72	1
54	Commercial Street	1	71	71	72	1
55	Vine Street	1	65	66	66	1
56	18313 Valley Boulevard	2	76	76	76	0

Source: *Noise Analysis* (LSA Associates, Inc., October 2007).

¹ The locations of the modeled receptors are shown on Figure 2.15-1.

² Numbers in bold represent noise levels that approach or exceed the NAC.

³ N/A: Not applicable. The property at this receptor location is displaced as part of this alternative.

Sound Barriers

Sound walls were analyzed for all receptor locations that would be exposed or would continue to be exposed to traffic noise levels that approach or exceed the NAC. Modeled receptors that would continue to experience a noise level that “approaches or exceeds” the NAC are shown in bold in Table 2.14.5. The modeled sound wall and receptor locations are shown in Figure 2.14-2.

All properties requiring abatement are within Category B (NAC 67 dBA L_{eq}) and would continue to be exposed to traffic noise levels approaching or exceeding the NAC without abatement. Sound barriers were analyzed for each affected sensitive receptor location. At each location, five sound barrier heights were analyzed: 8, 10, 12, 14, and 16 ft. The results of this analysis are shown in Table 2.14.4. The locations of the modeled sound barriers are shown in Figure 2.14-3.

Due to the location of the property access, it is not feasible to abate the traffic noise at Modeled Receptor Nos. 1, 10 to 18, and 52 to 54 using sound barriers. As the projected future noise levels are not severe (approaching or exceeding 75 dBA L_{eq}), no additional abatement measures can be incorporated at these locations.

The closest classroom building at the Washington Alternative Middle School is located approximately 125 ft from Cedar Avenue. Interior and exterior noise level measurements were conducted in classroom 30 on June 27, 2007, because this classroom is the closest to Cedar Avenue. As shown in Table 2.14.2, based on the interior and exterior noise measurements conducted, the classroom building would provide an exterior-to-interior noise reduction of 24 dBA (62 dBA – 38 dBA = 24 dBA). The exterior noise level at the classroom building is projected to be up to 68 dBA L_{eq} under future worst-case traffic conditions. As the classroom building would provide an exterior-to-interior reduction of 24 dBA, the interior noise level of the classroom is projected to be 44 dBA L_{eq} (68 dBA - 24 dBA = 44 dBA). This noise level would not exceed the interior noise standard of 52 dBA L_{eq} NAC under Activity Category E (52). In addition, the classroom buildings are equipped with air conditioning, and the windows and doors can remain closed for a prolonged period of time. Therefore, no mitigation measures are required for the classroom buildings at the Washington Alternative Middle School.

Table 2.14.5 Alternative 2A Sound Barrier Modeling, L_{eq}, dBA

Sound Wall No.	Modeled Receptor No.	No. of Units Residences	Future Conditions	With Wall H = 8 ft		With Wall H = 10 ft		With Wall H = 12 ft		With Wall H = 14 ft		With Wall H = 16 ft	
				L _{eq}	I.L. ¹	L _{eq}	I.L.	L _{eq}	I.L.	L _{eq}	I.L.	L _{eq}	I.L.
1	20	2	74	<u>71</u> ²	3	69 ³	<u>5</u>	67	<u>7</u>	<u>65</u>	<u>9</u>	<u>64</u>	<u>10</u>
	21	2	72	71	1	70	2	68	4	67	5	66	6
	22	2	74	72	2	71	3	69	5	68	6	66	8
	23	2	73	71	2	70	3	69	4	67	6	66	7
	24	2	75	74	1	72	3	70	5	68	7	66	9
	25	2	74	73	1	72	2	71	3	<u>69</u>	<u>5</u>	68	<u>6</u>
	26	2	75	74	1	72	3	<u>70</u>	<u>5</u>	68	<u>7</u>	67	<u>8</u>
	27	2	74	72	2	72	2	70	4	<u>69</u>	<u>5</u>	68	<u>6</u>
	28	2	76	75	1	74	2	72	4	<u>70</u>	<u>6</u>	69	<u>7</u>
	29	2	75	74	1	74	1	72	3	71	4	70	5
	30	2	74	73	1	73	1	72	2	71	3	70	4
	31	2	73	72	1	72	1	71	2	70	3	69	4
	32	2	73	73	0	72	1	72	1	71	2	70	3
33	2	73	72	1	72	1	71	2	71	2	70	3	
2	34	1	67	65	2	65	2	64	3	64	3	N/P ⁴	N/P
3	38	1	67	66	1	66	1	66	1	66	1	N/P	N/P
	39	1	69	69	0	69	0	69	0	69	0	N/P	N/P
	40	1	70	70	0	70	0	70	0	70	0	N/P	N/P
	41	1	67	63	4	<u>62</u>	5	62	5	61	6	N/P	N/P
	42	1	67	64	3	63	4	<u>62</u>	5	<u>62</u>	5	N/P	N/P
	43	1	67	65	2	64	3	63	4	63	4	N/P	N/P
	44	1	69	66	3	65	4	64	5	63	6	N/P	N/P
	45	2	68	65	3	64	4	64	4	63	5	N/P	N/P
46	1	66	64	2	63	3	63	3	62	4	N/P	N/P	
4	47	1	73 ²	70	3	68 ³	5	67	6	66	7	65	8
	48	1	72	70	2	68	4	67	5	66	6	65	7
	49	1	72	69	3	68	4	67	5	66	6	65	7
	50	2	72	70	2	68	4	67	5	66	6	66	6
	51	2	71	69	2	68	3	67	4	66	5	66	5
	52	1	69	68	1	68	1	68	1	68	1	67	2
	53	1	72	71	1	71	1	71	1	71	1	71	1
	54	1	72	72	0	72	0	72	0	72	0	72	0
3	55	1	66	64	2	64	2	63	3	63	3	62	4
1	56	2	76	74	2	73	3	71	5	70	6	69	7

Source: Noise Analysis (LSA Associates, Inc., October 2007).

¹ I.L.: Insertion Loss.

² Numbers in bold represent noise levels that approach or exceed the NAC.

³ Underlined numbers represent receptors that have been attenuated by at least 5 dBA.

⁴ N/P: Not Permitted. Sound barriers within 15 ft of a travel lane are not permitted to exceed 14 ft in height.

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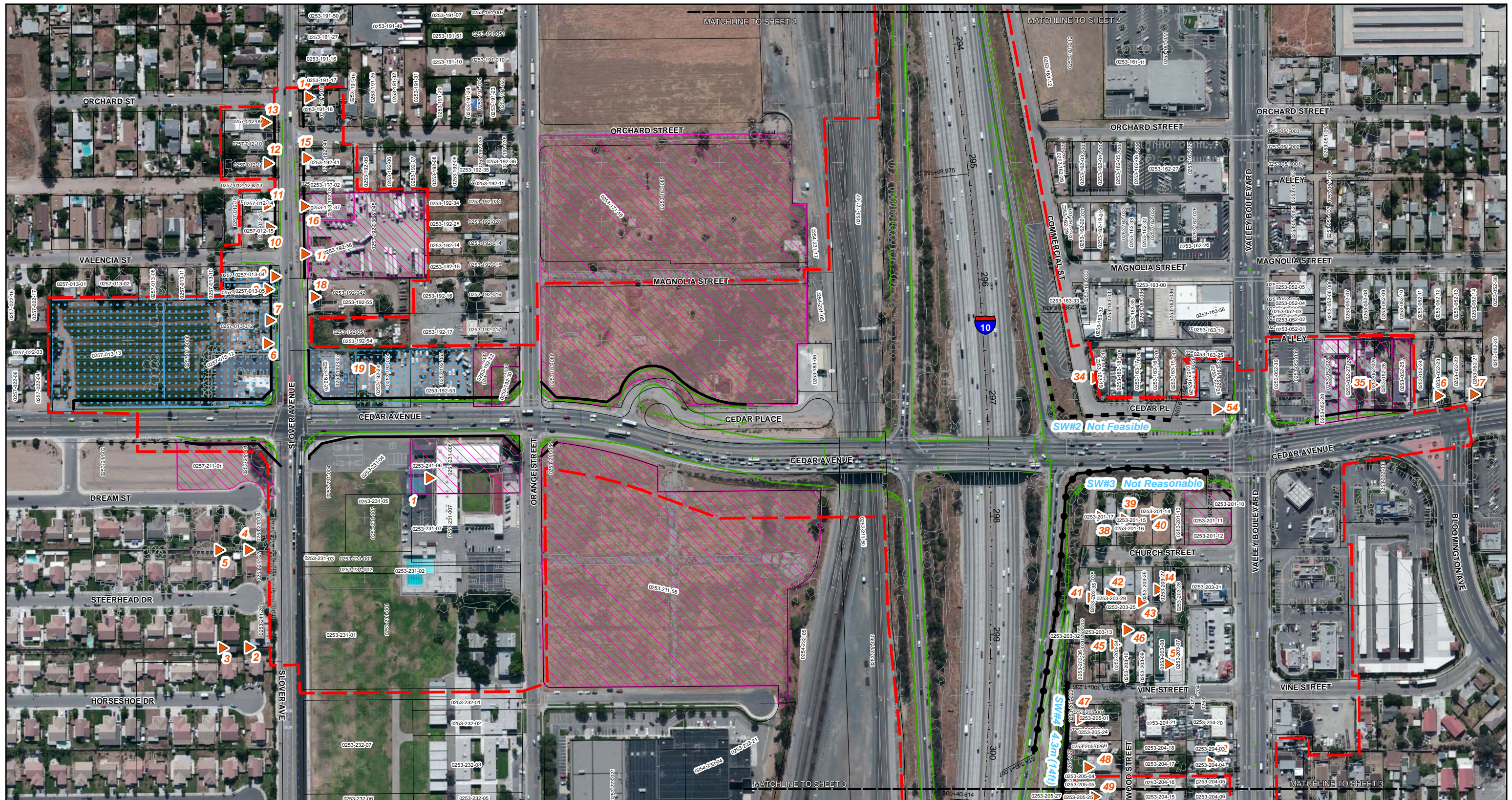
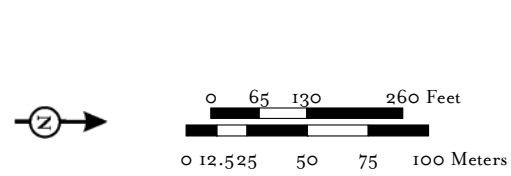


FIGURE 2.14-2
SHEET 1 OF 3



- Legend
- Alternative 2A Curbs/Edge of Pavement
 - Existing Geometrics
 - - - Proposed Roadway Geometrics
 - Proposed ROW
 - Parcel Boundaries / Existing ROW
 - ▲ Modeled Receptor Location
 - Modeled Soundwall Location
 - - - Not Feasible Soundwall
 - Not Reasonable Soundwall
 - - - I-10 Centerline
 - Full Acquisition
 - Partial Acquisition
 - - - Project Location

I-10/Cedar Avenue Interchange Project
Modeled Soundwall and Receptor Locations

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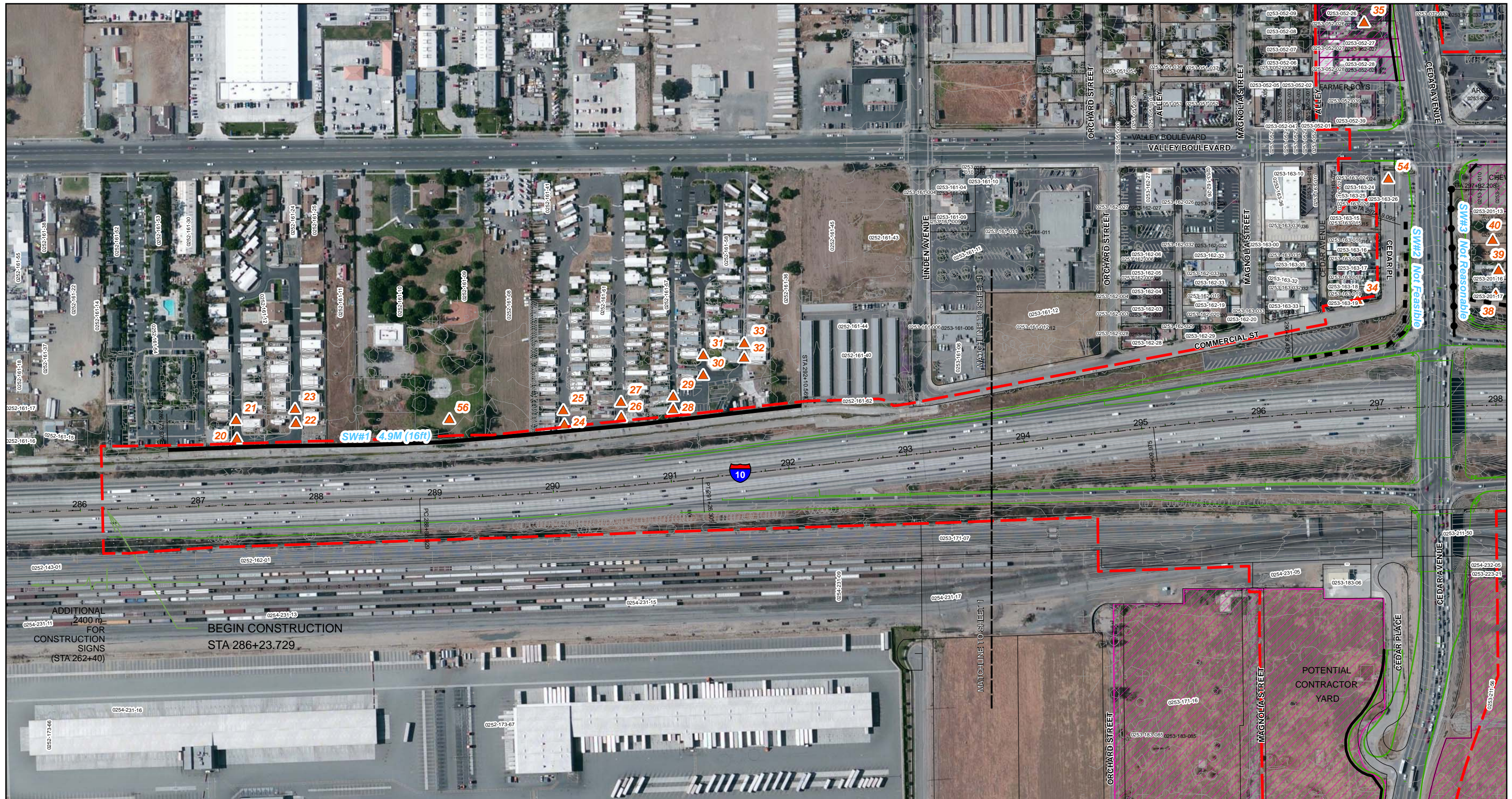


FIGURE 2.14-2
SHEET 2 OF 3

I-10/Cedar Avenue Interchange Project
Modeled Soundwall and Receptor Locations

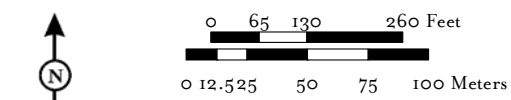
ALTERNATIVE 2A

08-SBD-10 K.P. 28.6/31.0 (P.M. 17.8/19.3)

EA# 1A8300

Legend

- Alternative 2A Curbs/Edge of Pavement
- Existing Geometrics
- - - Proposed Roadway Geometrics
- Proposed ROW
- Parcel Boundaries / Existing ROW
- ▲ Modeled Receptor Location
- Modeled Soundwall Location
- - - Not Feasible Soundwall
- . - . - Not Reasonable Soundwall
- - - - - I-10 Centerline
- Full Acquisition
- Partial Acquisition
- - - - - Project Location



SOURCE: LAN ENGINEERING; Bing (c. 2009)

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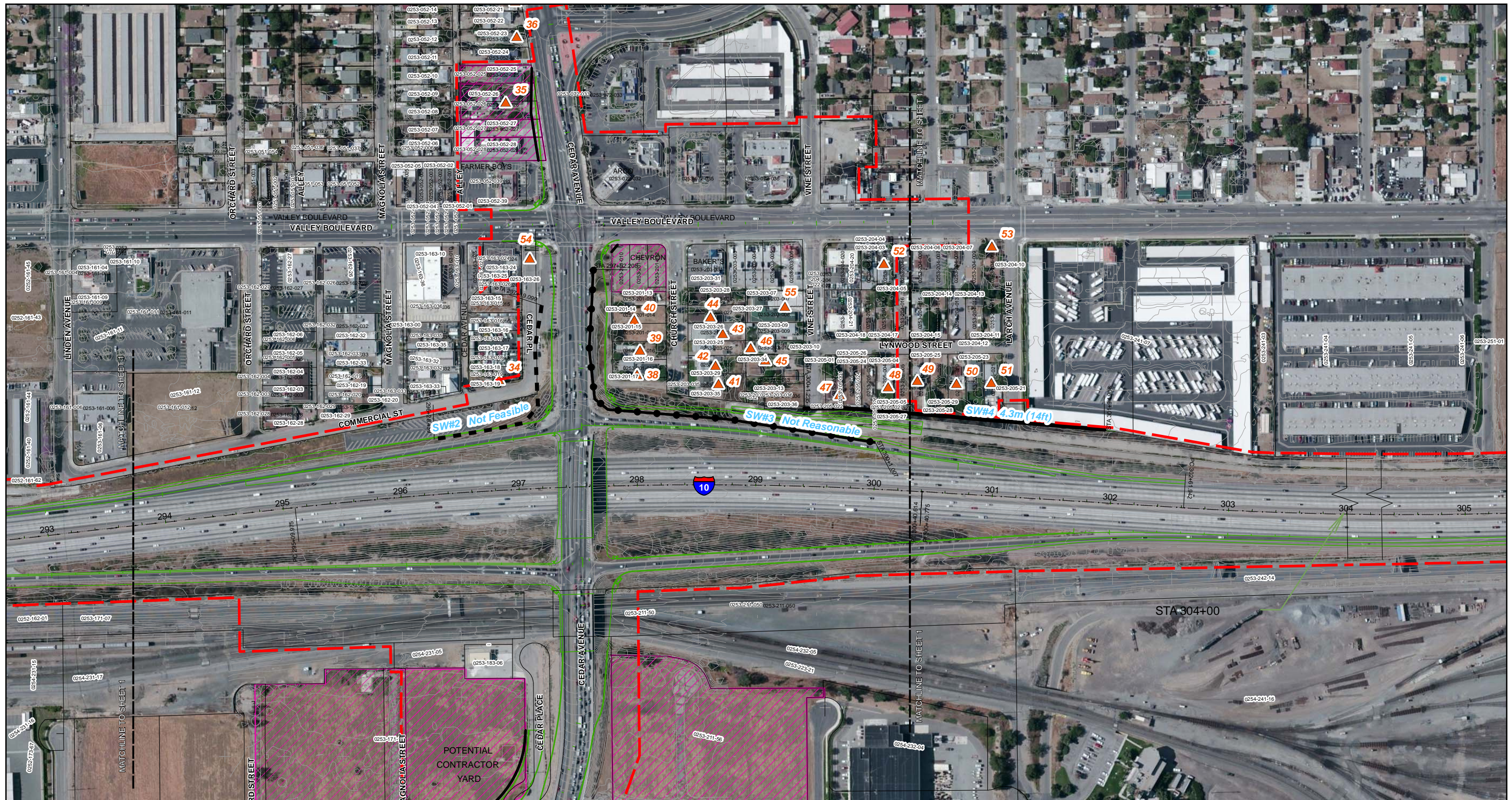
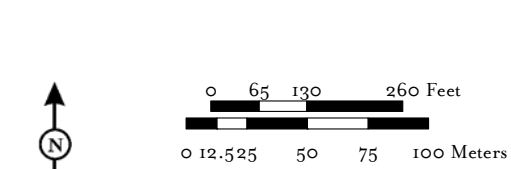


FIGURE 2.14-2
SHEET 3 OF 3



- Legend**
- Alternative 2A Curbs/Edge of Pavement
 - Existing Geometrics
 - - - Proposed Roadway Geometrics
 - Proposed ROW
 - Parcel Boundaries / Existing ROW
 - ▲ Modeled Receptor Location
 - Modeled Soundwall Location
 - - - Not Feasible Soundwall
 - Not Reasonable Soundwall
 - - - I-10 Centerline
 - Full Acquisition
 - Partial Acquisition
 - Partial Acquisition

I-10/Cedar Avenue Interchange Project
Modeled Soundwall and Receptor Locations
ALTERNATIVE 2A
08-SBD-10 K.P. 28.6/31.0 (P.M. 17.8/19.3)
EA# 1A8300

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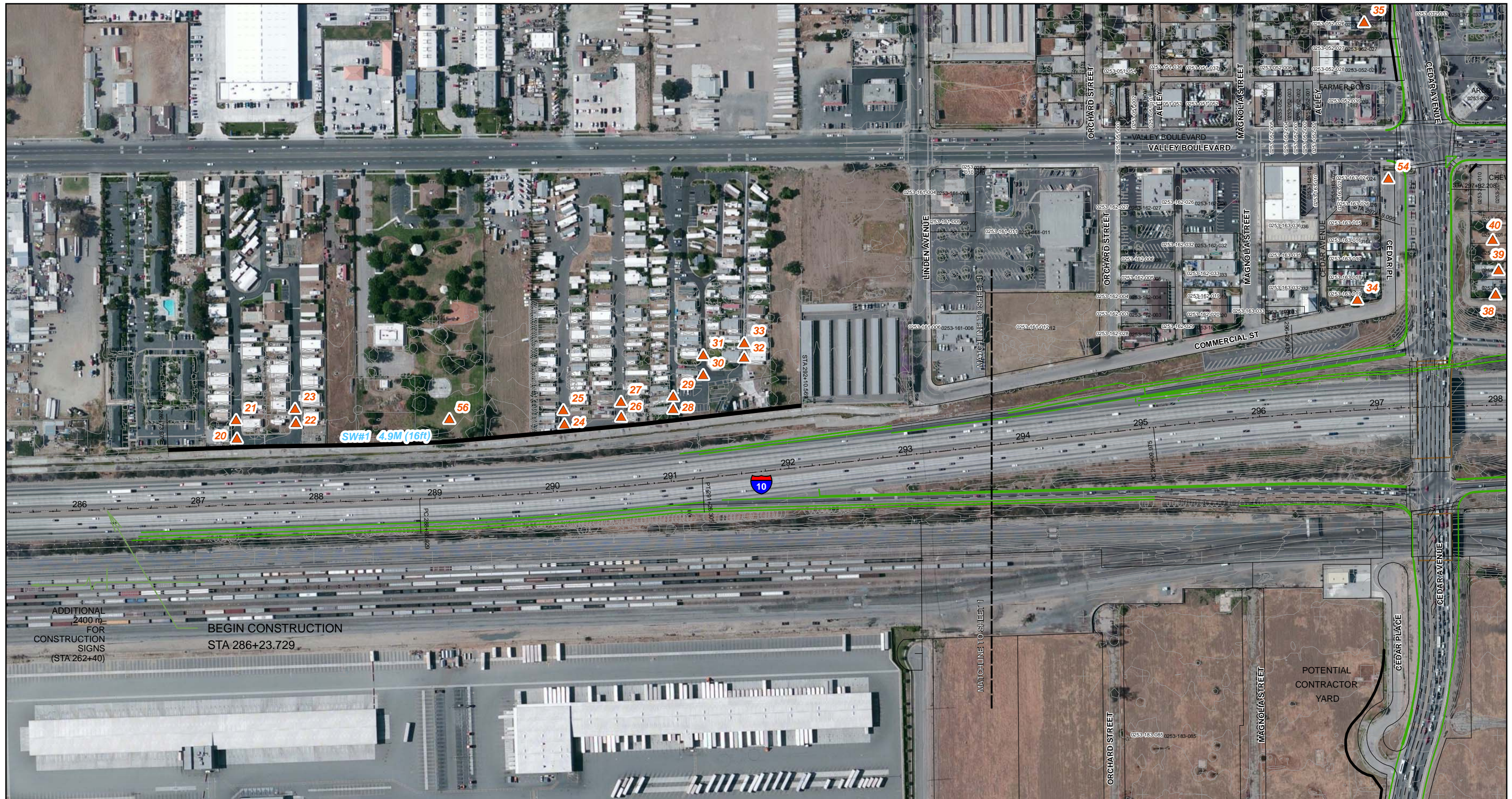


FIGURE 2.14-3
SHEET 1 OF 2

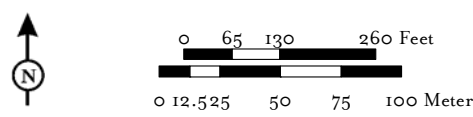
I-10/Cedar Avenue Interchange Project
Reasonable and Feasible Soundwalls

ALTERNATIVE 2A

08-SBD-10 K.P. 28.6/31.0 (P.M. 17.8/19.3)
EA# 1A8300

Legend

- Alternative 2A Curbs/Edge of Pavement
- Existing Geometrics
- - - Proposed Roadway Geometrics
- Proposed ROW
- Parcel Boundaries / Existing ROW
- ▲ Modeled Receptor Location
- Feasible Soundwall Location
- - - I-10 Centerline



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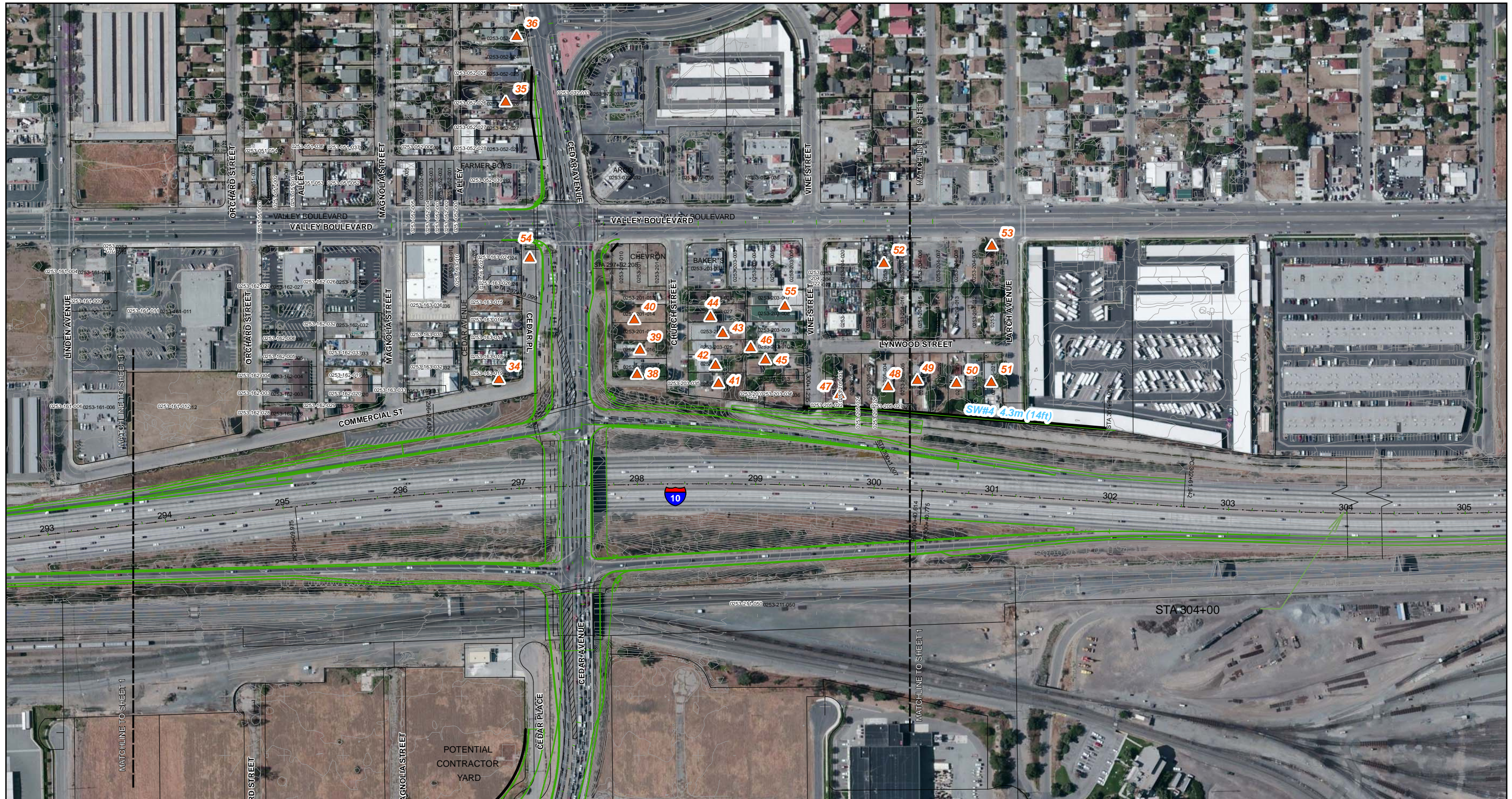
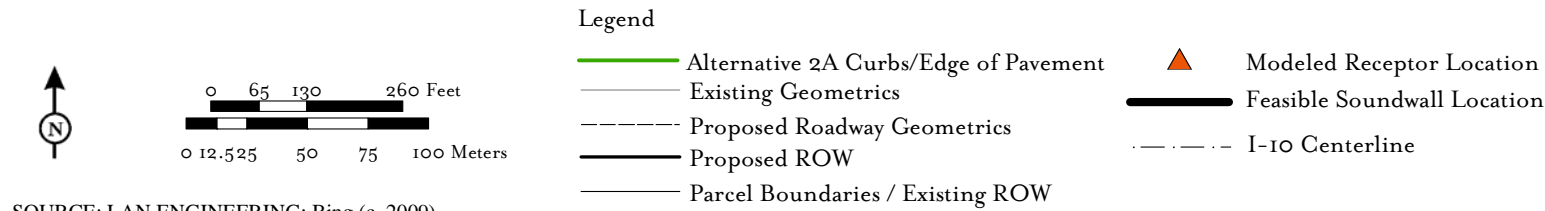


FIGURE 2.14-3
SHEET 2 OF 2



SOURCE: LAN ENGINEERING; Bing (c. 2009)
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I-10/Cedar Avenue Interchange Project
Reasonable and Feasible Soundwalls
ALTERNATIVE 2A
08-SBD-10 K.P. 28.6/31.0 (P.M. 17.8/19.3)
EA# 1A8300

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The following receptor locations would be exposed to noise levels that approach or exceed the NAC:

- **Receptor No. 1.** This receptor location represents the existing Washington Alternative Middle School located on the southeast corner of Cedar Avenue and Orange Street. Currently, there are no barriers protecting this receptor. Due to the need for property access for pedestrians, it is not feasible to abate traffic noise with sound barriers.
- **Receptor No. 6 through 9 and 19.** These receptor locations represent existing residences along Slover Avenue west of Cedar Avenue. Currently, there are no barriers protecting these receptors. These residences would be acquired as a part of the project. Therefore, no sound walls were considered at this location.
- **Receptor Nos. 10 to 18.** These receptor locations represent existing residences along Slover Avenue west of Cedar Avenue. Currently, there are no barriers protecting these receptors. Due to property access via driveways, it is not feasible to abate traffic noise with sound barriers at these receptors.
- **Receptor Nos. 20 to 23.** These receptor locations represent existing residences south of Valley Boulevard west of Cedar Avenue near I-10. Currently, there are no barriers protecting these receptors. One sound barrier was modeled for this location.
- **Receptor Nos. 24 to 33.** These receptor locations represent existing residences south of Valley Boulevard west of Cedar Avenue near I-10. Currently, there are no barriers protecting these receptors. One sound barrier was modeled for this location.
- **Receptor No. 34.** This receptor location represents an existing residence along Commercial Street near the I-10 westbound on-ramp. Currently, there are no barriers protecting this receptor. One sound barrier was modeled for this location.
- **Receptor Nos. 35 to 37.** These receptor locations represent existing residences west of Cedar Avenue and north of Valley Boulevard. Currently, there is no barrier protecting these receptors. Due to property access via driveways, it is not feasible to abate traffic noise with sound barriers at these receptors.
- **Receptor Nos. 38 to 46.** These receptor locations represent existing residences along Church Street and Vine Street south side of Valley Boulevard. Currently, there are no barriers protecting these receptors. One sound barrier was modeled for this location.
- **Receptor Nos. 47 to 51.** These receptor locations represent existing residences along Lynwood Street between Vine Street and Larch Avenue. Currently, there

are no barriers protecting these receptors. One sound barrier was modeled for this location.

- **Receptor Nos. 52 and 53.** These receptor locations represent existing residences along Valley Boulevard east of Cedar Avenue. Currently, there are no barriers protecting these receptors. Due to property access via driveways, it is not feasible to abate traffic noise with sound barriers at these receptors.
- **Receptor No. 54.** This receptor location represents an existing park at the southwest corner of Cedar Avenue and Valley Boulevard. The park, identified as Jack Pratte Park, will be relocated by shifting it to the west. Currently, there are no barriers protecting this receptor. Due to property access, it is not feasible to abate traffic noise with sound barriers at this receptor.
- **Receptor No. 55.** This receptor location represents an existing Church on Vine Street. Currently, there are no barriers protecting this receptor. One sound barrier was modeled for this location.
- **Receptor No. 56.** This receptor location represents existing Ayala Park on Valley Boulevard, in the northwestern corner of the project. Currently, there are no barriers protecting this receptor. One sound barrier was modeled for this location.

The following barriers were analyzed to protect the sensitive receptor locations listed above, exposed to traffic noise levels approaching or exceeding the NAC:

- **Sound Wall No. 1:** A 1,759 ft long barrier was analyzed along the ROW of westbound I-10 to protect receptors 20 through 33 and 56. This barrier is capable of feasibly reducing the noise levels.
- **Sound Wall No. 2:** A 631 ft long barrier was analyzed along the edge of shoulder of southbound Cedar Avenue and the westbound I-10 on-ramp to protect receptor 34. This barrier is not capable of feasibly reducing the noise level at the receptor location. Because this barrier is within 15 ft of the nearest mainline travel lane, the maximum permitted height is 14 ft.
- **Sound Wall No. 3:** A 1,300 ft long barrier was analyzed along the edge of shoulder of the westbound I-10 off-ramp and northbound Cedar Avenue to protect receptors 38 through 46 and receptor 55. This barrier is capable of feasibly reducing the noise levels at 6 of the 10 receptor locations. Because this barrier is within 15 ft of the nearest mainline travel lane, the maximum permitted height is 14 ft.

- **Sound Wall No. 4:** A 777 ft long barrier was analyzed along the ROW of westbound I-10 to protect receptors 47 through 51. This barrier is capable of feasibly reducing the noise levels at all five receptor locations.

Feasible and Reasonable Analysis

Noise barriers were considered to protect the properties in the project area where sensitive receptors are located and would continue to be exposed to traffic noise levels approaching or exceeding the NAC. All properties requiring abatement consideration are within Category B (NAC 67 dBA L_{eq}). A noise abatement analysis was conducted as part of the Noise Impact Analysis (October 2007) to determine the noise attenuation provided by sound walls of heights varying from 8 to 16 ft.

Chapter 2 of the *Traffic Noise Analysis Protocol* was used to determine the reasonableness and feasibility of the proposed noise abatement.

Feasibility

Section 2.7 of the *Traffic Noise Analysis Protocol* states that a minimum of 5 dBA noise reduction must be achieved at the impacted receptors for a proposed noise abatement measure to be considered feasible. Greater noise reductions are encouraged if they can be reasonably achieved.

Table 2.14.6 lists the feasible sound walls. Table 2.14.6 also lists the sound wall heights, approximate length, receptor locations protected, and the number of benefited residences.

Reasonableness

Section 2.8.2 of the *Traffic Noise Analysis Protocol* states that the preliminary reasonableness determination of providing noise abatement for exteriors of residential areas in activity category B (which includes residential areas) begins with a \$36,000 base allowance¹ per benefited residence.

The \$36,000 base allowance is adjusted using the following five factors to determine the total reasonable allowance per residence:

¹ Source: Caltrans Traffic Noise Analysis Protocol, 2007.

Table 2.14.6 Feasible Sound Walls

Sound Wall No.	Height ft	Approximate Length ft	Receptor Locations Protected ¹	Number of Benefited Residences	Station Number	
					Begin	End
1	10	1,759	20-33 and 56	2	286+73.979	292+10.569
	12	1,759	20-33 and 56	10	286+73.979	292+10.569
	14	1,759	20-33 and 56	20	286+73.979	292+10.569
	16	1,759	20-33 and 56	22	286+73.979	292+10.569
3	10	1,300	38-46 and 55	1	297+92.20	300+1.007
	12	1,300	38-46 and 55	3	297+92.20	300+1.007
	14	1,300	38-46 and 55	5	297+92.20	300+1.007
4	10	777	47-51	1	300+1.235	301+94.908
	12	777	47-51	5	300+1.235	301+94.908
	14	777	47-51	7	300+1.235	301+94.908
	16	777	47-51	7	300+1.235	301+94.908

Source: *Noise Analysis* (LSA Associates, Inc., October 2007).

¹ Modeled sensitive receptors behind each sound wall.
ft = feet

1. Absolute noise level
2. Build versus existing noise levels
3. Achievable noise reduction
4. New construction, or construction predating 1978
5. Total noise abatement allowance vs. project cost

Worksheet A of the *Traffic Noise Analysis Protocol* was used to determine the total allowance per benefited residence for each of the sound walls. Appendix F of the *Noise Analysis* includes the worksheets for the proposed sound walls.

Worksheet B of the *Traffic Noise Analysis Protocol* was used to determine (1) the total allowance for the proposed sound wall, and (2) whether or not the total allowance for the sound walls exceeded 50 percent of the total cost of the project. Since the total allowance was less than 50 percent of the total project cost, no further modifications were required. Appendix F of the *Noise Analysis* includes Worksheet B from the *Traffic Noise Analysis Protocol* for the proposed sound walls. Table 2.14.7 shows the allowance for each affected resident and the total allowance for each sound wall.

The cost of building each sound wall is shown in Table 2.14.7. The construction costs of the sound walls were estimated based on a unit cost of \$25.00 per square foot.¹

¹ Source: Lim and Nascimento Engineering Corporation (2007).

Table 2.14.7 Total Reasonable Allowance and Construction Costs per Sound Wall

Sound Wall No.	Height ft	Approximate Length m (ft)	Noise Attenuation Range (dBA)	Number of Benefited Residences	Reasonable Allowance per Residence	Total Reasonable Allowance	Construction Cost
1	10	1,759	1-5	2	\$50,000	\$100,000	\$439,761
	12	1,759	1-7	10	\$50,000	\$500,000	\$533,481
	14	1,759	2-9	20	\$50,000	\$1,000,000	\$619,991
	16	1,759	3-10	22	\$50,000	\$1,100,000	\$706,502
3	10	1,300	3-5	1	\$48,000	\$48,000	\$324,898
	12	1,300	3-5	3	\$50,000	\$150,000	\$394,139
	14	1,300	4-6	5	\$50,000	\$250,000	\$458,053
4	10	777	3-5	1	\$50,000	\$50,000	\$194,447
	12	777	4-6	5	\$52,000	\$260,000	\$235,886
	14	777	5-7	7	\$52,000	\$364,000	\$274,138
	16	777	5-8	7	\$52,000	\$364,000	\$312,390

Source: *Noise Analysis* (LSA Associates, Inc., October 2007).

dBA = A-weighted decibels

ft = feet

m = meters

Preliminary Noise Abatement Decision

The barriers identified in Table 2.14.8 and shown on Figure 2.14-3 have been determined to be both reasonable and feasible. The length, average height, number of protected residences, and cost for each barrier are also shown in Table 2.14.8. If during final design conditions have substantially changed, these noise barriers may not be provided. The final decision on noise barriers will be made on completion of the project design and public involvement processes.

CEQA Noise Analysis

Under CEQA, comparison is made between the existing baseline noise level and the build noise level. In the future (2030) build condition, receivers within the project area would experience a noise level increase of up to 3 dBA. A 3 dBA change is the lowest level that is barely perceptible by the average human ear in an outdoor environment. Because the project setting is highly urbanized, proximity of the receivers to the highway, the magnitude of the noise increase from the project is not considered substantial and would not result in a significant noise impact under CEQA; therefore, no mitigation is required.

Table 2.14.8 Preliminary Reasonable and Feasible Sound Walls

SW No.	Height (ft)	Length (ft)	Number of Benefited Residences	Cost
1	14	1,759	20	\$619,991
	16	1,759	22	\$706,502
4	10	777	5	\$235,886
	12	777	7	\$274,138
	14	777	7	\$312,390

Source: *Noise Analysis* (LSA Associates, Inc., October 2007).

ft = feet

SW = sound wall

Temporary Impacts

Construction Noise

Temporary noise would occur during construction of the I-10/Cedar Avenue Interchange project. First, construction crew commutes and the transport of construction equipment and materials to the project site would incrementally raise noise levels on access roads leading to the site. The pieces of heavy equipment for grading and construction activities would be moved on site, would remain for the duration of each construction phase, and would not add to the daily traffic volume in the project vicinity. There will be a relatively high single-event noise exposure potential at a maximum level of 87 dBA L_{max} with trucks passing at 50 ft. However, the projected construction traffic would be small when compared to the existing traffic volumes on I-10 and the affected streets, and its associated long-term noise level change would not be perceptible. Therefore, temporary impacts from worker commutes and equipment transport noise impacts would not be substantial.

The second type of temporary noise impact is related to noise generated during excavation, grading, and road construction. Construction is performed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated and, therefore, the noise levels along the alignments as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table 2.14.9 lists typical construction equipment noise levels (L_{max}) recommended for noise impact assessments, based on a distance of 50 ft between the equipment and a noise receptor.

Table 2.14.9 Typical Construction Equipment Noise Levels

Type of Equipment	Range of Maximum Sound Levels Measured (dBA at 50 ft)	Suggested Maximum Sound Levels for Analysis (dBA at 50 ft)
Pile drivers, 12,000 to 18,000 ft-lb/blow	81–96	93
Rock drills	83–99	96
Jackhammers	75–85	82
Pneumatic tools	78–88	85
Pumps	68–80	77
Dozers	85–90	88
Tractors	77–82	80
Front-end loaders	86–90	88
Hydraulic backhoe	81–90	86
Hydraulic excavators	81–90	86
Graders	79–89	86
Air compressors	76–86	86
Trucks	81–87	86

Source: Noise Control for Buildings and Manufacturing Plants (Bolt, Beranek & Newman 1987).

dBA = A-weighted decibels

ft = feet

lb = pound

Typical noise levels at 50 ft from active construction areas range up to 91 dBA L_{max} during the noisiest construction phases. The site preparation phase, which includes grading and paving of the median, tends to generate the highest noise levels because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery such as backfillers, bulldozers, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 to 4 minutes at lower power settings.

Pile driving generates noise levels of approximately 93 dBA L_{max} at a distance of 50 ft. If pile driving is conducted concurrently with site preparation, the construction site could potentially generate a noise level of up to 96 dBA L_{max} at a distance of 50 ft. To minimize construction noise impacts, pile-driving activities will be in compliance with the Caltrans Standard Specifications Section 14-8.02, “Noise Control,” Standard Special Provision S5-310, and local noise ordinances.

Construction of the I-10/Cedar Avenue Interchange project is expected to require the use of earthmovers, bulldozers, water trucks, and pickup trucks. Noise associated with the use of construction equipment is estimated between 79 and 89 dBA L_{max} at a distance of 50 ft from the active construction area for the grading phase. As seen in

Table 2.14.8, the maximum noise level generated by each earthmover is assumed to be 88 dBA L_{max} at 50 ft from the earthmover in operation. Each bulldozer would also generate 88 dBA L_{max} at 50 ft. The maximum noise level generated by water trucks and pickup trucks is approximately 86 dBA L_{max} at 50 ft from these vehicles. Each doubling of the sound sources with equal strength increases the noise level by 3 dBA. Each piece of the construction equipment operates as an individual point source. The worst-case composite noise level at the nearest residence during this phase of construction would be 91 dBA L_{max} (at a distance of 50 ft from an active construction area).

The closest existing residences in the vicinity of the project site are located 50 ft from the project construction areas. The closest residences may be subject to short-term noise reaching 91 dBA L_{max} , generated by construction activities. The No Build Alternative would not result in the construction or operation of any transportation improvements. There would be no change in the existing noise environment under the No Build Alternative. There would be no project construction under the No Build Alternative. Therefore, the No Build Alternative would result in no noise impacts.

Avoidance, Minimization, and/or Mitigation Measures

Construction

To minimize construction noise and vibration impacts on sensitive land uses adjacent to the project site, construction noise is regulated by Caltrans Standard Specifications in Section 14-8.02, "Noise Control," and also by Standard Special Provision S5-310, "Noise Control." Noise control shall conform to the provisions in Section 14-8.02 and Standard Special Provision S5-310. The noise level from the Contractor's operations, between the hours of 7:00 p.m. and 7:00 a.m., shall not exceed 86 dBA at a distance of 50 ft. This requirement in no way relieves the contractor from responsibility for complying with local ordinances regulating noise levels. The Contractor should use an alternative warning method instead of a sound signal unless required by safety laws. In addition, the Contractor shall equip all internal combustion engines with the manufacturer-recommended muffler and shall not operate any internal combustion engine on the job site without the appropriate muffler.

Preliminary Noise Abatement Decision

Based on the studies included so far, the barriers identified in Table 2.14.8 have been determined to be both reasonable and feasible. The length, average height, number of protected residents, and cost for each barrier are also shown in Table 2.14.8. Also, it should be noted that the proposed sound walls will be constructed at the highest

possible location to block the line-of-sight to the I-10. If during final design conditions have substantially changed, these noise barriers may not be provided. The final decision on noise barriers will be made upon completion of the project design and public involvement processes.

BIOLOGICAL ENVIRONMENT

2.15 Biological Resources

The analysis of the potential impacts of the I-10/Cedar Avenue Interchange project on biological resources considered the following categories of resources:

- Natural Communities
- Wetlands and Other Waters
- Plant Species
- Animal Species
- Threatened and Endangered Species
- Invasive Species

The applicable regulatory settings, existing environments, impacts, and avoidance, minimization, and mitigation measures for these categories of biological resources are described in the following sections.

The Biological Study Area (BSA) in the Natural Environment Study (NES) is defined by the Action Area used in the Delhi Sands Flower Loving Fly (DSF) Habitat *Assessment for Specific Properties in the I-10 Interchange and Overcrossing Action Area* (November 2004). According to the Habitat Assessment, the “Action Areas were determined by Caltrans and the Federal Highway Administration in association with USFWS as those areas that could be affected by proposed improvements to the various interchanges along the I-10 freeway.” According to the NES, “The BSA is bordered by Randall Avenue on the north, Locust Avenue on the west, Cactus Avenue on the east, and Jurupa Avenue on the south and includes the maximum limits of construction for Alternative 2A, the Preferred Alternative.” Therefore, the BSA is much larger than the area defined by the maximum limits of construction. The BSA is primarily commercial/industrial and residential development and the UPRR. Undeveloped land is scattered in isolated blocks of land throughout the BSA. The project footprint is contained completely within the BSA, as shown in Figure 2.15-1.

A general biological assessment of the BSA was conducted by a qualified biologist on April 3, 2003. A reconnaissance-level field survey was also conducted on May 1, 2006.

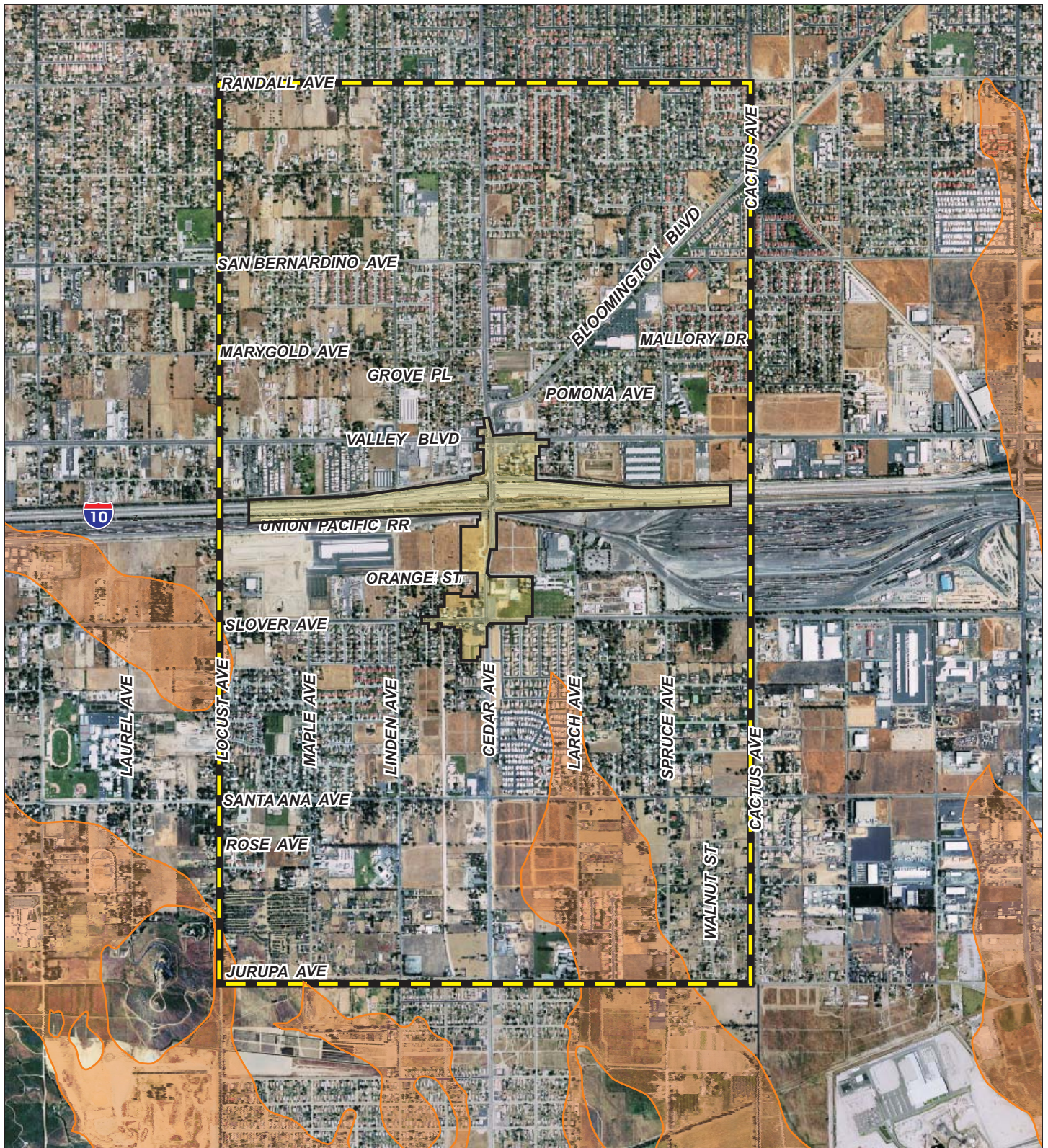
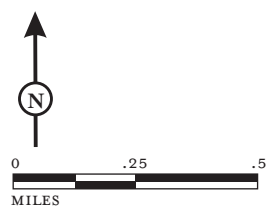





FIGURE 2.15-1

I-10/Cedar Avenue Interchange Project
 Aerial Photograph Showing
 Biological Study Area

08-SBD-10 K.P. 28.6/31.0 (P.M. 17.8/19.3)
 EA# 1A8300



-  BIOLOGICAL STUDY AREA
-  DELHI SOILS
-  PROJECT AREA

SOURCE: Eagle Aerial, 2001. & U.S. Department of Agriculture Soil Conservation Service
 Sheet Nos. 7 & 8, San Bernardino County, Southwestern Part California, (1979).

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Natural Communities

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value.

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed below in the Threatened and Endangered Species section. Wetlands and other waters are also discussed below in this section.

Affected Environment

The analysis of potential impacts of the I-10/Cedar Avenue Interchange project on biological resources is based on the Natural Environment Study (NES) (July 2006). The NES is on file and available for review at the County of San Bernardino Department of Public Works and the Bloomington Branch Library.

The vegetation in the BSA includes no native or sensitive natural communities. However, the ornamental trees and shrubs in the BSA may serve as roosting and nesting habitat for raptors and other migratory bird species, as discussed later in the Animal Species section.

There are no existing wildlife corridors within the project limits.

Environmental Consequences

The I-10/Cedar Avenue Interchange project would not result in the removal of native or sensitive plant communities because none are found within or immediately adjacent to the project disturbance limits.

The I-10/Cedar Avenue Interchange project proposes improvements to existing transportation facilities and would not result in fragmentation of habitat or impacts to wildlife corridors.

The No Build Alternative does not propose any construction or other disturbance in the project area. Therefore, the No Build Alternative would result in no adverse impacts related to natural communities.

Avoidance, Minimization, and/or Mitigation Measures

The I-10/Cedar Avenue Interchange project would not result in adverse impacts related to natural communities. No avoidance, minimization, or mitigation measures are required.

Wetlands and Other Waters

Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (CWA) (33 United States Code [USC] 1344) is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

Section 404 of the CWA establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army of Engineers (USACE) with oversight by the United States Environmental Protection Agency (U.S. EPA).

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

There are two types of Standard permits: Individual permits and Letters of Permission. Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of USACE's Standard permits. For Standard permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404(b)(1) Guidelines (U.S. EPA 40 Code of Federal Regulations [CFR] Part 230),

and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines were developed by the U.S. EPA in conjunction with USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this EO states that a federal agency, such as the FHWA and/or Caltrans, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: 1) that there is no practicable alternative to the construction and 2) the proposed project includes all practicable measures to minimize harm.

At the state level, wetlands and waters are regulated primarily by the California Department of Fish and Game (CDFG), the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCB). In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or Tahoe Regional Planning Agency) may also be involved. Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFG before beginning construction. If CDFG determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFG jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFG.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The RWQCB also issues water quality certifications for impacts to wetlands and waters in compliance with Section 401 of the CWA. Please see the Water Quality section for additional details.

Affected Environment

As discussed earlier in Section 1.5, the Corps has indicated that it considers the I-10 Channel to be a jurisdictional WoUS. Thus, project impacts to the I-10 Channel will be regulated under Section 404 of the Clean Water Act (CWA). The project limits are within the jurisdiction of the Santa Ana RWQCB, which is responsible for the administration of Section 401 of the CWA. As discussed earlier in Section 1.5, based on the Rapanos court decision, the USACE issued new guidance on June 5, 2007, regarding the changes in assertion over jurisdictional waters. The new guidance indicates that the I-10 Channel would be considered a jurisdictional drainage regulated by the USACE. Therefore, the project would require a Section 404 NWP 14 for Linear Transportation Projects. Confirmation of this requirement was received in the form of an e-mail communication between Denise Woodard and Stephanie Hall of the USACE on May 18, 2009. A copy of this e-mail is referenced in Chapter 3 of this document.

Environmental Consequences

As discussed earlier, the I-10 Channel is an artificial channel regulated by USACE, the Santa Ana RWQCB, and the CDFW. Because the project would have less than 0.1 ac of permanent impacts, it qualifies as a nonreporting NWP 14, and formal notification to the USACE will not be required. Due to the requirement for a Section 404 NWP 14 Permit, the project will also require a Section 401 Water Quality Certification Permit from the RWQCB.

As discussed previously in Section 1.5 of this document, CDFW generally does not regulate artificial waterways without attributes of natural waterways, and the I-10 Channel is an artificial drainage without attributes of a natural waterway. The effects of the project are not likely to be considered substantial. However, based on personal communication between Denise Woodard and Jeff Brandt of the CDFW on June 2, 2009, the project will be required to submit a 1602 Streambed Alteration Agreement application in order to receive a regulatory determination and/or agreement from the CDFW.

The No Build Alternative does not propose any construction or other disturbance in the project area. Therefore, the No Build Alternative would not result in adverse impacts related to wetlands and other WoUS.

Avoidance, Minimization, and/or Mitigation Measures

The I-10/Cedar Avenue Interchange project would not result in adverse impacts related to wetlands and other WoUS. No avoidance, minimization, or mitigation measures are required.

Plant Species

Regulatory Setting

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) share regulatory responsibility for the protection of special-status plant species. “Special-status” species are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are afforded varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). Please see the Threatened and Endangered Species Section 2.16.5 in this document for detailed information regarding these species.

This section of the document discusses all the other special-status plant species, including CDFG fully protected species and species of special concern, USFWS candidate species, and nonlisted California Native Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for FESA can be found at United States Code 16 (USC), Section 1531, et seq. See also 50 CFR Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et. seq. Caltrans projects are also subject to the Native Plant Protection Act, found at Fish and Game Code, Section 1900–1913, and the CEQA Public Resources Code, Sections 2100–21177.

Affected Environment

Special-status plant species are considered absent from the BSA. This conclusion is based on: (1) the lack of observations of such species during the field surveys; (2) the lack of reports of such species from within the greater study area; and (3) the absence of suitable habitat for such species (i.e., the disturbed conditions and associated absence of natural plant communities in the BSA).

Environmental Consequences

There are no special-status plant species on the project site. Therefore, the I-10/Cedar Avenue Interchange project would not result in adverse impacts on special-status plant species.

The No Build Alternative does not propose any construction or other disturbance in the project area. Therefore, the No Build Alternative would result in no adverse impacts related to special-status plant species.

Avoidance, Minimization, and/or Mitigation Measures

The I-10/Cedar Avenue Interchange project would not result in adverse impacts related to special-status plant species. No avoidance, minimization, or mitigation measures are required.

Animal Species

Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration (NOAA) Fisheries and the California Department of Fish and Game (CDFG) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with wildlife not listed or proposed for listing under the state or federal Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in Section 2.16.5 below Threatened. All other special-status animal species are discussed here, including CDFG fully protected species and species of special concern, and USFWS or NOAA Fisheries candidate species.

Federal laws and regulations pertaining to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations pertaining to wildlife include the following:

- California Environmental Quality Act
- Sections 1600 – 1603 of the California Fish and Game Code
- Sections 4150 and 4152 of the California Fish and Game Code

Affected Environment

Special-status animal species are those species that are endangered or rare, as defined by CEQA and its Guidelines, or are of current local, regional, or state concern.

Animal species are deemed to be of special status based on (1) federal, state, or local laws regulating their survival; (2) limited distributions; and/or (3) habitat requirements.

No special-status animal species are considered present within the BSA based on lack of suitable habitat within the BSA for these species and lack of direct observation of these species during field surveys. However, raptors (birds protected by the MBTA) may use the eucalyptus and other large ornamental trees in the BSA for nesting habitat.

Environmental Consequences

As discussed earlier, there are no special-status animal species on the project site. Therefore, the I-10/Cedar Avenue Interchange project would not result in adverse impacts on special-status animal species.

Removal of the existing eucalyptus and other large ornamental trees in the BSA could adversely affect raptors under the MBTA. Mitigation Measure BIO-1 (provided below) would ensure that the I-10/Cedar Avenue Interchange project does not result in adverse impacts to nesting habitat for raptors.

The No Build Alternative does not propose any construction or other disturbance in the project area. Therefore, the No Build Alternative would not result in adverse impacts related to special-status status animal species.

Avoidance, Minimization, and/or Mitigation Measures

BIO-1 To avoid impacts to nesting raptors and other migratory birds, large trees within the project disturbance limits shall be removed outside the raptor nesting season (March 15 through September 15) and outside nesting season for other migratory birds (February 1st through August 15th). The trees shall be surveyed by a qualified biologist 10 days prior to removal to ensure that no nesting raptors or migratory birds would be affected by anticipated tree removal activities. If nesting raptors or migratory birds are discovered during the preconstruction survey a no construction buffer limitation of 500 feet in radius shall be employed for active raptor nests until the nest is vacated and at species

specific buffer distances for other migratory birds until the nest is vacated.

Threatened and Endangered Species

Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC), Section 1531, et seq. See also 50 CFR Part 402. This act and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies such as the Federal Highway Administration, are required to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NOAA Fisheries) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 is a Biological Opinion or an incidental take permit. Section 3 of FESA defines take as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct.”

California has enacted a similar law at the state level, the California Endangered Species Act California Fish and Game Code, Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project caused losses of listed species populations and their essential habitats. The California Department of Fish and Game (CDFG) is the agency responsible for implementing CESA. Section 2081 of the Fish and Game Code prohibits “take” of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFG. For projects requiring a Biological Opinion under Section 7 of the FESA, CDFG may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

Affected Environment

The FESA and CESA protect plant and animal species listed as threatened or endangered (T/E). No federal or state listed T/E species are present in the BSA for the

I-10/Cedar Avenue Interchange project. However, the BSA contains potentially recoverable habitat for the Delhi Sands flower-loving fly (DSF) (*Rhaphiomidas terminatus abdominalis*), as discussed below. The DSF is a federal endangered species first listed on September 23, 1993, that only occurs in California.

Environmental Consequences

Direct Effects

A DSF habitat assessment was conducted as part of the NES to assess potential direct effects to DSF. The results of the direct impact assessment concluded that the I-10/Cedar Avenue Interchange project site and surrounding BSA do not contain Delhi soils or habitat suitable for DSF; therefore, there would be no direct effects to DSF within the BSA.

Indirect Effects

On January 9, 2003, FHWA sent the USFWS an e-mail message proposing to conduct a study of seven proposed interchange improvements and one proposed overcrossing improvement along the I-10 corridor within the range of DSF (Cedar Avenue interchange, Cherry Avenue interchange, Beech Avenue interchange, Citrus Avenue interchange, Cypress Avenue overcrossing, Alder Avenue interchange, Riverside Avenue interchange, and Pepper Avenue interchange). Rather than consulting separately on each of the proposed projects, the FHWA proposed to develop a conservation strategy to comprehensively address effects to DSF associated with all of the proposed improvements. Based on biological information gathered in 2004, FHWA and USFWS agreed that the Cherry Avenue, Beech Avenue, Cypress Avenue, and Citrus Avenue interchanges would have no adverse effect on the DSF. However, the agencies also determined that a DSF conservation strategy was necessary for the Alder Avenue, Cedar Avenue, Riverside Avenue, and Pepper Avenue interchanges. The above information is summarized in the USFWS biological opinion included in the NES that was prepared for this project

Subsequent project-specific habitat assessments were prepared in 2004 for the four interchanges determined to have potential indirect effects to DSF. The *DSF Habitat Assessment for the Properties in the I-10/Cedar Avenue Interchange Action Area* (November 2004) determined the BSA contains potentially recoverable DSF habitat, and the project would have indirect effects to 8.7 ac of recoverable DSF habitat. As part of the formal consultation process between FHWA and USFWS, a biological assessment was prepared in August 2005 for the Interchange projects having potential indirect effects to DSF (Alder Avenue, Cedar Avenue, Riverside Avenue, and Pepper

Avenue interchanges). This report identified mitigation for potential indirect effects to DSF. The mitigation identified in the biological assessment is described below. The biological assessment is included as Appendix C of the NES.

Summary

The BSA does not contain suitable habitat for the DSF. Therefore, the I-10/Cedar Avenue Interchange project would result in no adverse direct impacts to DSF. However, the habitat assessment conducted for indirect effects determined that the project has potential indirect effects to 8.7 ac of recoverable DSF habitat. To mitigate for the potential indirect effects to 8.7 ac of recoverable DSF habitat, 0.22 ac of mitigation credits will be purchased from the Vulcan Material DSF Mitigation Bank or from a bank established by the FHWA as described below in Mitigation Measure BIO-2. The biological assessment (MBA 2005) concluded that the proposed mitigation would be sufficient, and the project (along with the other three projects analyzed) would not jeopardize the long-term survival of the species. A biological opinion was issued by USFWS in 2005 confirming this conclusion. Therefore, the project would not adversely affect DSF, and no additional mitigation is required.

No other state or federal T/E listed species or suitable habitat for such species were identified in the BSA. Therefore, the I-10/Cedar Avenue Interchange project would result in no adverse impacts to DSF or any other T/E species.

The No Build Alternative does not propose any construction or other disturbance in the project area. Therefore, the No Build Alternative would result in no adverse impacts related to T/E species.

Avoidance, Minimization, and/or Mitigation Measures

BIO-2 To mitigate for the potential indirect project effects to 8.7 acres (ac) of recoverable Delhi Sands flower-loving fly (DSF) habitat, 0.22 ac of mitigation credits will be purchased from the Vulcan Material DSF Mitigation Bank or from a bank established by the Federal Highway Administration (FHWA).

Invasive Species

Regulatory Setting

On February 3, 1999, President Clinton signed Executive Order 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as “any species, including its seeds,

eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration guidance issued August 10, 1999 directs the use of the State's invasive species list currently maintained by the California Invasive Species Council to define the invasive plants that must be considered as part of the NEPA analysis for a project.

Affected Environment

Highway corridors provide opportunities for the movement of invasive species through the landscape. Invasive species can move on vehicles and in the loads they carry. Invasive plants can be moved from site to site during spraying and mowing operations. Weed seed can be inadvertently introduced into the corridor on equipment during construction and through the use of mulch, imported soil or gravel, and sod. Some invasive plant species might be deliberately planted in erosion control, landscape, or wildflower projects. Highway ROWs provide ample opportunity for weeds in adjacent land to spread along corridors that, on a national scale, span millions of miles of highway.

The California Department of Food and Agriculture (CDFA), Division of Plant Health and Pest Prevention Services, has listed the noxious weed seed of California. Ratings (A, B, C, or Q) have been designated for noxious species. These ratings reflect CDFA's view of the statewide importance of the invasive species, the likelihood that eradication or control efforts would be successful, and the present distribution of the pest within the state. The ratings are policy guidelines that indicate the most appropriate action to take against a pest under general circumstances. Pests designated by Level A are those subject to state (or County Agricultural Commissioner [CAC]) enforced action involving eradication, containment, rejection, or other holding action. Pests designated by Level B are those which the CAC has the discretion to eradicate, contain, control, or perform other holding actions, or are those pests subject to state-endorsed holding action and eradication only when found in a nursery. Pests designated as Level C are those not subject to state-enforced action outside of nurseries except to retard the spread (at the discretion of the CAC) or to provide for pest cleanliness in nurseries. Pests designated by Q are those at the state-county level pending determination of a permanent rating.

The California Exotic Pest Plant Council (CalEPPC) list is based on information submitted by members, land managers, botanists, and researchers throughout the state, as well as published sources. The list highlights nonnative plants that are

serious problems in wildlands (natural areas that support native ecosystems, including national, state, and local parks; ecological reserves; wildlife areas; national forests; Bureau of Land Management [BLM] lands, etc.). List categories include List A, which are the most invasive wildland pest plants. The List A plants are documented as aggressive invaders that displace natives and disrupt natural habitats. This list includes two sublists: List A-1 is composed of widespread pests that are invasive in more than three Jepson regions, and List A-2 is composed of regional pests invasive in three or fewer Jepson regions. List B is composed of wildland pest plants of lesser invasiveness, or invasive pest plants that spread less rapidly and cause a lesser degree of habitat disruption. List B species may be widespread or regional. Red Alert are those pest plants with potential to spread explosively but whose infestations are currently minimal or localized. Annual grasses are those annual grasses that are abundant and widespread in California and pose significant threats to wildlands.

Although the I-10/Cedar Avenue Interchange project is in an area that predominantly supports nonnative species, two species found on site are listed in the CDFG noxious species list as “C:” Russian thistle (*Salsola tragus*) and Bermuda grass (*Cynodon dactylon*). A California Invasive Plant Council (Cal-IPC) “High” category plant, foxtail chess (*Bromus madritensis* ssp. *rubens*), was observed on the project site.

Environmental Consequences

The construction and operation of the I-10/Cedar Avenue Interchange project has the potential to spread invasive species by the entering and exiting of construction equipment contaminated by invasives, the inclusion of invasive species in seed mixtures and mulch, and the improper removal and disposal of invasive species so that seed is spread along the highway. Mitigation Measure BIO-3, provided below, would substantially reduce adverse project impacts related to invasive species.

Because the No Build Alternative does not propose any construction or disturbance in the project area, the No Build Alternative would result in no adverse impacts to biological resources.

Avoidance, Minimization, and/or Mitigation Measures

BIO-3 The following will be implemented to mitigate the potential of invasive species from spreading from or into the project area:

- Bare soil will be landscaped with Caltrans-recommended seed mix from locally adopted species to preclude the invasion of noxious weeds. The use of site-specific materials adapted to local

conditions increases the likelihood that revegetation will be successful and maintains the genetic integrity of the local ecosystem. The plant materials will be consistent with the plant materials in the *I-10 Corridor Planting Master Plan* as described in detail in Mitigation Measure VIS-3.

- Seed purity will be certified by planting seed labeled under the California Food and Agricultural Code or seed that has been tested within a year by a seed laboratory certified by the Association of Official Seed Analysts or by a seed technologist certified by the Society of Commercial Seed Technologists.
- Construction equipment will be cleaned of mud or debris that may contain invasive plants and/or seeds and inspected to reduce the potential of spreading noxious weeds (before mobilizing to arrive at the site and before leaving the site).
- Trucks with loads carrying vegetation will be covered, and vegetative materials removed from the site will be disposed of in accordance with all applicable laws and regulations.

2.16 Cumulative Impacts

Regulatory Setting

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of this project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor, but collectively substantial, impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and conversion to more intensive types of agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, and disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

CEQA Guidelines, Section 15130, describes when a cumulative impact analysis is warranted and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under CEQA can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts under NEPA can be found in 40 CFR, Section 1508.7 of the CEQ Regulations.

Affected Environment

The cumulative impact study area is the unincorporated community of Bloomington and parts of the cities of Fontana and Rialto that surround the I-10/Cedar Avenue interchange. The study area is limited to the area served by the I-10/Cedar Avenue interchange since the project's impacts do not extend beyond this area.

| The project would not have adverse impacts after the application of avoidance, minimization, and mitigation measures as described above in Sections 2.1 through 2.15.

The project would improve an existing transportation facility to meet anticipated growth, safety concerns, and level of service. The project is designed to accommodate

the traffic projected to be generated by planned growth. Other planned, proposed, or completed residential and commercial development projects in the project area have gone through or are going through the planning process, as summarized in Table 2.16.1, and each of these projects is subject to its own environmental review and mitigation in accordance with state and federal law.

As discussed earlier in Section 2.2 (Growth), the project would not attract or promote growth in the cumulative impact study area. The project would not contribute to long-term effects associated with projected growth in the region such as traffic congestion, air quality reduction, noise impacts, urbanization, loss of habitat, or historical resources impacts. As stated above in Table 2.16.1, the I-10 HOV project would include an addition of one lane in each direction adjacent to the I-10 median, which would also reduce congestion on the I-10 in the project area.

The project would improve operation of the existing interchange and local circulation, enhance safety, alleviate existing LOS deficiencies, and accommodate projected future traffic volumes in the project vicinity.

The project would not have adverse impacts after the application of avoidance, minimization, and mitigation measures as described throughout Section 2. This cumulative analysis is limited to the resources that require avoidance, minimization, and mitigation measures to analyze whether the impact contribution to those resources, when the project is considered with other cumulative projects, could be cumulatively considerable. In addition, temporary construction impacts of the project are not considered contributory to cumulative impacts, given the limited duration, localization, and small scale of these impacts as well as the avoidance, minimization, and mitigation measures applied to them.

Therefore, the cumulative analysis only considers potential cumulative long-term impacts of the project and the other cumulative projects.

Long-term project impacts to the following resources require avoidance, minimization, and/or mitigation measures:

- Community Impacts
- Land Use
- Visual and Aesthetics
- Cultural Resources
- Hydrology/Floodplains

Table 2.16.1 Proposed Development within the Project Vicinity

Agency	Location	Project	Status
San Bernardino County Land Use Services Caltrans	Valley Boulevard and Commerce Drive	Site Development Review to establish two industrial buildings to be used as a warehouse facility and a truck storage yard in four phases not to exceed a total of 999,000 square feet (sf) on 47.7 acres (ac). [Phase I: 758,000 sf with 20,000 sf office space on 37.7 ac; Phase II: 392- space truck storage yard on 12 ac; Phase III: 122-space truck storage yard on 3 ac; Phase IV: replace truck yard with a 241,000 sf warehouse and distribution facility	Environmental review
City of Fontana	Sierra Avenue and Slover Avenue	Proposing the Fontana Business Center on a 200 ac parcel, including industrial and commercial retail and service uses. The project will permanently impact the entire 1.41 ac of jurisdictional waters on site, including 0.36 ac of wetlands and 0.51 ac of associated riparian vegetation. The project will also indirectly impact 0.14 ac of the watercourse directly downstream by diverting surface flow to the Sierra Avenue storm drain connection.	Approved
City of Fontana	Sierra Avenue and Slover Avenue	The proposed Empire Center Hotel would be a 95,832 sf facility on a 4 ac site. The hotel would have 150 to 200 rooms and would be four to six stories high. Facilities would include a restaurant, banquet facilities, and conference rooms.	Environmental review
City of Colton/ City of Fontana	I-10/Cherry Avenue	Proposed interchange ramp improvements and widening of Cherry Avenue	Project is in design phase
City of Fontana	I-10/Citrus Interchange	Proposed interchange ramp improvements and widening of Citrus Avenue	Project is in design phase
City of Fontana	I-10/Beech Avenue	Proposed new interchange	Environmental review
County of San Bernardino	I-10/Cedar Avenue	Proposed interchange ramp improvements and widening of Cedar Avenue	Environmental review

Table 2.16.1 Proposed Development within the Project Vicinity

Agency	Location	Project	Status
County of San Bernardino	I-10/Cypress Avenue	New overcrossing	Mitigated Negative Declaration and Finding of No Significant Impact approved in May 2006. Currently in final design with construction scheduled to start in January 2008.
County of San Bernardino	I-10/Alder Avenue	Proposed new interchange	Environmental review
County of San Bernardino	I-10/Riverside Avenue	Proposed interchange ramp improvements	Environmental review
City of Fontana	Existing intersection of Slover and Cedar Avenues	The City is funding and constructing improvements to this intersection as follows: <ul style="list-style-type: none"> • Curb and gutter have been constructed on the northwest quadrant of the intersection • Curb and gutter are under construction on the southeast quadrant of the intersection • Curb and gutter have been constructed on the northeast quadrant of the intersection • Curb and gutter will be provided on the southwest quadrant of the intersection • Improvements to Cedar Avenue from Slover Avenue to Jurupa Avenue will be initiated in 2008 	Project is under construction
City of Rialto and San Bernardino Associated Governments	Existing interchange along I-10 at Riverside Avenue	The City and SANBAG are funding and constructing improvements to this interchange as follows: <ul style="list-style-type: none"> • Construction of a right turn pocket along Slover Avenue at Cedar Avenue and Larch Avenue. • Reconstruction of the freeway interchange along I-10 at Riverside Avenue. 	Project is in the design phase.

Table 2.16.1 Proposed Development within the Project Vicinity

Agency	Location	Project	Status
County of San Bernardino	Slover Avenue	<p>The County is proposing the following improvements to Slover Avenue:</p> <ul style="list-style-type: none"> • Widen Slover Avenue to the County Highway Master Planned width on the north side. • Provide 52 ft of ROW with the curb line at 40 ft from the centerline • Install concrete sidewalk, curb, gutter, and pedestrian ramps at the corner of Cedar Avenue and Slover Avenue and at Larch Avenue and Slover Avenue. 	Project is in design and in the environmental phase.
County of San Bernardino	Intersection of Slover Avenue and Larch Avenue	The County is proposing to install a permanent signal at the intersection of Slover Avenue and Larch Avenue to enhance safety for pedestrians at the intersection after completion of the construction of the Riverside Avenue interchange.	The project is in the design phase.
Kinder Morgan	Riverside Avenue south of I-10	<p>CALNEV Pipe Line LLC, a subsidiary of Kinder Morgan Energy Partners, is expanding the CALNEV pipeline in the high desert of California and southern Nevada to meet the area's growing energy needs.</p> <p>CALNEV pipeline expansion will replace the existing 8-inch pipeline with a larger 16-inch pipeline. This new pipeline will begin at the Colton terminal facility and continue northward through Rialto up to the Cajon Pass. From the Cajon Pass, the pipeline route will travel eastward through Victorville and Barstow, and follow I-15 to the Nevada border.</p> <p>The project will include a new pump station north of Baker, and upgrades to the</p>	Design and environmental review

Table 2.16.1 Proposed Development within the Project Vicinity

Agency	Location	Project	Status
		existing CALNEV facilities in Colton, Barstow, Baker, Cima, and Las Vegas.	
SANBAG	I-10 from Haven Avenue to Ford Street	The I-10 HOV project will add a carpool lane in each direction along a 25-mile segment of I-10 from Haven Avenue in Ontario to Ford Street in Redlands. I-10 currently has carpool lanes west of Haven Avenue; this project will allow the extension of these lanes east through the San Bernardino Valley, including the cities of Ontario, Fontana, Rialto, Colton, San Bernardino, Loma Linda, and Redlands, as well as San Bernardino County unincorporated areas along the I-10 corridor.	Project is in design and in the environmental phase

HOV = high-occupancy level

I-10 = Interstate 10

ROW = right-of-way

SANBAG = San Bernardino Associated Governments

- Water Quality
- Paleontology
- Hazardous Materials
- Noise
- Biological Resources

Community Impacts

The Build Alternative being considered (Alternative 2A) would result in some level of residential displacement due to the proximity of the residences to the interchange. Under Alternative 2A – the Preferred Alternative, seven full parcel acquisitions would displace five residential structures and three businesses. It is anticipated that the displaced residents could be relocated within the area. According to the RIR, 30 single-family residences are available for sale, and 23 nonresidential properties are currently available for relocation (May 2009). All of the relocations would be handled in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. Measures CI-2 through CI-4 would reduce or

eliminate the adverse effects of the I-10/Cedar Avenue Interchange project related to property acquisition and relocation.

The cumulative community impacts from construction of the project and construction of the other projects in the study area would be minimal due to the lack of potential of those projects to cause property acquisitions and relocations. Although some relocations will be required for the other I-10 Interchange projects listed in Table 2.16.1, the RIR (May 2009) considered these other projects in determining the availability of relocation resources.

Land Use

The Build Alternative being considered (Alternative 2A) for the I-10/Cedar Interchange project would result in 13 partial and 7 full property acquisitions, including the full acquisition of six residences and the displacement of residents.

Jack Pratte Park would be temporarily impacted since the park would be relocated slightly west of and immediately adjacent to its present location in order to accommodate the improved intersection of Cedar Avenue and Valley Boulevard. The relocated park will be the same size as the existing park and will have the same features.

Mitigation Measure L-1 would reduce or eliminate the adverse effects to the recreational values associated with Washington Alternative Middle School. Further, measures CI-2, CI-3, and CI-4 would reduce impacts associated with property acquisition and relocation. Measures V-1 and V-2 would reduce visual impacts that would occur during construction. Standard abatement measures related to Air Quality and Noise (described in Chapters 2.13 and 2.14) would avoid and/or minimize noise and air quality impacts that would occur during construction.

None of the projects listed in Table 2.16.1 would result in impacts to Jack Pratte Park. The planning and construction of the projects at the corner of Cedar Avenue and Slover Avenue are being coordinated in order to avoid, minimize, and mitigate cumulative impacts to the Washington Alternative Middle School, including the ball fields.

Visual and Aesthetic Impacts

Evaluation of the potential visual impacts of the I-10/Cedar Avenue Interchange project includes consideration of changes that would occur as a result of widening the existing Cedar Avenue overcrossing, the UPRR overhead, and Cedar Avenue from

four to six lanes, and realigning and widening the I-10 on- and off-ramps to connect to the improved Cedar Avenue.

To accommodate the wider profile of Cedar Avenue, approximately 80 eucalyptus windrows within the existing I-10 ROW in the southwest quadrant of the interchange along the eastbound off-ramp would be removed. In addition, several mature trees and shrubs would be removed from the northeast quadrant of the interchange adjacent to I-10 to accommodate the reconfigured westbound off-ramp. Because of the size and maturity of these trees, their removal would have an adverse effect on the existing visual character of the study area. However, these visual impacts would be minimized by Measures V-3 through V-6.

The I-10/Cedar Avenue Interchange project would include modification or relocation of existing light on surrounding streets and ramps. Visual impacts related to these changes would be minimized by Measure V-9.

None of the projects listed in Table 2.16.1 would result in impacts to any visual resources that are being impacted by the I-10/Cedar Avenue interchange project; therefore, there would be no cumulative impact to these resources.

Cultural Resources

An Architectural Survey was conducted to inventory buildings and structures within the Area of Potential Effects (APE) and to evaluate their potential eligibility for the National Register of Historic Places (National Register). A records search examined an area 0.5 mi in radius from the APE. Within the APE, no historic properties would be affected by the I-10/Cedar Avenue Interchange project. No archaeological resources were identified within or immediately adjacent to the APE and therefore, within the APE, no known archaeological resources would be affected by the project.

It is possible that previously undocumented and unknown cultural materials or human remains could be uncovered during site clearing, grading, and excavation for the I-10/Cedar Avenue Interchange project. In the event such resources are uncovered, the project would have the potential to impact cultural resources. The Standard Conditions discussed in Section 2.7 would substantially reduce the potential for impacts related to the discovery of previously unknown cultural resources and human remains during construction of the project.

None of the projects listed in Table 2.16.1 would result in impacts to historic and/or archaeological resources or to previously undocumented or unknown cultural materials; therefore, there would be no cumulative impacts to cultural resources.

Hydrology and Floodplains

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) 06071C8660F, 06071C8658F, and 06071C8666F for the area, the project area is not located within the 100-year floodplain. Therefore, no impacts to floodplains are anticipated as part of the project.

The project would require the reconstruction of existing drainage structures as well as construction of new storm drain facilities. A hydrology analysis is required to be prepared during final design. Caltrans will review and approve the hydrology analysis prior to completion of PS&E. Mitigation Measure HY-1 would prevent adverse hydrology impacts associated with the project.

None of the projects listed in Table 2.16.1 would result in changes to the existing volumes and quality of runoff generated in the I-10/Cedar Avenue interchange project area; therefore, there would be no cumulative impact to hydrology and floodplains.

Water Quality

The improvements to the I-10/Cedar Avenue interchange would result in a minor increase in impervious area by 126,324 square feet. This increase in impervious area would increase the volume of runoff during a storm, which would more effectively transport pollutants to receiving waters. To prevent soil erosion, slope grades would be limited, and landscaping is required consistent with Caltrans requirements.

As part of Caltrans Project Delivery Storm Water Management Program described in the SWMP, selected Construction Site, Design Pollution Prevention, and Treatment BMPs would be incorporated into the final design of the I-10/Cedar Avenue Interchange project. Compliance with the standard requirements of the SWMP for potential long-term impacts, Measures WQ-1, WQ-2 and WQ-3, is required as part of the construction and operation of the project.

None of the projects listed in Table 2.16.1 would result in changes in the existing volumes and quality of runoff generated in the I-10/Cedar Avenue interchange project area; therefore, there would be no cumulative water quality impacts.

Paleontology

The paleontological resource sensitivity map from the Planning Department of San Bernardino County indicates that the location of the Potential Contractor Yard within the project area has the potential for significant paleontological resources at depths greater than 3 ft. Based on the sensitivity of the area for paleontological resources, excavation for the I-10/Cedar Avenue Interchange project could result in adverse impacts on paleontological resources. However, as identified in Table 2.11.1, excavation in the contractor yard would consist of surface grubbing and removal of vegetation and would not exceed a depth of 3 ft. Therefore, no impacts to paleontological resources are anticipated.

None of the projects listed in Table 2.16.1 would result in impacts to paleontological resources in the I-10/Cedar Avenue interchange project area; therefore, there would be no cumulative impact to paleontological resources.

Hazardous Wastes and Materials

Temporary impacts from hazardous materials such as lead, pavement marking materials, asbestos, PCBs, spills, and other materials may occur during construction when existing structures and soils are disturbed, releasing toxic substances into the environment. These potential impacts would be reduced with implementation of Mitigation Measures HW-1 to HW-9

Implementation of the project would include expansion of the existing road, ramp, and freeway areas. Hazardous materials such as lead and ACM as well as past hazardous materials spills associated with any property acquired for the project would be remediated as part of the project. The potential for hazardous materials spills that occur as a result of traffic accidents or through operation of businesses that use hazardous materials under the I-10/Cedar Avenue Interchange project would be similar to the existing condition. Therefore, substantial permanent impacts (direct or indirect) related to hazardous materials are not anticipated as a result of the I-10/Cedar Avenue interchange project.

None of the projects listed in Table 2.16.1 would result in hazardous wastes and materials impacts within the I-10/Cedar Avenue interchange project area; therefore, there would be no cumulative impact related to hazardous wastes and materials.

Noise

Potential long-term noise impacts associated with project operations would occur solely from traffic noise generated by vehicles on Cedar Avenue. Traffic noise was

evaluated for the future condition as a worst-case scenario. The following receptor locations would be exposed to noise levels that approach or exceed the Noise Abatement Criteria (NAC).

There were 56 sensitive receptors identified in the project study area. The locations of the monitored receptors were chosen to represent the surrounding noise-sensitive land uses in the project area. These noise-sensitive land uses include residences, a church, and a school. A total of 50 of the 56 modeled receptor locations currently approach or exceed the NAC. Of the 56 modeled receptor locations, 52 would approach or exceed the NAC without the project during 2030 conditions.

The closest classroom building at the Washington Alternative Middle School is located approximately 125 ft from Cedar Avenue. Based on the interior and exterior noise measurements conducted, the classroom building would provide an exterior-to-interior noise reduction of 24 dBA. The exterior noise level at the classroom building is projected to be up to 68 dBA L_{eq} under future worst-case traffic conditions. As the classroom building would provide an exterior-to-interior reduction of 24 dBA, the interior noise level of the classroom is projected to be 44 dBA L_{eq} . This noise level would not exceed the interior noise standard of 52 dBA L_{eq} NAC. In addition, the classroom buildings are equipped with air conditioning, and the windows and doors can remain closed for a prolonged period of time. Therefore, no noise abatement measures are required for the classroom buildings at the Washington Alternative Middle School.

Based on the studies conducted to date, two noise barriers have been determined to be both reasonable and feasible. If during final design conditions have substantially changed, noise barriers may not be provided. The final decision on noise barriers will be made following completion of the project design and public involvement processes.

None of the projects listed in Table 2.16.1 would result in a cumulative noise impact in the I-10 Cedar Avenue interchange project area.

Biological Resources

The following biological resources within the study area may potentially be impacted by the project.

Wetlands and Other Waters

The I-10 Channel is an artificial channel regulated by the Corps, the Santa Ana RWQCB, and the CDFW. The project would have less than 0.1 ac of permanent impacts to the I-10/Channel and qualifies as a non-reporting Section 404 NWP 14 from the Corps. A Section 401 Water Quality Certification permit will also be required from RWQCB. Submittal of an application for a 1602 Streambed Alteration Agreement will be required in order to receive a regulatory determination/and or agreement from the CDFW. Although these permits are required, the I-10 Channel is a concrete lined channel and no impacts, cumulative or otherwise, are anticipated to wetlands and other waters.

Animal Species

Removal of the existing eucalyptus and other large ornamental trees in the project area could affect nesting raptors under the MBTA. Mitigation Measure BIO-1 would ensure that the project does not result in adverse impacts to nesting habitat for raptors.

None of the projects listed in Table 2.16.1 would result in impacts to animal species in the project area.

Threatened and Endangered Species

The project area does not contain suitable habitat for the Delhi sands flower-loving fly (DSF). Therefore, the I-10/Cedar Avenue Interchange project would result in no adverse direct impacts to DSF. However, the habitat assessment conducted for indirect effects determined that the project has the potential for indirect effects to 8.7 ac of recoverable DSF habitat. To mitigate for the potential indirect effects to 8.7 ac of recoverable DSF habitat, 0.22 ac of mitigation credits will be purchased from the Vulcan Material DSF Mitigation Bank or from a bank established by the FHWA, as described in Mitigation Measure BIO-2. The biological assessment (August 2005), a cumulative analysis of project-related impacts to the DSF, concluded that the proposed mitigation would be sufficient, and the project (along with the other three projects analyzed) would not jeopardize the long-term survival of the species. A biological opinion was issued by USFWS in 2005 confirming this conclusion. Therefore, although the project contributes to cumulative impacts to DSF, mitigation is being provided under Mitigation Measure BIO-2 that offsets this impact.

Invasive Species

Construction and operation of the I-10/Cedar Avenue Interchange project has the potential to spread invasive species by the entering and exiting of construction equipment contaminated by invasives, the inclusion of invasive species in seed mixtures and mulch, and the improper removal and disposal of invasive species so that seed is spread along the highway. Mitigation Measure BIO-3 would substantially reduce adverse project impacts related to invasive species.

None of the projects listed in Table 2.16.1 would result in impacts related to invasive species in the I-10/Cedar Avenue interchange project area.

Cumulative Impact Summary

The avoidance, minimization, and mitigation measures discussed above would offset the direct and indirect impacts of the I-10/Cedar Avenue Interchange project, as well as the project's contribution to cumulative impacts other than impacts to DSF, which would be mitigated by Mitigation Measure BIO-2, there are no existing resources in the area that have been substantially impacted by existing development, and no substantial contributions to adverse cumulative impacts are anticipated from the combined impacts of the I-10/Cedar Avenue Interchange project and the cumulative projects listed in Table 2.16.1. Avoidance, minimization, and mitigation measures to reduce impacts from the other cumulative projects listed in Table 2.16.1 would be developed during the planning process for those projects in coordination with the applicable CEQA and/or NEPA lead agencies and the resource agencies.

2.17 Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gases (GHGs), particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs related to human activity that include CO₂, methane (CH₄), nitrous oxide (N₂O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (s, s, s, 2 – tetrafluoroethane), and HFC-152a (difluoroethane).

In the U.S., the main source of GHG emissions is electricity generation, followed by transportation. In California, however, transportation sources (including passenger cars, light duty trucks, other trucks, buses, and motorcycles make up the largest source (second to electricity generation) of GHG emitting sources. The dominant GHG emitted is CO₂, mostly from fossil fuel combustion.

There are typically two terms used when discussing the impacts of climate change. “Greenhouse Gas (GHG) Mitigation” is a term for reducing GHG emissions in order to reduce or “mitigate” the impacts of climate change. “Adaptation,” refers to the effort of planning for and adapting to impacts due to climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels).¹

There are four primary strategies for reducing GHG emissions from transportation sources: 1) improving the transportation system and operational efficiencies, 2) reducing growth of vehicle miles traveled (VMT), 3) transitioning to lower GHG emitting fuels, and 4) improving vehicle technologies. To be most effective all four strategies should be pursued collectively. The following Regulatory Setting section outlines state and federal efforts to comprehensively reduce GHG emissions from transportation sources.

¹ http://climatechange.transportation.org/ghg_mitigation/.

Regulatory Setting

State

With the passage of several pieces of legislation, including State Senate and Assembly Bills and Executive Orders, California launched an innovative and proactive approach to dealing with GHG emissions and climate.

Assembly Bill 1493 (AB 1493), Pavley. Vehicular Emissions: Greenhouse Gases (AB 1493), 2002: requires the ARB to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009 model year. In June 2009, the EPA Administrator granted a CAA waiver of preemption to California. This waiver allowed California to implement its own GHG emission standards for motor vehicles beginning with model year 2009. California agencies will be working with federal agencies to conduct joint rulemaking to reduce GHG emissions for passenger car model years 2017–2025.

Executive Order (EO) S-3-05: Signed on June 1, 2005, by Governor Arnold Schwarzenegger, the goal of this EO is to reduce California’s GHG emissions to: (1) 2000 levels by 2010, (2) 1990 levels by 2020, and (3) 80 percent below the 1990 levels by 2050. In 2006, this goal was further reinforced with the passage of AB 32.

AB 32, the Global Warming Solutions Act of 2006, Núñez and Pavley: AB 32 sets the same overall GHG emissions reduction goals as outlined in EO S-3-05, while further mandating that ARB create a plan that includes market mechanisms and implement rules to achieve “real, quantifiable, cost-effective reductions of GHGs.”

EO S-20-06: (signed on October 18, 2006 by former Governor Arnold Schwarzenegger) further directs state agencies to begin implementing AB 32, including the recommendations made by the California’s Climate Action Team.

EO S-01-07: Governor Schwarzenegger set forth the low carbon fuel standard for California. Under this EO, the carbon intensity of California’s transportation fuels is to be reduced by at least 10 percent by 2020.

Senate Bill 97 (Chapter 185, 2007): SB 97 required the Governor’s Office of Planning and Research (OPR) to develop recommended amendments to the State

CEQA Guidelines for addressing GHG emissions. The amendments became effective on March 18, 2010.

Caltrans Director's Policy 30 (DP-30) Climate Change (approved June 22, 2012): This policy is intended to establish a Caltrans policy that will ensure coordinated efforts to incorporate climate change into Caltrans decisions and activities. This policy contributes to Caltrans' stewardship goal to preserve and enhance California's resources and assets.

Federal

Although climate change and GHG reduction is a concern at the federal level, currently there are no regulations or legislation that have been enacted specifically addressing GHG emissions reductions and climate change at the project level. Neither the United States Environmental Protection Agency (U.S. EPA) nor the Federal Highway Administration (FHWA) has promulgated explicit guidance or methodology to conduct project-level GHG analysis. As stated on FHWA's climate change website (<http://www.fhwa.dot.gov/hep/climate/index.htm>), climate change considerations should be integrated throughout the transportation decision-making process—from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process will facilitate decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project level decision-making. Climate change considerations can easily be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

The four strategies set forth by FHWA to lessen climate change impacts do correlate with efforts that the state has undertaken and is undertaking to deal with transportation and climate change; the strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and a reduction in the growth of vehicle hours travelled.

Climate change and its associated effects are being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, such as the "National Clean Car Program" and EO 13514- *Federal Leadership in Environmental, Energy and Economic Performance*.

EO 13514 is focused on reducing GHGs internally in federal agency missions, programs, and operations, but also on directing federal agencies to participate in the interagency Climate Change Adaptation Task Force, which is engaged in developing a United States strategy for adaptation to climate change.

On April 2, 2007, in *Massachusetts v. EPA*, 549 U.S. 497 (2007), the Supreme Court found that GHGs are air pollutants covered by the CAA and that the EPA has the authority to regulate GHG. The Court held that the EPA Administrator must determine (1) whether or not emissions of GHGs from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or (2) whether the science is too uncertain to make a reasoned decision.

On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the CAA:

- **Endangerment Finding:** The Administrator found that the current and projected concentrations of the six key well-mixed GHGs, CO₂, CH₄, N₂O, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆), in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The Administrator found that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare.

Although these findings did not themselves impose any requirements on industry or other entities, this action was a prerequisite to finalizing the EPA's Proposed Greenhouse Gas Emission Standards for Light-Duty Vehicles, which was published on September 15, 2009.¹ On May 7, 2010, the final Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards was published in the Federal Register.

US EPA and the National Highway Traffic Safety Administration (NHTSA) are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced GHG emissions and improved fuel efficiency from on-road

¹ <http://www.epa.gov/climatechange/endangerment.html>

vehicles and engines. These next steps include developing the first-ever GHG regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle GHG regulations. These steps were outlined by President Obama in a Presidential Memorandum on May 21, 2010.¹

The final combined EPA and NHTSA standards that make up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards require these vehicles to meet an estimated combined average emissions level of 250 grams of CO₂ per mile, equivalent to 35.5 miles per gallon (mpg) if the automobile industry were to meet this CO₂ level solely through fuel economy improvements. Together, these standards will cut GHG emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012–2016).

On November 16, 2011, U.S. EPA and NHTSA issued their joint proposal to extend this national program of coordinated greenhouse gas and fuel economy standards to model years 2017 through 2025 passenger vehicles.

Project Analysis

An individual project does not generate enough GHG emissions to significantly influence global climate change (GCC). Rather, GCC is a cumulative impact. This means that a project may participate in a potential impact through its incremental contribution combined with the contributions of all other sources of GHG.² In assessing cumulative impacts, it must be determined whether a project's incremental effect is "cumulatively considerable." See *CEQA Guidelines* Sections 15064(h)(1) and 15130. To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult if not impossible task.

¹ <http://epa.gov/otaq/climate/regulations.htm>

² This approach is supported by the AEP: Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents (March 5, 2007), as well as the SCAQMD (Chapter 6: The CEQA Guide, April 2011) and the US Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).

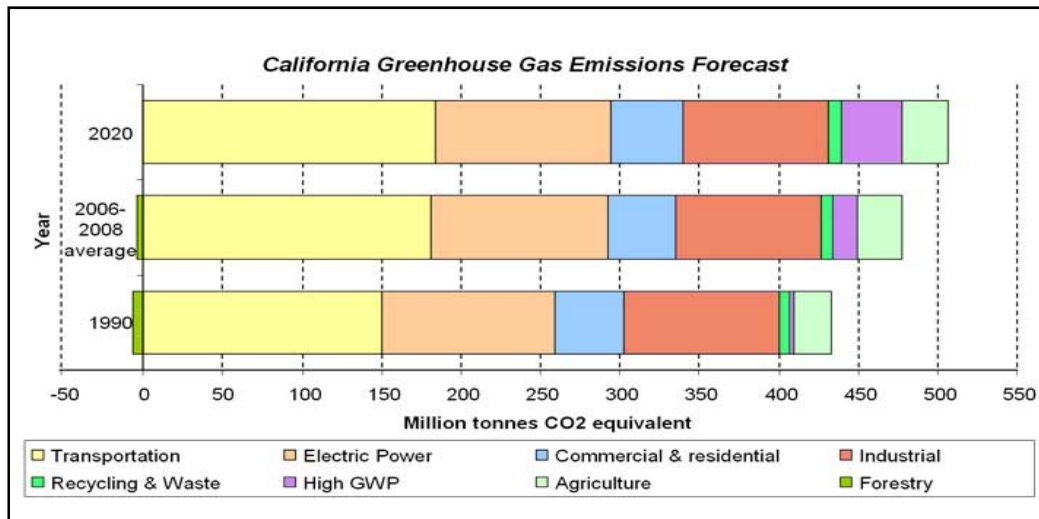
The AB 32 Scoping Plan contains the main strategies California will use to reduce GHGs. As part of its supporting documentation for the Draft Scoping Plan, ARB released the GHG inventory for California (Forecast last updated: October 28, 2010) (Figure 2.17-1). The forecast is an estimate of the emissions expected to occur in the year 2020 if none of the foreseeable measures included in the Scoping Plan were implemented. The base year used for forecasting emissions is the average of statewide emissions in the GHG inventory for 2006, 2007, and 2008.

California Department of Transportation (Caltrans) and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emissions reduction and climate change. Recognizing that 98 percent of California's GHG emissions are from the burning of fossil fuels and 40 percent of all humanmade GHG emissions are from transportation, Caltrans has created and is implementing the Climate Action Program at Caltrans that was published in December 2006 (see Climate Action Program at Caltrans [December 2006]).¹

One of the main strategies in Caltrans Climate Action Program to reduce GHG emissions is to make California's transportation system more efficient. The highest levels of CO₂ from mobile sources, such as automobiles, occur at stop-and-go speeds (0-25 mph) and speeds over 55 mph; the most severe emissions occur from 0–25 mph (see Figure 2.17-2). To the extent that a project relieves congestion by enhancing operations and improving travel times in high-congestion travel corridors, GHG emissions, particularly CO₂, may be reduced.

¹ Caltrans Climate Action Program is located at the following web address:
[http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/
State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf](http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf).

Figure 2.17-1 California Greenhouse Gas Forecast

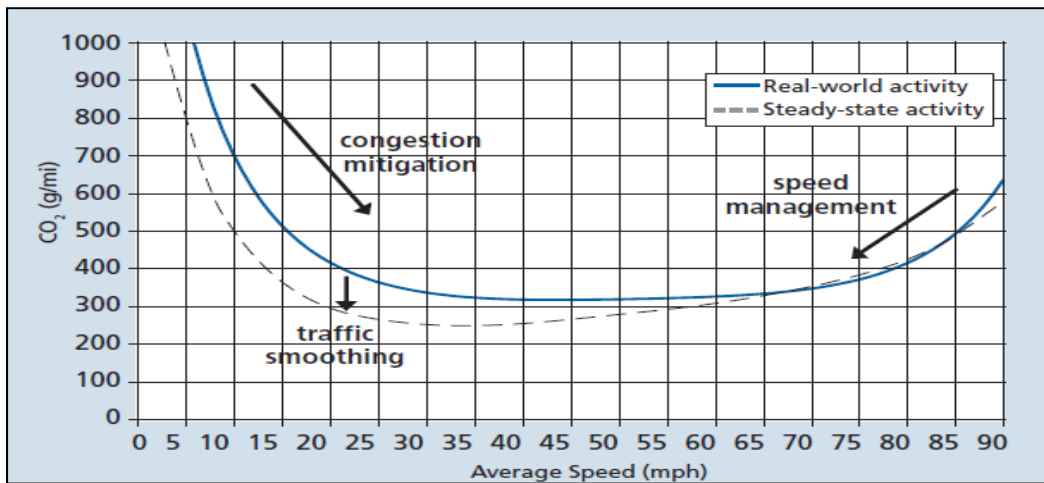


Source: <http://www.arb.ca.gov/cc/inventory/data/forecast.htm>

Quantitative Analysis

The purpose of the project is to improve operational deficiencies and increase capacity at the interchange, as well as enhance local circulation and access. Currently, existing operating conditions on Cedar Avenue and the westbound ramps are characterized by LOS F for the a.m. peak hour and LOS C for the p.m. peak hour; the eastbound ramps and Cedar Avenue are at LOS D for the a.m. peak hour and LOS F for the p.m. peak hour. In 2030, almost all of the freeway segments and Cedar Avenue segments are projected to be at LOS F during the a.m. and p.m. peak hours. With the project, the future LOS at the freeway segments and ramps improve. In addition, the project is consistent with the San Bernardino General Plan Circulation Element (March 2007) and is an important component of the overall plan to provide efficient traffic circulation in the County. Tables 2.13.7 and 2.13.8 list the estimated daily CO₂ emissions associated with the vehicle trips for the existing, 2014, and 2030 conditions. These emissions are based on emissions factors from the

Figure 2.17-2 Possible Effect of Traffic Operation Strategies in Reducing On-road CO₂ Emissions¹



EMFAC2007 model for the various years specified. The CO₂ emissions numbers listed in Tables 2.13.7 and 2.13.8 are only useful for a comparison between project alternatives. The numbers are not necessarily an accurate reflection of what the true CO₂ emissions would be because CO₂ emissions are dependent on other factors that are not part of the model (e.g., the fuel mix [EMFAC model emission rates are only for direct engine-out CO₂ emissions, not full fuel cycle; fuel cycle emission rates can vary dramatically depending on the amount of additives such as ethanol and the source of the fuel components], rate of acceleration, and the aerodynamics and efficiency of the vehicles). As shown in Tables 2.13.7 and 2.13.8, the project would not change the CO₂ emissions in the project area compared to the No Build Alternative. Therefore, implementation of the project would not result in a substantial increase in CO₂ emissions compared to the No Build Alternative.

¹ Traffic Congestion and Greenhouse Gases: Matthew Barth and Kanok Boriboonsomsin (TR News 268 May-June 2010) <http://onlinepubs.trb.org/onlinepubs/trnews/trnews268.pdf>.

Limitations and Uncertainties with Modeling

EMFAC

Although the Emission Factors model (EMFAC) can calculate CO₂ emissions from mobile sources, the model does have limitations when it comes to accurately reflecting CO₂ emissions. According to the National Cooperative Highway Research Program report, *Development of a Comprehensive Modal Emission Model* (April 2008), studies have revealed that brief but rapid accelerations can contribute significantly to a vehicle's CO and hydrocarbon emissions during a typical urban trip. Current emission factor models are insensitive to the distribution of such modal events (i.e., cruise, acceleration, deceleration, and idle) in the operation of a vehicle and instead estimate emissions by average trip speed. This limitation creates an uncertainty in the model's results when compared to the estimated emissions of the various alternatives with baseline in an attempt to determine impacts. Although work by EPA and the ARB is underway on modal emission models, neither agency has yet approved a modal emission model that can be used to conduct this more accurate modeling. In addition, EMFAC does not include speed corrections for most vehicle classes for CO₂ – for most vehicle classes, emission factors are held constant, which means that EMFAC is not sensitive to the decreased emissions associated with improved traffic flows for most vehicle classes. Therefore, unless a project involves a large number of heavy-duty vehicles, the difference in modeled CO₂ emissions due to speed change will be slight.

ARB is currently not using EMFAC to create its inventory of GHG emissions. It is unclear why the ARB has made this decision. Its website only states:

REVISION: Both the EMFAC and OFFROAD Models develop CO₂ and CH₄ [methane] emission estimates; however, they are not currently used as the basis for [ARB's] official [greenhouse gas] inventory which is based on fuel usage information. However, ARB is working towards reconciling the emission estimates from the fuel usage approach and the models.

Other Variables

With the current science, project-level analysis of GHG emissions is limited. Although a GHG analysis is included for this project, there are numerous key GHG variables that are likely to change dramatically during the design life of the project and would, thus, dramatically change the projected CO₂ emissions.

First, vehicle fuel economy is increasing. The EPA’s annual report, “Light-Duty Automotive Technology and Fuel Economy Trends: 1975 through 2008 (<http://www.epa.gov/oms/fetrends.htm>),” which provides data on the fuel economy and technology characteristics of new light-duty vehicles, including cars, minivans, sport utility vehicles, and pickup trucks, confirms that average fuel economy has improved each year beginning in 2005 and is now the highest since 1993. Most of the increase since 2004 is due to higher fuel economy for light trucks, following a long-term trend of slightly declining overall fuel economy that peaked in 1987. These vehicles also have a slightly lower market share, peaking at 52 percent in 2004 with projections at 48 percent in 2008. Table 2.17.1 shows the alternatives for vehicle fuel economy increases studied by the NHTSA in its Final Environmental Impact Study (EIS) for New Corporate Average Fuel Economy (CAFE) Standards (October 2008).

Table 2.17.1 Model Year 2015 Required Miles Per Gallon by Alternative

No Action		25% Below Optimized	Optimized (Preferred)	25% Above Optimized	50% Above Optimized	Total Costs Equal Total Benefits	Technology Exhaustion
Cars	27.5	33.9	35.7	37.5	39.5	43.3	52.6
Trucks	23.5	27.5	28.6	29.8	30.9	33.1	34.7

Second, near-zero carbon vehicles will come into the market during the design life of this project. According to a March 2008 report released by University of California, Davis (UC Davis), Institute of Transportation Studies:

“Large advancements have occurred in fuel cell vehicle and hydrogen infrastructure technology over the past 15 years. Fuel cell technology has progressed substantially resulting in power density, efficiency, range, cost, and durability all improving each year. In another sign of progress, automotive developers are now demonstrating over 100 fuel cell vehicles (FCVs) in California – several in the hands of the general public – with configurations designed to be attractive to buyers. Cold-weather operation and vehicle range challenges are close to being solved, although vehicle cost and durability improvements are required before a commercial vehicle can be successful without incentives. The pace of development is on track to approach pre-commercialization within the next decade.

“A number of the U.S. Department of Energy (DOE) 2010 milestones for FCV development and commercialization are expected to be met by 2010. Accounting for a five to six year production development cycle, the scenarios developed by the U.S. DOE suggest that 10,000s of vehicles per year from 2015 to 2017 would be possible in a federal demonstration program, assuming large cost share grants by the government and industry are available to reduce the cost of production vehicles.”¹

Third, and as previously stated, California adopted a low-carbon fuel standard in 2009 to reduce the carbon intensity of transportation fuels by 10 percent by 2020. The regulation became effective on January 12, 2010 (codified in Title 17, CCR, Sections 95480–95490). Beginning January 1, 2011, transportation fuel producers and importers must meet specified average carbon intensity requirements for fuel in each calendar year.

Fourth, driver behavior has been changing as the U.S. economy and oil prices have changed. In its January 2008 report, “Effects of Gasoline Prices on Driving Behavior and Vehicle Market,”² the Congressional Budget Office found the following results based on data collected from California: (1) freeway motorists have adjusted to higher gas prices by making fewer trips and driving more slowly; (2) the market share of sports utility vehicles is declining; and (3) the average prices for larger, less-fuel-efficient models have declined over the past 5 years as average prices for the most-fuel-efficient automobiles have risen, showing an increase in demand for the more fuel-efficient vehicles.

¹ Cunningham, Joshua, Sig Cronich, Michael A. Nicholas. March 2008. Why Hydrogen and Fuel Cells are Needed to Support California Climate Policy, UC Davis, Institute of Transportation Studies, pp. 9–10.

² <http://www.cbo.gov/ftpdocs/88xx/doc8893/01-14-GasolinePrices.pdf>.

Limitations and Uncertainties with Impact Assessment

Taken from p. 3-70 of the National Highway Traffic Safety Administration Final EIS for New CAFE Standards (October 2008), Figure 2.17-3 illustrates how the range of uncertainties in assessing GHG impacts grows with each step of the analysis:

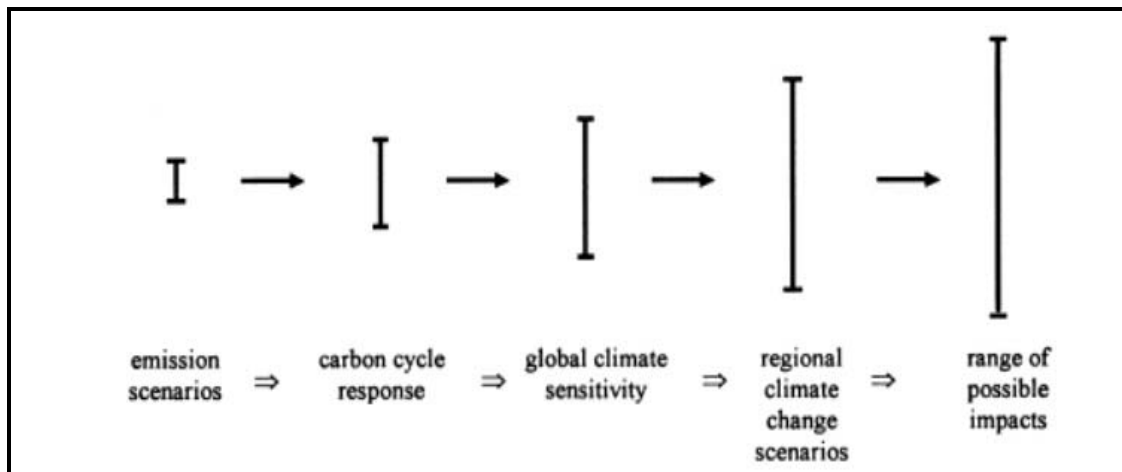
“Cascade of uncertainties typical in impact assessments showing the “uncertainty explosion” as these ranges are multiplied to encompass a comprehensive range of future consequences, including physical, economic, social, and political impacts and policy responses.”

Much of the uncertainty in assessing an individual project’s impact on climate change surrounds the global nature of climate change. Even assuming that the target of meeting the 1990 levels of emissions is met, there is no regulatory or other framework in place that would allow for a ready assessment of what any modeled increase in CO₂ emissions would mean for climate change given the overall California GHG emissions inventory of approximately 430 million tons of CO_{2eq}. This uncertainty only increases when viewed globally. The IPCC has created multiple scenarios to project potential future global GHG emissions as well as to evaluate potential changes in global temperature, other climate changes, and their effect on human and natural systems. These scenarios vary in terms of the type of economic development, the amount of overall growth, and the steps taken to reduce GHG emissions. Nonmitigation IPCC scenarios project an increase in global GHG emissions by 9.7, and up to 36.7, billion metric tons of CO₂ from 2000 to 2030, which represents an increase of between 25 and 90 percent.¹

The assessment is further complicated by the fact that changes in GHG emissions can be difficult to attribute to a particular project because the projects often cause shifts in the locale for some types of GHG emissions rather than causing “new” GHG emissions. It is difficult to assess the extent to which any project-level increase in CO₂ emissions represents a net global increase, reduction, or no change; there are no models approved by regulatory agencies that operate at the global, or even statewide, scale.

¹ Intergovernmental Panel on Climate Change (IPCC). February 2007. Climate Change 2007: The Physical Science Basis: Summary for Policy Makers. <http://www.ipcc.ch/SPM2feb07.pdf>.

Figure 2.17-3 Cascade of Uncertainties



The complexities and uncertainties associated with project-level impact analysis are further borne out in the recently released Final Environmental Impact Statement (EIS) completed by the National Highway Traffic Safety Administration CAFE standards (October 2008). As the text quoted below shows, even when dealing with GHG emission scenarios on a national scale for the entire passenger car and light truck fleet, the numerical differences among alternatives is very small and well within the error sensitivity of the model.

Construction Emissions

Greenhouse gas emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events.

CEQA Conclusion

While construction would result in a slight increase in GHG emissions during construction, it is anticipated that any increase in GHG emissions due to construction would be offset by the improvement in operational GHG emissions. The regional GHG impact is thus considered less than significant. Therefore, the project would not contribute cumulatively to climate change.

AB 32 Compliance

Caltrans continues to be actively involved on the Governor's Climate Action Team as ARB works to implement EOs S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. Many of the strategies Caltrans is using to help meet the targets in AB 32 come from the California Strategic Growth Plan, which is updated each year. Former Governor Arnold Schwarzenegger's Strategic Growth Plan calls for a \$222 billion infrastructure improvement program to fortify the State's transportation system, education, housing, and waterways, including \$100.7 billion in transportation funding during the next decade. The Strategic Growth Plan targets a significant decrease in traffic congestion below today's level and a corresponding reduction in GHG emissions. The Strategic Growth Plan proposes to do this while accommodating growth in population and the economy. A suite of investment options has been created that, combined, are expected to reduce congestion. The Strategic Growth Plan relies on a complete systems approach to attain CO₂ reduction goals: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements, as depicted in Figure 2.17-4.

Caltrans is supporting efforts to reduce VMT by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high-density housing along transit corridors. Caltrans is working closely with local jurisdictions on planning activities; however, Caltrans does not have local land use planning authority. Caltrans is also supporting efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars and light and heavy-duty trucks; Caltrans is doing this by supporting ongoing research efforts at universities, by supporting legislative efforts to increase fuel economy, and by its participation on the Climate Action Team. It is important to note, however, that control of the fuel economy standards is held by the EPA and ARB.

Figure 2.17-4 Mobility Pyramid



Table 2.17.2 summarizes Caltrans and statewide efforts that Caltrans is implementing in order to reduce GHG emissions. More detailed information about each strategy is included in the Climate Action Program at Caltrans (December 2006).

To the extent that it is applicable or feasible for the project and through coordination with the project development team, the following measures will also be included in the project to reduce the GHG emissions and potential climate change impacts from the project:

- The San Bernardino Associated Governments (SANBAG) provides ridesharing services and park-and-ride facilities to help manage the growth in demand for highway capacity.
- Landscaping reduces surface warming, and through photosynthesis, decreases CO₂. Landscaping would be provided where necessary within the corridor to provide aesthetic treatment, replacement planting, or mitigation planting for the project. The landscape planting would help offset any potential CO₂ emissions increase.
- The project would incorporate the use of energy-efficient lighting, such as light-emitting diode (LED) traffic signals, to the extent feasible. LED bulbs, or balls, in the stoplight vernacular, cost \$60 to \$70 apiece but last 5–6 years compared to the 1-year average lifespan of the incandescent bulbs previously used. The LED balls

themselves consume 10 percent of the electricity of traditional lights, which would also help reduce the project's CO₂ emissions.¹

- According to Caltrans Standard Specification Provisions, idling time for lane closure during construction is restricted to 10 minutes in each direction. In addition, the contractor must comply with Title 13, California Code of Regulations §2449(d)(3) adopted by ARB on June 15, 2008. This regulation restricts idling of construction vehicles to no longer than 5 consecutive minutes. Compliance with this regulation reduces harmful emissions from diesel-powered construction vehicles.

¹ *Knoxville Business Journal*, "LED Lights Pay for Themselves," May 19, 2008 at <http://www.knoxnews.com/news/2008/may/19/led-traffic-lights-pay-themselves/>.

Table 2.17.2 Climate Change Strategies

Strategy	Program	Partnership		Method/Process	Estimated CO ₂ Savings (MMT)	
		Lead	Agency		2010	2020
Smart Land Use	Intergovernmental Review (IGR)	Caltrans	Local Governments	Review and seek to mitigate development proposals	Not Estimated	Not Estimated
	Planning Grants	Caltrans	Local and regional agencies & other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Regional Agencies	Caltrans	Regional plans and application process	0.975	7.8
Operational Improvements & ITS Deployment	Strategic Growth Plan	Caltrans	Regions	State ITS; Congestion Management Plan	.007	2.17
Mainstream Energy & GHG into Plans and Projects	Office of Policy Analysis & Research; Division of Environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated
Educational & Information Program	Office of Policy Analysis & Research	Interdepartmental, Cal EPA, ARB, CEC		Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening & Fuel Diversification	Division of Equipment	Department of General Services		Fleet Replacement B20 B100	0.0045	0.0065 0.45 .0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team		Energy Conservation Opportunities	0.117	0.34
Portland Cement	Office of Rigid Pavement	Cement and Construction Industries		2.5% limestone cement mix 25% fly ash cement mix > 50% fly ash/slag mix	1.2 0.36	3.6
Goods Movement	Office of Goods Movement	Cal EPA, ARB, BT&H, MPOs		Goods Movement Action Plan	Not Estimated	Not Estimated
Total					2.66	18.67

ARB = California Air Resources Board
 BT&H = Business, Transportation and Housing Agency
 Cal EPA = California Environmental Protection Agency
 CEC = California Energy Commission
 CO₂ = carbon dioxide

Caltrans = California Department of Transportation
 GHG = greenhouse gases
 ITS = Intelligent Trans. System
 MMT = million metric tons
 MPO = Metropolitan Planning Organization

Adaptation Strategies

“Adaptation strategies” refer to how Caltrans and others can plan for the effects of climate change on the state’s transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damaging roadbeds by longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

At the federal level, the Climate Change Adaptation Task Force, co-chaired by the White House Council on Environmental Quality (CEQ), the Office of Science and Technology Policy (OSTP), and the National Oceanic and Atmospheric Administration (NOAA), released its interagency report on October 14, 2010, outlining recommendations to President Obama for how Federal Agency policies and programs can better prepare the United States (US) to respond to the impacts of climate change. The Progress Report of the Interagency Climate Change Adaptation Task Force recommends that the federal government implement actions to expand and strengthen the Nation’s capacity to better understand, prepare for, and respond to climate change.

Climate change adaption must involve the natural environment as well. Efforts are underway on a Statewide level to develop strategies to cope with impacts to habitat and biodiversity through planning and conservation. The results of these efforts will help California agencies plan and implement mitigation strategies for programs and projects.

On November 14, 2008, Governor Schwarzenegger signed EO S-13-08, which directed a number of State agencies to address California’s vulnerability to sea level rise caused by climate change. This EO set in motion several agencies and actions to address the concern of sea level rise.

The California Natural Resources Agency (Resources Agency) was directed to coordinate with local, regional, State, and federal public and private entities to

develop. The California Climate Adaptation Strategy (December 2009),¹ which summarizes the best-known science on climate change impacts to California, assesses California's vulnerability to the identified impacts and then outlines solutions that can be implemented within and across state agencies to promote resiliency.

The strategy outline is in direct response to EO S-13-08, which specifically asked the Resources Agency to identify how state agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events. Numerous other state agencies were involved in the creation of the Adaptation Strategy document, including the EPA; Business, Transportation and Housing; Health and Human Services; and the Department of Agriculture. The document is broken down into strategies for different sectors that include: Public Health; Biodiversity and Habitat; Ocean and Coastal Resources; Water Management; Agriculture; Forestry; and Transportation and Energy Infrastructure. As data continues to be developed and collected, the state's adaptation strategy will be updated to reflect current findings.

The Resources Agency was also directed to request the National Academy of Science to prepare a Sea Level Rise Assessment Report by December 2010² to advise how California should plan for future sea level rise. The report is to include:

- Relative sea level rise projections for California, Oregon, and Washington, taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge, and land subsidence rates;
- The range of uncertainty in selected sea level rise projections;
- A synthesis of existing information on projected sea level rise impacts to State infrastructure (such as roads, public facilities, and beaches), natural areas, and coastal and marine ecosystems;
- A discussion of future research needs regarding sea level rise.

Prior to the release of the final Sea Level Rise Assessment Report, all state agencies that are planning to construct projects in areas vulnerable to future sea level rise were

¹ <http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF>.

² The Sea Level Rise Assessment report is currently due to be completed in 2012 and will include information for the states of Oregon and Washington as well as California.

directed to consider a range of sea level rise scenarios for 2050 and 2100 in order to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. Sea level rise estimates should also be used in conjunction with information regarding local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge, and storm wave data.

Until the final report from the National Academy of Sciences is released, interim guidance has been released by the Coastal Ocean Climate Action Team (CO-CAT) as well as Caltrans as a method to initiate action and discussion of potential risks to the State's infrastructure due to projected sea level rise.

All projects for which a Notice of Preparation has been filed, and/or are programmed for construction funding from 2008 through 2013, or are routine maintenance projects as of the date of EO S-13-08, may, but are not required to, consider these planning guidelines.

Furthermore, EO S-13-08 directed the Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea level affecting safety, maintenance, and operational improvements of the system and economy of the state. Caltrans continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

Currently, Caltrans is working to assess which transportation facilities are at greatest risk from climate change effects. However, without Statewide planning scenarios for relative sea level rise and other climate change impacts, Caltrans has not been able to determine what change, if any, may be made to its design standards for its transportation facilities. Once statewide planning scenarios become available, Caltrans will be able to review its current design standards to determine what changes, if any, may be warranted in order to protect the transportation system from sea level rise.

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. Caltrans is an active participant in the efforts being conducted in response to EO S-13-08 and is mobilizing to be able to respond to the National Academy of Science report on Sea Level Rise Assessment, which is due to be released in 2012.

While estimates vary, sea level is expected to rise an additional 22 to 35 inches by 2100.¹ Although these projections are on a global scale, the rate of sea level rise along California's coast is relatively consistent with the worldwide average rate observed over the past century. Therefore, it is reasonable to assume that changes in worldwide sea level rise will also be experienced along California's coast.² The area of the project would not be affected by a 1-meter (approximately 39-inch) rise in sea level. Therefore, the potential effects of climate change on the project would not be significant.

¹ California Climate Change Center, 2006. *Our Changing Climate. Assessing the Risks to California*. CEC-500-2006-077. July.

² California, State of. Department of Water Resources, 2006. *Progress on Incorporating Climate Change into Management of California's Water Resources*. July.

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Chapter 3 Comments and Coordination

3.1 Introduction

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process to determine the scope of environmental documentation, the level of analysis, potential impacts and mitigation measures, and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including project development team meetings and interagency coordination meetings and a public meeting during circulation of the Draft Initial Study with Proposed Mitigated Negative Declaration/Environmental Assessment (draft Environmental Document). In addition, a Value Analysis and Site Reviews were performed. This chapter summarizes the results of Caltrans' and County's efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

3.2 Scoping Process

The scoping process for the I-10 Cedar Interchange project was implemented through various stages of project development. A Project Study Report (Project Development Support) (PSR) was initiated by the County in response to the economic, industrial, and population growth within the vicinity of the project that has led to a significant increase in the traffic demand on Cedar Avenue. The PSR, which was approved on November 2, 2001, identified the improvement of the I-10/Cedar Avenue interchange as an essential need. Valley Boulevard and Slover Avenue were selected as the project termini on Cedar Avenue, after which there is a significant reduction in traffic. This Draft Project Report (DPR) carries the same scope as the PSR. This report documents the extent of the project development efforts expended to further examine the alternatives recommended in the PSR. Scoping efforts ensure that coordination occurred among all project stakeholders, for the agencies represented by the PDT, including the County, the Caltrans and FHWA.

3.3 Interagency Coordination and Consultation

The formulation of project alternatives and mitigation has been carried out through a cooperative dialogue among representatives of the following organizations:

- CDFW

- Office of Historic Preservation
- United States Fish and Wildlife Service
- United States Army Corps of Engineers

California Department of Fish and Wildlife

Personal communication between Denise Woodard and Jeff Brandt of the CDFW occurred on June 2, 2009. During this conversation, Mr. Brandt indicated that the project will be required to submit a 1602 Streambed Alteration Agreement application in order to receive a regulatory determination and/or agreement from the CDFW.

Office of Historic Preservation

Janet Hansen, who meets the Professionally Qualified Staff Standards in Section 106 PA Attachment 1 as a Principal Architectural Historian, has determined that the only other properties present within the APE, including State-owned resources, meet the criteria for Section 106 PA Attachment 4 (Properties Exempt for Evaluation). A letter requesting concurrence with the recommended finding was submitted to the Office of Historic Preservation. A response was received in a letter dated May 22, 2006, indicating concurrence with the recommended finding. A copy of the SHPO concurrence letter is provided on the following page.

United States Fish and Wildlife Service

A letter addressed to the USFWS requesting a list of species that may occur in the project vicinity was submitted in a letter dated April 7, 2003. A response with the requested information was received in a letter dated May 27, 2003. A request to confirm that the species listed within the April 7, 2003, letter were still considered current was submitted in an e-mail request to Mr. Eric Porter of the USFWS on June 8, 2009. Mr. Porter responded in an e-mail on the same date, indicating that the species list from the April 7, 2003, letter was still current. These letters are provided following the above-mentioned SHPO concurrence letter.

United States Army Corps of Engineers

Ms. Denise Woodard contacted Ms. Stephanie Hall of the USACE on May 18, 2009, by e-mail. Information provided by Ms. Hall indicated that the I-10 Channel is under the jurisdiction of the USACE, and a Section 404 NWP 14 permit will be required. A copy of this e-mail is included following the above-mentioned USFWS letters.

**OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION**

P.O. BOX 942896
SACRAMENTO, CA 94296-0001
(916) 653-8624 Fax: (916) 653-9824
calshpo@ohp.parks.ca.gov
www.ohp.parks.ca.gov



May 22, 2006

Reply To: FHWA060424F

David Bricker
Department of Transportation
District 8, Environmental Planning (MS825)
464 W Fourth Street, 6th Floor
San Bernardino, CA 92401-1400

Re: Determination of Eligibility for the Proposed Interchange Project on Interstate 10 and Cedar Avenue in Bloomington, San Bernardino County, CA

Dear Mr. Bricker:

Thank you for consulting with me about the subject undertaking in accordance with the *Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California (PA)*.

The California Department of Transportation is requesting my concurrence, pursuant to Stipulation VIII.C.5 of the PA, that the Bloomington School in Bloomington is not eligible for the National Register of Historic Places. Based on my review of the submitted documentation, I concur.

Thank you for considering historic properties during project planning. If you have any questions, please contact Natalie Lindquist of my staff at (916) 654-0631 or e-mail at nlindquist@parks.ca.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Milford Wayne Donaldson".

Milford Wayne Donaldson, FAIA
State Historic Preservation Officer

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United States Department of the Interior



FISH AND WILDLIFE SERVICE

Ecological Services
Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road
Carlsbad, California 92011

In Reply Refer To:
FWS-SB-4339.2

Quyen Tang
California Department of Transportation
464 West Fourth Street
San Bernardino, California 92401

AUG 4 2005

Subj: Species List for Interstate 10 Interchanges at Beech, Alder, Cherry, Citrus, Cedar, Riverside, and Pepper in San Bernardino County, California

Dear Mr. Tang:

This letter is in response to your electronic mail request, received on July 18, 2005, for information on federally endangered, threatened, and proposed species that occur in the vicinity Interstate 10 interchanges at Beech, Alder, Cherry, Citrus, Cedar, Riverside, and Pepper in San Bernardino County, California. To assist you in evaluating the potential occurrence of federally listed endangered, threatened, proposed, and candidate species that may occur in the vicinity of the area identified, we are providing the enclosed list.

Section 7 of the Endangered Species Act of 1973 (Act), as amended, requires Federal agencies to consult with us, the U.S. Fish and Wildlife Service, should it be determined that their actions may affect federally listed threatened or endangered species. Section 9 of the Act prohibits the "take" (e.g., harm, harassment, pursuit, injury, kill) of federally listed wildlife. "Harm" is further defined to include habitat modification or degradation where it kills or injures wildlife by impairing essential behavioral patterns including breeding, feeding, or sheltering. Take incidental to otherwise lawful activities can be authorized under sections 7 (Federal consultations) and 10 (habitat conservation plans) of the Act.

If a proposed project is authorized, funded, or carried out by a Federal agency and may affect a listed species, then the Federal agency must consult with us on behalf of the applicant, pursuant to section 7 of the Act. In other words, any activity on private land that requires Federal involvement (such as the issuance of a section 404 permit under the Clean Water Act by the U.S. Army Corps of Engineers) and may affect listed species must be reviewed by us to ensure that the continued existence of the species would not be jeopardized. During the section 7 process, measures to avoid and minimize project effects to listed species and their habitat will be identified and incorporated into a biological opinion that includes an incidental take statement that authorizes incidental take by the Federal agency and applicant.

TAKE PRIDE
IN AMERICA 

If a proposed project does not involve a Federal agency, but is likely to result in the take of a listed animal species, then the landowner or project proponent should apply for an incidental take permit, pursuant to section 10 of the Act. When an application is made for an incidental take permit, measures to avoid, minimize, or mitigate for effects to listed species and their habitat will be identified and incorporated into a habitat conservation plan. If the habitat conservation plan and the application for the permit meet the issuance criteria, a permit authorizing incidental take is issued.

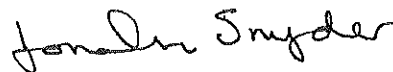
We do not have site-specific information for this area. Therefore, we recommend that project proponents seek assistance from a biologist familiar with the habitat conditions and associated species in and around their project site to assess the actual potential for direct, indirect and cumulative impacts likely to result from the proposed activity.

In addition to the species on the enclosed list, we are also concerned for the following habitat community types that could potentially occur in the area and are becoming more rare. These include coastal sage scrub, alluvial fan scrub, sandy wash, Delhi sands soil, and native grasslands.

Please contact the California Department of Fish and Game for State-listed and other sensitive species that may occur in the area of the project. State-listed species are protected under the provisions of the California Endangered Species Act. Rare plant species that may occur in the project area are included in the California Native Plant Society's (CNPS) inventory of rare and endangered vascular plants in California. State-listed and CNPS species require full consideration under the California Environmental Quality Act.

Should you have any questions regarding the species list provided, or your responsibilities under the Act, please contact Fish and Wildlife Biologist Jonathan Snyder of my staff at (760) 431-9440.

Sincerely,



for Karen A. Goebel
Assistant Field Supervisor

Enclosure

**Federally Endangered, Threatened, Proposed, and Candidate Species that May Occur in
the Vicinity of Interstate 10 Interchanges at Beech, Alder, Cherry, Citrus, Cedar,
Riverside, and Pepper in San Bernardino County, California**

August 4, 2005

Common Name	Scientific Name	Federal Status
<u>Plants</u>		
slender-horned spineflower	<i>Dodecahema leptoceras</i>	Endangered
Santa Ana river woolly-star	<i>Eriastrum densifolium</i> ssp. <i>sanctorum</i>	Endangered
<u>Insects</u>		
Delhi sands flower-loving fly	<i>Rhaphiomidas terminatus</i> <i>abdominalis</i>	Endangered
<u>Birds</u>		
coastal California gnatcatcher	<i>Polioptila californica</i> <i>californica</i>	Threatened
<u>Mammals</u>		
San Bernardino kangaroo rat	<i>Dipodomys merriami parvus</i>	Endangered

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King Thomas

From: Denise Woodard
Sent: Monday, June 08, 2009 12:35 PM
To: Angie Kung
Cc: King Thomas
Subject: FW: Cedar Avenue I-10 Interchange Species List

Attachments: USFWS_SpeciesList(5-27-2003).pdf



USFWS_SpeciesList
(5-27-2003).p...

Angie~

Per below, the USFWS is fine with the 2003 species list.

Thanks,

Denise

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

From: Eric_Porter@fws.gov [mailto:Eric_Porter@fws.gov]
Sent: Monday, June 08, 2009 12:32 PM
To: Denise Woodard
Subject: Re: Cedar Avenue I-10 Interchange Species List

Denise,

The list reflects our current understanding of the project area,

Thanks for the coordination,

Eric

"Denise Woodard"
<Denise.Woodard@l
sa-assoc.com> To
<Eric_Porter@fws.gov> cc
06/08/2009 11:41
AM
Subject
Cedar Avenue I-10 Interchange
Species List

Hi Eric~

Attached is a species list from 2003 we used in a Natural Environmental Study for the Cedar Avenue/I-10 Interchange project. I wanted to check with you to see if this species list is still considered to be current. We are in the process of finalizing the environmental documents for this project.

Thank you,

~Denise

Denise Woodard
Associate/Biologist
LSA Associates, Inc.
901 E. Tahquitz Canyon Way, Suite B200
Palm Springs, CA 92262
Ph: (760) 416-2075
Fx: (760) 416-3065(See attached file: USFWS_SpeciesList(5-27-2003).pdf)

King Thomas

From: Denise Woodard
Sent: Tuesday, June 02, 2009 9:33 AM
To: King Thomas
Subject: FW: I-10/Cedar Ave Interchange (I-10 Channel)

Here's the Corps response.

From: Hall, Stephanie J SPL [mailto:Stephanie.J.Hall@usace.army.mil]
Sent: Mon 5/18/2009 2:19 PM
To: Denise Woodard
Subject: RE: I-10/Cedar Ave Interchange (I-10 Channel)

Good Afternoon Denise,

Regarding your e-mail below, the graphic was not included so I could not see the detail of your project. However, from the description of the impact area: extension of the existing 14 ft diameter reinforced concrete pipe with a double 9.5 ft x 8.5 ft reinforced concrete box channel, it would seem that your project may be non-notifying if permanent impacts are below 1/10th acre. Does the project require heavy equipment to access the channel w/temporary access road, etc.? If so, you would need a Nationwide Permit No. (NWP) 33 to cover that part of construction activity. If you find that your project permanent discharge is in excess of the 1/10th acre, I would issue you a NWP No. 14, which has NWP# 33 included, so you would not need a stand alone NWP# 33 for that portion of the construction activity.

If you find that project permanent discharges are less than 1/10th acre and you don't heavy equipment access to the channel, please send me a courtesy letter stating that your project complies with the terms and conditions of NWP# 14, but the discharge is below 1/10th acre and thus the project is non-notifying for a Clean Water Act Section 404 permit. Please note that you will still need to comply with Section 401 of the CWA and coordinate with the Regional Water Board for their certification.

Thanks in Advance,

-Stephanie

Stephanie J. Hall
Physical Scientist/Project Manager
USACOE-Los Angeles District
Regulatory Division
South Coast Branch
915 Wilshire Blvd.
Los Angeles, CA 90017-3401
Phone: 213/452-3410
Fax: 213/452-4196
E-mail: stephanie.j.hall@usace.army.mil
>COE website: www.spl.usace.army.mil/regulatory
>
>

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

From: Denise Woodard [mailto:Denise.Woodard@lsa-assoc.com]
Sent: Monday, May 18, 2009 12:04 PM
To: Hall, Stephanie J SPL
Cc: King Thomas

6/8/2009

Subject: RE: I-10/Cedar Ave Interchange (I-10 Channel)

Stephanie~

I wanted to follow-up with you on this request with regard to whether or not you will want to regulate the I-10 channel for the Cedar Avenue/I-10 Interchange project. Caltrans has requested a written verification. A description of the impacts are provided in my original email below.

We need to respond to Caltrans this week, and a response at your earliest convenience would be greatly appreciated.

Thank you, and let me know if you need anything else.

~Denise Woodard
Associate/Biologist
LSA Associates, Inc.
901 E. Tahquitz Canyon Way, Suite B200
Palm Springs, CA 92262
Ph: (760) 416-2075
Fx: (760) 416-3065

From: Salas, Gerardo SPL [<mailto:Gerardo.Salas@usace.army.mil>]
Sent: Monday, March 02, 2009 9:45 AM
To: Denise Woodard
Cc: Hall, Stephanie J SPL
Subject: RE: I-10/Cedar Ave Interchange (I-10 Channel)

Denise, I forwarded your message to our Caltrans PM, Stephanie Hall. She is the person best able to respond to your query.

Thank you,

Gerry Salas
Environmental Engineer
Regulatory Project Manager
U.S. Army Corps of Engineers
(213) 452-3417
fax (213) 452-4196

From: Denise Woodard [<mailto:Denise.Woodard@lsa-assoc.com>]
Sent: Monday, March 02, 2009 9:26 AM
To: Salas, Gerardo SPL
Subject: I-10/Cedar Ave Interchange (I-10 Channel)

Hi Gerry~

We have yet another interchange project that is going to effect the I-10 Channel. Caltrans would like written verification (which can be a response to this email) that you will not be regulating the I-10 channel for the I-10/Cedar Interchange project. This is the only drainage feature within the project limits that will be impacted. Attached is a regional location map showing the project area and below is a description of the work to be conducted within the I-10 Channel. Also, there are no Delhi fly or other endangered species issues associated with the project.

6/8/2009

3.4 Railroad Coordination

Union Pacific Railroad

Coordination will be necessary with Union Pacific Railroad (UPRR). Even though no actual work is being performed on the railroad tracks, the existing Cedar Avenue railroad overhead bridge is being widened on the east side of the existing structure.

In order to facilitate the bridge widening construction, the services of several UPRR yard tracks will need to be interrupted, or yard tracks will need to be realigned or consolidated. Therefore, the UPRR will have certain restrictions as to when work can be performed.

Currently, there is no construction and maintenance agreement between Caltrans, County, and UPRR for widening the Cedar Avenue overhead structure. However, the railroad is fully aware of the selected, Preferred Alternative, and that an easement acquisition from UPRR will be required, the extent of which will be determined during the design phase of the project. Other issues, such as a part of the pending construction and maintenance agreement between Caltrans, County, and railroad, will be negotiated during the design phase. In addition, a right-of-entry permit to the railroad properties will be required for construction of the retaining walls and overhead bridge structure widening.

3.5 Public Participation

Washington Alternative School

The initial project design would have resulted in the acquisition of a narrow strip of land along the east side of Cedar Avenue adjacent to a school playground that included a small portion of the recreational fields. Meetings were held with the Colton Joint Unified School District (CJUSD) on August 22, 2008; October 20, 2008; and February 18, 2009, to discuss the project alternatives and the project impact to the Washington Alternative Middle School frontage and “ball fields,” which include an outdoor basketball court and a baseball field. On September 30, 2010, a letter was sent by Caltrans to CJUSD requesting its concurrence with the project impact to the recreational fields at the Washington Alternative Middle School. However, following discussions among Caltrans, the County of San Bernardino Public Works Department, and the CJUSD, the project plans for widening Cedar Avenue were revised to avoid impacts to the recreational fields. Therefore, the I-10/Cedar Avenue

Interchange project will not result in impacts to the recreational facilities at the Washington Alternative Middle School.

Jack Pratte Park

Jack Pratte Park is a publicly owned park located at the southwest corner of Valley Boulevard and Cedar Avenue. The park will be reconfigured as part of the I-10/Cedar Avenue Interchange project in order to accommodate the widening of Cedar Avenue.

Caltrans sent a letter dated October 9, 2008, to the County of San Bernardino requesting concurrence with the De Minimis Determination for Jack Pratte Park. The County responded with preliminary concurrence in a letter dated October 31, 2008. Caltrans letter and the County's letter are included below. Public circulation of the Draft IS/EA occurred between July 31, 2012 to August 30, 2012 and a public meeting was held on August 15, 2012. Public comments received during public review and discussions during the public meeting did not refer to the reconfiguration of Jack Pratte Park. Therefore, the County's original concurrence to the Caltrans De Minimis Determination to reconfigure of Jack Pratte Park will be carried forward.

DEPARTMENT OF PUBLIC WORKS

FLOOD CONTROL • LAND DEVELOPMENT & CONSTRUCTION • OPERATIONS
SOLID WASTE MANAGEMENT • SURVEYOR • TRANSPORTATION



COUNTY OF SAN BERNARDINO

825 East Third Street • San Bernardino, CA 92415-0835 • (909) 387-8104
Fax (909) 387-8130

GERRY NEWCOMBE
Director of Public Works

December 26, 2012

Yard 3/Cedar Avenue

Department of Transportation
464 West 4th Street, 6th Floor
San Bernardino, CA 92415

Attention: Kurt Heidelberg, Branch Chief

**RE: SECTION 4(F) DEMINIMIS DETERMINATION FOR JACK PRATTE PARK FOR THE
I-10/CEDAR AVENUE INTERCHANGE PROJECT – W.O. H13024**

Dear Mr. Heidelberg:

The County of San Bernardino (County) made a determination that the above project will not adversely affect the features, attributes, or activities qualifying the Jack Pratte Park. We concur with the findings of the De Minimis Determination and the following items:

- 1) The County owns and administers the affected parcel and has the authority to make decisions regarding the property.
- 2) The person signing the De Minimis Determination letter is an official of the County, empowered to represent the County on related matters.
- 3) Jack Pratte Park will be relocated and reconstructed slightly to the west of its current location, at the southwest corner of Valley Boulevard and Cedar Avenue. The reconstructed park at the new location will be the same size. The existing features of Jack Pratte Park, such as the Jack Pratte plaque, the Bloomington Community Message Board, the drinking fountain, benches, landscaping, and hardscaping will be relocated, or reconstructed, at the new park relocation. The I-10/Cedar Interchange project will not adversely affect the activities, features, and attributes that qualify Jack Pratte as a Section 4(f) resource.
- 4) Through public review of the environmental document (Initial Study/Environmental Assessment) for the I-10/Cedar Interchange project, the public has been afforded the opportunity to review and comment on the effects of the project on the protected activities, features, and attributes of the Section 4(f) property.

If you have any questions or concerns, please feel free to contact me at (909) 387-7940.

Sincerely,


MERVAT MIKMAIL, P.E., Chief
Transportation Design Division

MM:CS:sds

cc: Chris Saed, County of San Bernardino
Aaron Burton, Caltrans District 8
Juan Lizarde, Caltrans District 8
James Faber, AECOM
Alicia Lemke, AECOM

GREGORY C. DEVEREAUX
Chief Executive Officer

Board of Supervisors
ROBERT A. LOVINGOOD First District JAMES RAMOS Third District
JANICE RUTHERFORD Second District GARY C. OVITT Fourth District
JOSIE GONZALES Fifth District

DEPARTMENT OF TRANSPORTATION

DISTRICT 8

ENVIRONMENTAL PLANNING (MS 1163)

464 WEST 4TH STREET, 6TH FLOOR

SAN BERNARDINO, CA 92401

PHONE (909) 383-1554

FAX (909) 383-6458

*Flex your power!
Be energy efficient!*

October 9, 2008

Mr. Richard Bronstrup
Chief, Transportation Design Division
San Bernardino County
825 East Third Street
San Bernardino, CA 92425

File: 08-SBd-10-PM 18.2/18.8
Cedar Avenue Interchange
EA 1A8300

Subject: Section 4(f) *De Minimis* Determination for Jack Pratte Park for the I-10/Cedar Avenue Interchange Project

Dear Mr. Bronstrup:

On behalf of the California Department of Transportation (Caltrans) and the County of San Bernardino Public Works Department (County), Caltrans hereby submits the attached Draft Section 4(f) *De Minimis* Determination letter for the County's Interstate 10 (I-10)/Cedar Avenue Interchange Project. The County, in cooperation with Caltrans District 8, proposes to improve the I-10/Cedar Avenue interchange. The purpose of the project is twofold: first, to improve the level of service on Cedar Avenue by widening it from four to six lanes, and second, to improve freeway access by upgrading the existing I-10/Cedar Avenue interchange. The proposed project would widen the I-10/Cedar Avenue overcrossing and the railroad overhead, widen Cedar Avenue, realign the I-10 on-ramps and off-ramps as necessary to connect to Cedar Avenue, and lengthen the ramps to improve turn storage capacity. The project limits extend on Cedar Avenue from Bloomington Avenue on the north to approximately 120 meters (m) (400 feet [ft]) south of Slover Avenue. The project limits on I-10 are set at 1,148 m (3,766 ft) west and 1,152 m (3,780 ft) east of the Cedar Avenue centerline (including auxiliary lanes for the on-ramps/off-ramps). In addition, Slover Avenue will be improved 200 m (656 ft) east and west of Cedar Avenue. As currently proposed, the project will require the acquisition of additional right-of-way within all four quadrants of the interchange. Construction is anticipated to begin in January 2010 and be completed by June 2012.

Implementation of the proposed project will result in minor impacts to Jack Pratte Park owned by the County of San Bernardino. Jack Pratte Park is located on the southwest corner of the intersection of Cedar Avenue and Valley Boulevard.

The I-10/Cedar Avenue Interchange project is partially funded by federal monies. Section 4(f) *De Minimis* of the Department of Transportation Act (23 CFR Part 774.17) prohibits the use of land from a publicly owned park or recreation area by a federally funded transportation project unless a determination has been made that (1) there is no feasible and prudent alternative to the use of the land,

"Caltrans improves mobility across California"

and (2) the project includes all possible planning to minimize harm to the property (Jack Pratte Park) which is anticipated to be affected by the project that meets the definition of a Section 4(f) *De Minimis* property. The County of San Bernardino official with jurisdiction over the Jack Pratte Park must provide written concurrence that the project will not adversely affect the activities, features, and attributes that qualify the property for protection under Section 4(f) *De Minimis*, and the public must be afforded the opportunity to review and comment on the effects of the project on the identified 4(f) resource.

Project Impacts to Park Facilities

The proposed project will require reconfiguration of Jack Pratte Park to accommodate the widening of Cedar Avenue.

The following measures to minimize harm to the Jack Pratte Park are proposed:

- Jack Pratte Park will be relocated and reconstructed slightly to the west of its current location at the southwest corner of valley Boulevard and Cedar Avenue. The reconstructed park at the new location will be the same size.
- The existing features of Jack Pratte Park, such as the Jack Pratte plaque, the Bloomington Community Message Board, the drinking fountain, benches, landscaping and hardscaping will be relocated, or reconstructed, at the new park location.

The cost of reconstructing Jack Pratte Park at the new location would be included in the cost of the I-10/Cedar Avenue Interchange project.

The project is currently in the environmental process. Once the environmental document for the project is approved, the final design and right of way appraisal and acquisition phases will commence. The construction of the Cedar Avenue Interchange project is anticipated to take up to two years and is expected to start in the summer of 2010.

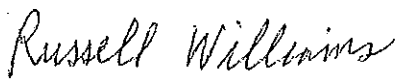
All possible planning means that all reasonable measures identified in the Section 4(f) evaluation to minimize harm or mitigate for adverse impacts and effects to the property (Jack Pratte Park). Therefore, Caltrans made a determination that the project will not adversely affect the features, attributes, or activities qualifying the Jack Pratte Park. If you concur with the findings of the *De Minimis* Determination, please submit a written response after Environmental Document circulation that the County is in agreement with the *De Minimis* Determination. If in agreement, please include the following items in your concurrence.

1. The County of San Bernardino owns and administers the affected parcel and has the authority to make decisions regarding the property;
2. The person signing the *De Minimis* Determination letter is an official of the County empowered to represent the County on related matters;

Mr. Richard Bronstrup
October 9, 2008
Page 3

3. With implementation of the measures incorporated into the project (see measures to minimize harm listed above), the I-10/Cedar Avenue Interchange project will not adversely affect the activities, features, and attributes that qualify Jack Pratte Park as a Section 4(f) resource.
4. Through public review of the environmental document (Initial Study/Environmental Assessment) for the I-10/Cedar Interchange project, the public has been afforded an opportunity to review and comment on the effects of the project on the protected activities, features, and attributes of the Section 4(f) property.

We appreciate your cooperation and prompt response regarding this matter. If you have any questions, please contact me at (909) 383-1554.

Sincerely, 
Russell Williams, Branch Chief
Environmental Studies Oversight
California Department of Transportation
464 West 4th Street, MS1163
San Bernardino, CA 92401-1400

cc: Chris Saed, County of San Bernardino Department of Public Works
James Shankel, California Department of Transportation, District 8
Mark Lancaster, California Department of Transportation District 8
William Nascimento, Lim & Nascimento Engineering, Inc.
King Thomas, LSA Associates, Inc.

3.6 Public Information Meeting

An informational meeting was held on Wednesday, August 15, 2012 at the Bloomington Branch Library from 5:00 to 7:00 p.m. The meeting location was adjacent to the project site. The meeting was advertised in The Sun on July 31, 2012 and El Chicano on August 2, 2012. Notices were mailed to residents within a 300 ft radius of the project limits. In addition, the notice was published on the County of San Bernardino, Department of Public Works website.

Approximately 20 people attended the informational meeting. Exhibits depicting the proposed changes and affected properties were shown and described by project staff. Handouts were provided for additional information. Input from area residents and business owners was solicited.

Meeting Attendees

According to sign-in sheets from the meeting, a total of 18 members of the public were in attendance. In addition, representatives from the County of San Bernardino, Caltrans, San Bernardino Associated Governments (SANBAG), and members the consulting team (AECOM and LSA) were present.

Meeting Format and Presentation

The meeting began at 5:00 p.m. with an open house for members of the community to review project materials and meet with project team members. Engineering drawings and aerial maps were stationed around the meeting room with representatives of the project available to provide information and answer questions. Throughout the meeting, attendees were encouraged to submit additional questions and concerns to Caltrans staff on comment cards. A deadline of August 30, 2012 was established for submission of comments to Caltrans.

Issues of Concern

General concerns from the public included access to businesses and the revision of property lines.

None of the public meeting attendees and none of the persons submitting written comments expressed opposition to the project.

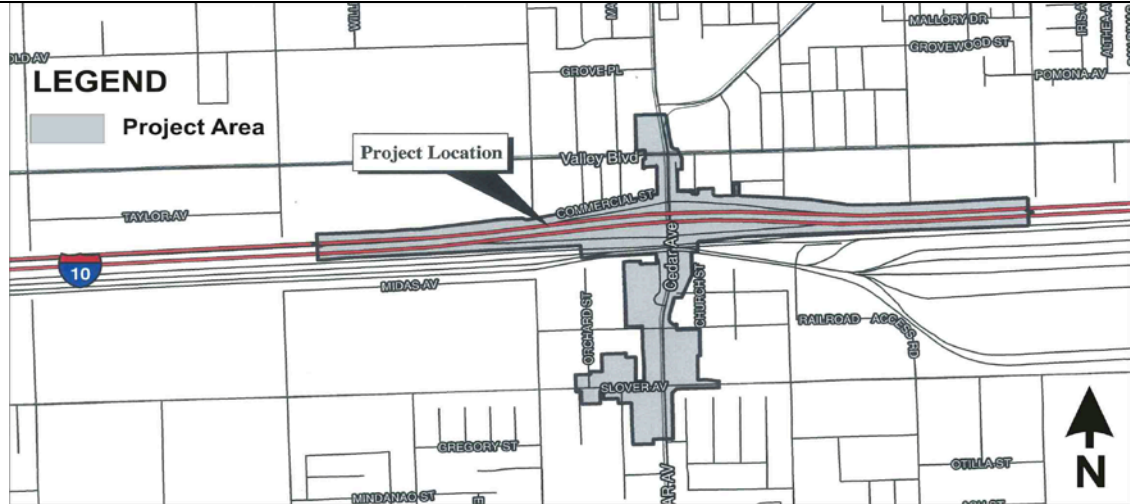
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PUBLIC NOTICE

Notice of Intent to Adopt a Mitigated Negative Declaration
 Availability of Initial Study/Environmental Assessment
 Notice of a Public Meeting

Interstate 10/Cedar Avenue Interchange Improvement Project



<p>WHAT'S BEING PLANNED?</p>	<p>The County of San Bernardino (County), in cooperation with the California Department of Transportation (Caltrans) proposes capacity and operational improvements to the Interstate 10 (I-10)/Cedar Avenue interchange. The project is located within the community of Bloomington in unincorporated San Bernardino County. The proposed project would widen the existing Cedar Avenue overcrossing, the Union Pacific Rail Road overhead, and Cedar Avenue from four to six lanes; and realign and widen the I-10 on- and off-ramps to connect to the improved Cedar Avenue and to improve turning and storage capacity.</p>
<p>WHY THIS NOTICE?</p>	<p>Caltrans has studied the effects this project may have on the environment. The studies show it will not significantly affect the quality of the environment. The report that explains why is called an <i>Initial Study/Environmental Assessment (IS/EA)</i>. This notice is to tell you of the preparation of the <i>Proposed Mitigated Negative Declaration</i> and the <i>IS/EA</i> and of its availability for you to read. A public meeting will be held to give you an opportunity to talk about design features of the project before the final design is selected, and to also provide an opportunity to ask questions regarding the planned schedule for the project, including construction, or potential right of way impacts resulting from the proposed project.</p> <p>Project-level conformity analysis shows that the project will conform with the State Implementation Plan, including localized impact analysis with interagency consultation for carbon monoxide (CO) and particulate matter (PM10 and PM2.5) required by 40 CFR 93.116 and 93.123. This project is not considered a Project of Air Quality Concern regarding particulate matter (PM10 and PM2.5) as defined in 40 CFR 93.123(b)(1). A detailed PM10 and PM2.5 hot-spot analysis was not completed because Clean Air Act and 40 CFR 93.116 requirements are met without an explicit hot-spot analysis. Comment is requested for the project-level conformity analysis.</p>
<p>WHAT'S AVAILABLE</p>	<p>Maps for the <i>Proposed Mitigated Negative Declaration</i> and <i>IS/EA</i> and other project information are available for review and copying (a copying fee may be assessed) at:</p> <p style="text-align: center;"> Bloomington Branch Library 10145 Orchard Street Bloomington, CA 92316 </p> <p style="text-align: center;"> San Bernardino County, Department of Public Works 825 East Third Street, Room 145 San Bernardino, CA 92415 </p> <p>The IS/EA is available for review electronically at: www.sbcounty.gov/dpw/public_notices/public_notices.asp</p>
<p>WHERE YOU COME IN</p>	<p>Comments regarding the IS/EA and the project may be submitted in person at the public meeting on August 15, 2012, or you can send comments during the 30-day public review period scheduled from July 31, 2012 to August 30, 2012 to Mr. Kurt Heidelberg Senior Environmental Planner, Branch Chief—Environmental Studies “D”, California Department of Transportation, District 8 Division of Environmental Planning, 464 W. 4th St. 6th Floor, MS 820, San Bernardino, CA 92401-1400. Comments can also be submitted via email to: I-10_Cedar_Ave_IC_D8@dot.ca.gov. Please reference Interstate 10/Cedar Ave Interchange Improvement project.</p>
<p>WHEN AND WHERE?</p>	<p>Wednesday, August 15, 2012 Visit anytime between 5:00 p.m. and 7:00 p.m. Location: Bloomington Branch Library, 10145 Orchard Street, Bloomington, CA 92316</p>
<p>CONTACT/SPECIAL ACCOMMODATIONS</p>	<p>Individuals who require special accommodations (American Sign Language interpreter, accessible seating, documentation in alternate formats, etc.) are requested to contact Caltrans District 8 Public Affairs at (909)383-4631 at least 7 days before the meeting date. TDD users may call the California Relay Service, 1(800) 735-2929 (TTY), 1(800) 735-2929 (Voice), or 711.</p>

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3.7 Comments and Responses to Comments

Comments Received

Table 3.4-1 provides an index list of the agencies, groups, or individuals who provided comments on the Draft Initial Study with Proposed Mitigated Negative Declaration/ Environmental Assessment (Draft Environmental Document) circulated for this project. The comment letters received were indexed with a number, as listed below. Responses to the comment letters are provided in the text following the comment letters.

Table 3.4-1 Comment Letters Received During Public Comment Period

Letter	Name	Date
C-1	Eduardo Alvarado	July 31, 2012
C-2	Level 3 Communications	August 21, 2012
C-3	Omnitrans	August 30, 2012
C-4	Public Utilities Commission	August 10, 2012
C-5	Nuha Jawad and Hussein Alkhafaje	August 15, 2012
C-6	Soonam Hahn	August 15, 2012
C-7	Farmer Boys (Millie Dhillon)	August 22, 2012
C-8	Auditor-Controller/Treasurer/Tax Collector County of San Bernardino	August 7, 2012
C-9	Native American Heritage Commission	August 10, 2012
C-10	Department of Toxic Substances Control	August 23, 2012

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Commenter 1

Eduardo Alvarado



07/31/2012 11:20
PM

To
<[I-10 Cedar Ave IC D8@dot.ca.gov](mailto:I-10_Cedar_Ave_IC_D8@dot.ca.gov)>

cc

Subject
Interstate 10/Cedar Ave Interchange
Improvement project Comment

I live on [REDACTED] Cedar Avenue in Bloomington. I have not seen the map and I am unaware which houses will be affected and to what extent. However, I do believe that before doing the project the alley on the back should be paved in order for the houses that are on Cedar Avenue to be able to exit their homes safely onto Valley. They alley is not paved, full of rocks and holes, and would be unsafe to drive on. There should also be cameras installed in the alley and near the area of the project for safety and security. Thank you.

C-1-1

C-1-2

-Alvarado, Eduardo R

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Commenter 2

Level 3 Network
Relocations
<Level3.NetworkRe
locations@Level3.
com>

To
"I-10_Cedar_Ave_IC_D8@dot.ca.gov"
<I-10_Cedar_Ave_IC_D8@dot.ca.gov>

cc

08/21/2012 11:43
AM

Subject
Return to Requestor Notice - EA:
1A8300, PN: 0800000579, CA

Mr. Heidelberg,

Level 3 has received your letter dated 7/30/12 regarding the project at I-10 & Cedar Ave ("Project"). In response to your inquiry please find the enclosed drawings indicating the approximate location of the Level 3 telecommunications facilities (the "Facilities"). Note that the locations of Facilities shown on these drawings are only approximate and Level 3 hereby disclaims any responsibility to third parties for the accuracy of this information. Persons working in the area covered by these drawings must contact the statewide Call-Before-You-Dig System to ascertain the location of underground facilities prior to performing any excavation.

C-2-1

After reviewing the information you provided it is uncertain whether the Project will impact the Facilities.

The Facilities have been constructed on private property and/or public right of way with the authorization of the applicable property owner.

Please review the enclosed information. If it is determined that an adjustment and/or relocation of the Facilities is necessary to accommodate the Project, please contact the undersigned to discuss and reference the file number [REDACTED] CA with any future communications. Any changes or additions to the Project plans or parameters should be submitted to Level 3 for review of potential new impacts to the Level 3 facilities. Unless Level 3 receives information that such adjustment or relocation is necessary it will assume that any potential conflict between the Project and Facilities has been eliminated.

C-2-2

Sincerely,
Matt Prink
Network Relocations - Business Analyst
Level 3 Communications
1025 Eldorado Blvd
Broomfield, CO 80021 (Office 33A-524)
p: 720-888-2639
e: Matthew.Prink@Level3.com
(Embedded image moved to file: pic16137.gif)logo bar

(See attached file: 0582_001.pdf)(See attached file: Electronic Request Document.docx)(See attached file: Level 3 As Built Legends.zip)(See attached file: Screenshot & As-Builts.zip)



To whom it may concern:

We would like to request that all utility submittals in the future be sent via email to [REDACTED] with a detailed letter stating the project information, as well as any existing plans that may be beneficial in determining potential conflict. This will ensure an expedited response and will accelerate communication between both parties. Furthermore, Level 3 is committed to environmental awareness; this method will not only align with our commitment, but also create a substantially more effective means of communicating. If there are outstanding circumstances in which this request cannot be met, please advise us of such. We appreciate your cooperation and look forward to working with you in the future.

C-2-3

Sincerely,

Matt Prink
Network Infrastructure Services - Intern
Level 3 Communications
1025 Eldorado Blvd
Broomfield, CO 80021 (Office 33A-524)
p: 720-888-2639
e: Matthew.Prink@Level3.com





1700 W. Fifth St.
San Bernardino, CA 92411
909-379-7100
www.omnitrans.org

August 30, 2012

Kurt Heidelberg, Senior Environmental Planner
California Department of Transportation-Environmental Studies "D"
464 W 4th Street, 6th floor, MS 820
San Bernardino, CA 92401-1400

Subject: Comments on IS/EA for the I-10/Cedar Ave Improvement Project

Dear Mr. Heidelberg:

Thank you for providing Omnitrans, the public transportation provider for the San Bernardino Valley, the opportunity to provide input on the Initial Study with Proposed Mitigated Negative Declaration/Environmental Assessment (IS/EA) for the Cedar Ave Improvement Project.

Omnitrans' comments and questions on the IS/EA are as follows:

Page 19

- The IS/EA mentions that Cedar Avenue is a primary access route to two middle schools. It should be explained how pedestrian and bicycle trips to school will be accommodated through the design of this project. With the prevalence of Safe Routes to School projects that retrofit corridors within walking distance of elementary schools and middle schools in the region, it is much more cost-efficient to coordinate investments to meet all mobility goals for the community simultaneously rather than retrofitting the corridor later to accommodate non-motorized modes.

C-3-1

Page 22

- The name of the Omnitrans bus route mentioned is Route 19, not SR-19.
- It would be helpful to reference the walking distance from the existing bus stops to the project area.
- The San Bernardino Avenue corridor, just north of the project site, is a planned future bus rapid transit (BRT) corridor, as outlined in the San Bernardino Associated Governments (SANBAG)'s Long Range Transit Plan (2009).
- Areas within ½ mile walking distance and 3 miles bicycling distance of future BRT stops will be a draw area for BRT riders, per Federal Transit Administration guidance. Since the project area is adjacent to the future BRT corridor along either San Bernardino Avenue or Valley Boulevard (exact corridor alignment will be determined through the Alternatives Analysis process in 2012-2013), the project goals and project design should

C-3-2

C-3-3

C-3-4

C-3-5

consider pedestrian and bicycle access to future BRT station(s) along San Bernardino Avenue.

- It may also be helpful to consider that future premium transit service within walking distance of the project area may reduce projected vehicular traffic levels in the future by increasing transit mode share.

C-3-6

Pages 24 and 44

- How will the project accomplish the expressed desire to encourage alternative forms of transportation and reduce the number of motor vehicles within the community of Bloomington?

C-3-7

- The IS/EA mentions that the existing bridge has a bike lane and a 5' wide sidewalk on each side. Will the proposed bridge have the same?

C-3-8

- A street cross-section designed to make walking and cycling more pleasant will encourage alternative modes of transportation, such as providing a wide sidewalk with trees for shade and a parkway strip separating non-motorized users from traffic. Some elements of the proposed project design may encourage vehicular travel and discourage non-motorized travel, such as removal of trees and addition of vehicular travel lanes, which increases walking distance to cross the street.

C-3-9

Page 65

- How will the project promote General Plan Goal BL/CI 2: "Ensure safe and efficient non-motorized traffic circulation within the community?"

C-3-10

Page 73

- What will be the cross-section of each alternative for the entire right-of-way including the sidewalk widths?

C-3-11

- Details of crosswalk locations would be helpful – in the project plan, a crosswalk is not shown on the south side of the intersection of Valley Boulevard and Cedar Avenue, or east-west crosswalks at the interchange. Removing crosswalks on one side of an intersection triples walking distance for pedestrians, discouraging walking as a mode of transportation.

C-3-12

- How will the signal be phased for pedestrians to cross 11 lanes of traffic? Will there be a median island to facilitate crossings?

C-3-13

- The neighboring City of Fontana is currently studying transit oriented development at Valley Boulevard and Sierra Avenue (approximately 3 miles from the project area), which may cause Valley Boulevard to become a highly-used corridor for walking, biking, or transit (see first paragraph) in the future.

C-3-14

Page 119

- Specifically how will the project “address deficiencies of the existing transportation system and ... enhance mobility and improve connections for minority and low-income populations within the project area”?

C-3-15

Page 145

- How will the pedestrian detour plan affect access to transit stops during the proposed 2-year construction period? This will help Omnitrans coordinate stop closures or detours if necessary.

C-3-16

Page 155

- The simulation of the off-ramp presents an opportunity to show a simulated intersection with pedestrian access to show the project’s intention to accommodate a multimodal corridor.

C-3-17

It may also be helpful to mention in the document what impacts, if any, the proposed changes to the Caltrans Highway Design Manual will have on the design of the project.

C-3-18

Omnitrans always looks forward to collaboration in projects that enhance mobility, enhance the quality of life of our customers, and provide residents with greater opportunities to walk, bike, or ride transit. We look forward to working with Caltrans to facilitate the success of the project. Feel free to contact me at (909) 379-7256 or anna.rahtz@omnitrans.org if you would like to meet or would like any additional information.

Sincerely,



Anna Rahtz
Planning Projects Manager

AR:ns

Cc: Steven Smith, San Bernardino Associated Governments (SANBAG)

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Committer 4

STATE OF CALIFORNIA

EDMUND G. BROWN JR., Governor

PUBLIC UTILITIES COMMISSION

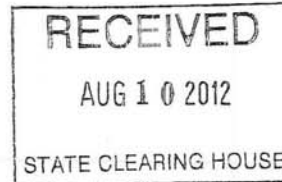
320 WEST 4TH STREET, SUITE 500
LOS ANGELES, CA 90013



8/28/12
Clear

August 10, 2012

Kurt Heidelberg
California Department of Transportation - District 8
464 W. 4th Street, 6th Floor, MS 820
San Bernardino, CA 92401-1400



Dear Mr. Heidelberg:

Re: SCH 2012071091; I-10/Cedar Avenue Interchange Improvements Project

The California Public Utilities Commission (Commission) has jurisdiction over the safety of highway-rail crossings (crossings) in California. The California Public Utilities Code requires Commission approval for the construction or alteration of crossings and grants the Commission exclusive power on the design, alteration, and closure of crossings.

The Commission's Rail Crossings Engineering Section (RCES) is in receipt of the *Draft Mitigated Negative Declaration (MND)* for the I-10/Cedar Avenue Interchange Improvements project from the State Clearinghouse. According to the MND, the County of San Bernardino (County), in cooperation with the California Department of Transportation (Caltrans), proposes capacity and operational improvements to the Interstate Highway 10 (I-10)/Cedar Avenue interchange. The Union Pacific Railroad Company (UPRR) tracks cross under Cedar Avenue. Modifications to an existing grade separated crossing require authorization from the Commission. More information can be found at: <http://www.cpuc.ca.gov/PUC/transportation/crossings/Filing+Procedures/>

Caltrans should arrange a meeting with Caltrans, County, UPRR and RCES staff to discuss relevant safety issues and requirements for authorization to alter the existing grade-separated crossing.

C-4-1

If you have any questions, please contact Bill Lay at 213-576-1399, email at bill.lay@cpuc.ca.gov, or myself at rxm@cpuc.ca.gov, 213-576-7078.

Sincerely,

Rosa Muñoz, PE
Senior Utilities Engineer
Rail Crossings Engineering Section
Consumer Protection & Safety Division

CC: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044

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PUBLIC INFORMATION MEETING
FOR THE PROPOSED
INTERSTATE 10/CEDAR AVENUE INTERCHANGE PROJECT



Wednesday, August 15, 2012
5:00 PM - 7:00 PM
Bloomington Branch Library
10145 Orchard Street Bloomington, CA 92316

Thank you for your interest in the project. Please provide your comments below and submit this card during the public meeting or mail it to the address provided on the back. Please attach additional pages, if necessary. Your participation is appreciated.

Name: Nuha Jawad & Hussein Alkhatfaje Date: 8/15/2012
Address: [REDACTED] Phone: [REDACTED]
E-mail Address: [REDACTED]
Representing: Valero (Valley + Cedar Ave)

My comments are as follows: Please answer the following questions: I support the project

I'm an owner of Valero (Service Station) located @ the above address. Even though the proposed plan does not affect my property, I would like to request to have an opening made to allow access to the gas station. Currently ~~1 (one)~~ openings are available only on 2 (two) Valley Blvd., which minimizes the amount of traffic flow. If we can have at least 1 (one) opening included on Valley Blvd., that would greatly improve the traffic flow.

C-5-1

Now being that such an action would benefit us & also the many commuters that park on Cedar PL., we are willing to negotiate something with the city because that area belongs to the city, not us.

If this is not the appropriate department to address this issue, can you please contact me w/ the point of contact via email &/or phone please. Much thanks.

Thank you for your comments. Please submit this form by August 30, 2012 to:

California Department of Transportation, District 8
ATTN: Kurt Heidelberg, Senior Environmental Planner
Branch Chief - Environmental Studies "D"
464 West 4th Street, 6th Floor, MS 820
San Bernardino, CA 92401-1400
I-10_Cedar_Ave_IC_D8@dot.ca.gov

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PUBLIC INFORMATION MEETING
FOR THE PROPOSED
INTERSTATE 10/CEDAR AVENUE INTERCHANGE PROJECT



Wednesday, August 15, 2012
5:00 PM - 7:00 PM
Bloomington Branch Library
10145 Orchard Street Bloomington, CA 92316

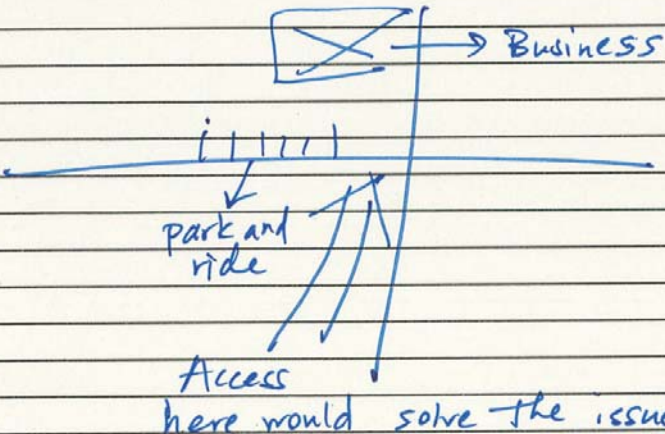
Thank you for your interest in the project. Please provide your comments below and submit this card during the public meeting or mail it to the address provided on the back. Please attach additional pages, if necessary. Your participation is appreciated.

Name: Soonam Hahn Date: 08/15/12
Address: [REDACTED] Phone: [REDACTED]
E-mail Address: [REDACTED]
Representing: _____

- My comments are as follows: Please answer the following questions: I support the project

The public accesses the park and ride on the corner of valley and Cedar through the business property. This negative impact on the business would be removed if access were provided more directly from the street.

C-6-1



Thank you for your comments. Please submit this form by August 30, 2012 to:

California Department of Transportation, District 8
ATTN: Kurt Heidelberg, Senior Environmental Planner
Branch Chief - Environmental Studies "D"
464 West 4th Street, 6th Floor, MS 820
San Bernardino, CA 92401-1400
I-10_Cedar_Ave_IC_D8@dot.ca.gov

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PUBLIC INFORMATION MEETING
FOR THE PROPOSED
INTERSTATE 10/CEDAR AVENUE INTERCHANGE PROJECT



Wednesday, August 15, 2012
5:00 PM - 7:00 PM
Bloomington Branch Library
10145 Orchard Street Bloomington, CA 92316

Thank you for your interest in the project. Please provide your comments below and submit this card during the public meeting or mail it to the address provided on the back. Please attach additional pages, if necessary. Your participation is appreciated.

Name: Farmer Boys (Millie Dhillon) Date: 8/22/12
Address: [REDACTED] Phone: [REDACTED]
E-mail Address: [REDACTED]
Representing: Millie Dhillon.

My comments are as follows: Please answer the following questions: I support the project

my business is on the corner of valley and Cedar. Due to this project I will be losing two of my business signs, one parking lot light, and two of my water meters. I would like to know who can I ask regarding the issues about relocating these items.

C-7-1

Thank you

Millie Dhillon of
Farmer Boys.

(cell) (626) 484-4378

Thank you for your comments. Please submit this form by August 30, 2012 to:

California Department of Transportation, District 8
ATTN: Kurt Heidelberg, Senior Environmental Planner
Branch Chief - Environmental Studies "D"
464 West 4th Street, 6th Floor, MS 820
San Bernardino, CA 92401-1400
I-10_Cedar_Ave_IC_D8@dot.ca.gov

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**AUDITOR-CONTROLLER/
TREASURER/TAX COLLECTOR**



COUNTY OF SAN BERNARDINO

- 222 West Hospitality Lane, Fourth Floor
San Bernardino, CA 92415-0018 • (909) 387-8322 • Fax (909) 386-8830
- 172 West Third Street, First Floor
San Bernardino, CA 92415-0360 • (909) 387-8308 • Fax (909) 387-6716

LARRY WALKER
Auditor-Controller/
Treasurer/Tax Collector

August 7, 2012

Kurt Heidelberg, Senior Environmental Planner
California Department of Transportation – Environmental Studies “D”
464 W. 4th Street, 6th Floor, MS 820
San Bernardino, CA 92401-1400

Re: I-10/Cedar Ave Improvement Project

Dear Mr. Heidelberg:

Some of the duties that were formally held by the County Clerk, which now falls under the Assessor’s Office, have been transferred to the Clerk of the Board of Supervisors for San Bernardino County.

This letter is intended to clarify that the letter and disk you sent to my office should be filed at the Clerk of the Board’s office located at:

Clerk of the Board of Supervisors
385 North Arrowhead Avenue
2nd Floor
San Bernardino, CA 92415-0130

C-8-1

As a courtesy, the letter and disk have been forwarded to the Clerk of the Board for filing.

If you have any questions, please do not hesitate to contact me.

Sincerely,

A handwritten signature in blue ink that reads "Larry Walker".

Larry Walker
Auditor-Controller/Treasurer/Tax Collector
San Bernardino County

LDW/wds

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STATE OF CALIFORNIA

Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION

915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
ds_nahc@pacbell.net



August 10, 2012

Mr. Kurt Heidelberg, Environmental Planner

California Department of Transportation - District 8

464 Fourth Street, 6th Floor, MS 820
San Bernardino, CA 92401

Re: SCH#2012071091 CEQA Notice of Completion; proposed Mitigated Negative Declaration for draft Initial Study and Mitigated Negative Declaration and Initial Assessment for the "Interstate 10/Cedar Avenue Interchange Improvement; EA#08-1A80000579 Project;" located in San Bernardino County, California.

Dear Mr. Heidelberg:

The Native American Heritage Commission (NAHC), the State of California 'Trustee Agency' for the protection and preservation of Native American cultural resources pursuant to California Public Resources Code §21070 and affirmed by the Third Appellate Court in the case of EPIC v. Johnson (1985: 170 Cal App. 3rd 604).

This letter includes state and federal statutes relating to Native American historic properties or resources of religious and cultural significance to American Indian tribes and interested Native American individuals as 'consulting parties' under both state and federal law. State law also addresses the freedom of Native American Religious Expression in Public Resources Code §5097.9. This project is also subject to California Government Code Section 65352.3 *et seq.* This project is also subject to California Government Code Section 65352.3 *et seq.* This project is also subject to California Government Code Section 65352.3 *et seq.*

The California Environmental Quality Act (CEQA – CA Public Resources Code 21000-21177, amendments effective 3/18/2010) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the CEQA Guidelines defines a significant impact on the environment as 'a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ... objects of historic or aesthetic significance.' In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE), and if so, to mitigate that effect. The NAHC recommends that the lead agency request that the NAHC do a Sacred Lands File search as part of the careful planning for the proposed project. This area is known to the NAHC to be very culturally sensitive.

The NAHC "Sacred Sites," as defined by the Native American Heritage Commission and the California Legislature in California Public Resources Code §§5097.94(a) and 5097.96. Items in the NAHC Sacred Lands Inventory are confidential and exempt from the Public Records Act pursuant to California Government Code §6254 (r).

C-9-1

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries of cultural resources or burial sites once a project is underway. Culturally affiliated tribes and individuals may have knowledge of the religious and cultural significance of the historic properties in the project area (e.g. APE). We strongly urge that you make contact with the list of Native American Contacts on the attached list of Native American contacts, to see if your proposed project might impact Native American cultural resources and to obtain their recommendations concerning the proposed project. Pursuant to CA Public Resources Code § 5097.95, the NAHC requests cooperation from other public agencies in order that the Native American consulting parties be provided pertinent project information. Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code §65040.12(e). Pursuant to CA Public Resources Code §5097.95, the NAHC requests that pertinent project information be provided consulting tribal parties, including archaeological studies. The NAHC recommends *avoidance* as defined by CEQA Guidelines §15370(a) to pursuing a project that would damage or destroy Native American cultural resources and Section 2183.2 that requires documentation, data recovery of cultural resources.

C-9-2

C-9-3

Furthermore, the NAHC if the proposed project is under the jurisdiction of the statutes and regulations of the National Environmental Policy Act (e.g. NEPA; 42 U.S.C. 4321-43351). Consultation with tribes and interested Native American consulting parties, on the NAHC list, should be conducted in compliance with the requirements of federal NEPA and Section 106 and 4(f) of federal NHPA (16 U.S.C. 470 *et seq.*), 36 CFR Part 800.3 (f) (2) & .5, the President's Council on Environmental Quality (CSQ, 42 U.S.C 4371 *et seq.* and NAGPRA (25 U.S.C. 3001-3013) as appropriate. The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation. The aforementioned Secretary of the Interior's *Standards* include recommendations for all 'lead agencies' to consider the historic context of proposed projects and to "research" the cultural landscape that might include the 'area of potential effect.'

Confidentiality of "historic properties of religious and cultural significance" should also be considered as protected by California Government Code §6254(r) and may also be protected under Section 304 of he NHPA or at the Secretary of the Interior discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C., 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APEs and possibility threatened by proposed project activity.

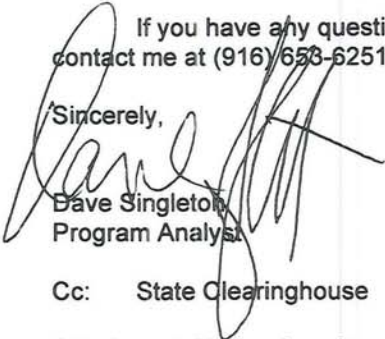
Furthermore, Public Resources Code Section 5097.98, California Government Code §27491 and Health & Safety Code Section 7050.5 provide for provisions for inadvertent discovery of human remains mandate the processes to be followed in the event of a discovery of human remains in a project location other than a 'dedicated cemetery'.

To be effective, consultation on specific projects must be the result of an ongoing relationship between Native American tribes and lead agencies, project proponents and their contractors, in the opinion of the NAHC. Regarding tribal consultation, a relationship built around regular meetings and informal involvement with local tribes will lead to more qualitative consultation tribal input on specific projects.

Finally, when Native American cultural sites and/or Native American burial sites are prevalent within the project site, the NAHC recommends 'avoidance' of the site as referenced by CEQA Guidelines Section 15370(a).

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 658-6251.

Sincerely,



Dave Singleton
Program Analyst

Cc: State Clearinghouse

Attachment: Native American Contact List

Native American Contact
San Bernardino County
August 10, 2012

Pechanga Band of Mission Indians
Paul Macarro, Cultural Resources Manager
P.O. Box 1477 Luiseno
Temecula , CA 92593
(951) 770-8100
pmacarro@pechanga-nsn.
gov
(951) 506-9491 Fax

Ramona Band of Cahuilla Mission Indians
Joseph Hamilton, Chairman
P.O. Box 391670 Cahuilla
Anza , CA 92539
admin@ramonatribes.com
(951) 763-4105
(951) 763-4325 Fax

San Manuel Band of Mission Indians
Carla Rodriguez, Chairwoman
26569 Community Center Drive Serrano
Highland , CA 92346
(909) 864-8933
(909) 864-3724 - FAX
(909) 864-3370 Fax

Soboba Band of Mission Indians
Scott Cozaet, Chairperson; Attn: Carrie Garcia
P.O. Box 487 Luiseno
San Jacinto , CA 92581
carrieg@soboba-nsn.gov
(951) 654-2765
(951) 654-4198 - Fax

Ron Wermuth
P.O. Box 168 Tubatulabal
Kernville , CA 93238 Kawaiisu
warmoose@earthlink.net Koso
(760) 376-4240 - Home Yokuts
(916) 717-1176 - Cell

Colorado River Indian Tribe
Ginger Scott, Museum Curator; Lisa Swick, Coord
26600 Mojave Road Mojave
Parker , AZ 85344 Chemehuevi
crit.museum@yahoo.com
(928) 669-9211-Tribal Office
(928) 669-8970 ext 21
(928) 669-1925 Fax

San Fernando Band of Mission Indians
John Valenzuela, Chairperson
P.O. Box 221838 Fernandefio
Newhall , CA 91322 Tataviam
tsen2u@hotmail.com Serrano
(661) 753-9833 Office Vanyume
(760) 885-0955 Cell Kitanemuk
(760) 949-1604 Fax

Gabrieleno/Tongva San Gabriel Band of Mission
Anthony Morales, Chairperson
PO Box 693 Gabrielino Tongva
San Gabriel , CA 91778
GTTribalcouncil@aol.com
(626) 286-1632
(626) 286-1758 - Home
(626) 286-1262 -FAX

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed SC2012071091; CEQA Notice of Completion; proposed Initial Study/Environmental Assess; Mitigated DECLARATION AND environmental Assessment for the Interstate 10 / Cedar Avenue Interchange Improvement ; San Bernardino County, California.

Native American Contact
San Bernardino County
August 10, 2012

Gabrielino Tongva Nation
Sam Dunlap, Chairperson
P.O. Box 86908
Los Angeles , CA 90086
samdunlap@earthlink.net

Gabrielino Tongva

(909) 262-9351 - cell

Ernest H. Siva
Morongo Band of Mission Indians Tribal Elder
9570 Mias Canyon Road Serrano
Banning , CA 92220 Cahuilla
siva@dishmail.net
(951) 849-4676

Morongo Band of Mission Indians
Michael Contreras, Cultural Heritage Prog.
12700 Pumarra Road Cahuilla
Banning , CA 92220 Serrano
(951) 201-1866 - cell
mcontreras@morongo-nsn.
gov
(951) 922-0105 Fax

SOBOBA BAND OF LUISENO INDIANS
Joseph Ontiveros, Cultural Resource Department
P.O. BOX 487 Luiseno
San Jacinto , CA 92581
jontiveros@soboba-nsn.gov
(951) 663-5279
(951) 654-5544, ext 4137

San Manuel Band of Mission Indians
Ann Brierty, Policy/Cultural Resources Departmen
26569 Community Center. Drive Serrano
Highland , CA 92346
(909) 864-8933, Ext 3250
abrierty@sanmanuel-nsn.
gov
(909) 862-5152 Fax

Serrano Nation of Indians
Goldie Walker
P.O. Box 343 Serrano
Patton , CA 92369

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed SC2012071091; CEQA Notice of Completion; proposed Initial Study/Environmental Assess; Mitigated DECLARATION AND environmental Assessment for the Interstate 10 / Cedar Avenue Interchange Improvement ; San Bernardino County, California.

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Matthew Rodriguez
Secretary for
Environmental Protection



Department of Toxic Substances Control

Deborah O. Raphael, Director
5796 Corporate Avenue
Cypress, California 90630



Edmund G. Brown Jr.
Governor

August 23, 2012

Mr. David Bricker
Deputy District Director
District 8 Division of Environmental Planning
California Department of Transportation
CEQA and NEPA Lead Agency
464 West 4th Street, 6th Floor, MS 820
San Bernardino, California 92401-1400

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION
FOR THE I-10/CEDAR AVENUE INTERCHANGE IMPROVEMENTS PROJECT
(SCH#2012071091), SAN BERNARDINO COUNTY

Dear Mr. Bricker:

The Department of Toxic Substances Control (DTSC) has received your submitted draft Initial Study (IS) and a draft Mitigated Negative Declaration (MND) for the above-mentioned project. The following project description is stated in your document: " The County of San Bernardino (County), in cooperation with the California Department of Transportation (Caltrans) proposes capacity and operational improvements to the Interstate 10 (I-10)/Cedar Avenue Interchange. The project is located within the community of Bloomington in unincorporated San Bernardino County. The proposed project would widen the existing Cedar Avenue overcrossing, the Union Pacific Railroad overhead, and Cedar Avenue from four to six lanes; and realign and widen the I-10 on-and off-ramps to connect to the improved Cedar Avenue and to improve turning and storage capacity."

Based on the review of the submitted document DTSC has the following comments:

- 1) The MND should evaluate whether conditions within the Project area may pose a threat to human health or the environment. Following are the databases of some of the regulatory agencies:
 - National Priorities List (NPL): A list maintained by the United States Environmental Protection Agency (U.S.EPA).

C-10-1

- EnviroStor (formerly CalSites): A Database primarily used by the California Department of Toxic Substances Control, accessible through DTSC's website (see below).
 - EnviroStor (formerly CalSites): A Database primarily used by the California Department of Toxic Substances Control, accessible through DTSC's website (see below).
 - Resource Conservation and Recovery Information System (RCRIS): A database of RCRA facilities that is maintained by U.S. EPA.
 - Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS): A database of CERCLA sites that is maintained by U.S.EPA.
 - Solid Waste Information System (SWIS): A database provided by the California Integrated Waste Management Board which consists of both open as well as closed and inactive solid waste disposal facilities and transfer stations.
 - GeoTracker: A List that is maintained by Regional Water Quality Control Boards.
 - Local Counties and Cities maintain lists for hazardous substances cleanup sites and leaking underground storage tanks.
 - The United States Army Corps of Engineers, 911 Wilshire Boulevard, Los Angeles, California, 90017, (213) 452-3908, maintains a list of Formerly Used Defense Sites (FUDS).
- 2) The MND should identify the mechanism to initiate any required investigation and/or remediation for any site within the proposed Project area that may be contaminated, and the government agency to provide appropriate regulatory oversight. If necessary, DTSC would require an oversight agreement in order to review such documents.
- 3) Any environmental investigations, sampling and/or remediation for a site should be conducted under a Workplan approved and overseen by a regulatory agency that has jurisdiction to oversee hazardous substance cleanup. The findings of any investigations, including any Phase I or II Environmental Site Assessment Investigations should be summarized in the document. All sampling results in which hazardous substances were found above regulatory standards should be clearly summarized in a table. All closure, certification or remediation approval reports by regulatory agencies should be included in the EIR.

C-10-1

C-10-2

C-10-3

- | | |
|--|--------|
| 4) If buildings, other structures, asphalt or concrete-paved surface areas are being planned to be demolished, an investigation should also be conducted for the presence of other hazardous chemicals, mercury, and asbestos containing materials (ACMs). If other hazardous chemicals, lead-based paints (LPB) or products, mercury or ACMs are identified, proper precautions should be taken during demolition activities. Additionally, the contaminants should be remediated in compliance with California environmental regulations and policies. | C-10-4 |
| 5) Future project construction may require soil excavation or filling in certain areas. Sampling may be required. If soil is contaminated, it must be properly disposed and not simply placed in another location onsite. Land Disposal Restrictions (LDRs) may be applicable to such soils. Also, if the project proposes to import soil to backfill the areas excavated, sampling should be conducted to ensure that the imported soil is free of contamination. | C-10-5 |
| 6) Human health and the environment of sensitive receptors should be protected during any construction or demolition activities. If necessary, a health risk assessment overseen and approved by the appropriate government agency should be conducted by a qualified health risk assessor to determine if there are, have been, or will be, any releases of hazardous materials that may pose a risk to human health or the environment. | C-10-6 |
| 7) If the project site was used for agricultural, livestock or related activities, onsite soils and groundwater might contain pesticides, agricultural chemical, organic waste or other related residue. Proper investigation, and remedial actions, if necessary, should be conducted under the oversight of and approved by a government agency at the site prior to construction of the project. | C-10-7 |
| 8) If it is determined that hazardous wastes are, or will be, generated by the proposed operations, the wastes must be managed in accordance with the California Hazardous Waste Control Law (California Health and Safety Code, Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations, Title 22, Division 4.5). If it is determined that hazardous wastes will be generated, the facility should also obtain a United States Environmental Protection Agency Identification Number by contacting (800) 618-6942. Certain hazardous waste treatment processes or hazardous materials, handling, storage or uses may require authorization from the local Certified Unified Program Agency (CUPA). Information about the requirement for authorization can be obtained by contacting your local CUPA. | C-10-8 |
| 9) DTSC can provide cleanup oversight through an Environmental Oversight Agreement (EOA) for government agencies that are not responsible parties, or a Voluntary Cleanup Agreement (VCA) for private parties. For additional information on the EOA or VCA, please see | C-10-9 |

Mr. David Bricker
August 23, 2012
Page 4

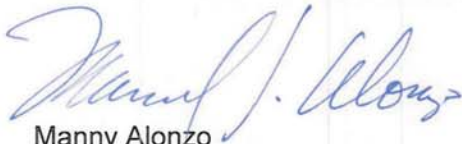
www.dtsc.ca.gov/SiteCleanup/Brownfields, or contact Ms. Maryam Tasnif-Abbasi, DTSC's Voluntary Cleanup Coordinator, at (714) 484-5489.

- 10) Also, in future CEQA document, please provide your e-mail address, so DTSC can send you the comments both electronically and by mail.

C-10-10

If you have any questions regarding this letter, please contact Nirupma Suryavanshi, Project Manager, at [Suryavanshi, Nirupma@dtsc.ca.gov](mailto:Nirupma@dtsc.ca.gov), or by phone at (714) 484-5375.

Sincerely,



Manny Alonzo
Unit Chief
Brownfields and Environmental Restoration Program

cc: Governor's Office of Planning and Research
State Clearinghouse
P.O. Box 3044
Sacramento, California 95812-3044
state.clearinghouse@opr.ca.gov.

CEQA Tracking Center
Department of Toxic Substances Control
Office of Environmental Planning and Analysis
P.O. Box 806
Sacramento, California 95812
Attn: Nancy Ritter
nritter@dtsc.ca.gov

CEQA # 3626

Commenter 1: Eduardo Alvarado, Individual (Project E-mail Address) – July 31, 2012

Comment C-1-1

I do believe that before doing the project the alley on the back should be paved in order for the houses that are on Cedar Avenue to be able to exit their homes safely onto Valley.

Comment C-1-2

There should also be cameras installed in the alley and near the area of the project for safety and security.

Response to Comments C-1-1 and C-1-2

Access to Cedar will be maintained for all residents throughout construction. No improvements are planned for the alley east of Cedar Avenue. No security cameras are planned for the alley east of Cedar Avenue.

Commenter 2: Matt Prink, Business Analyst, Level 3 Communications (Project E-mail Address) – August 21, 2012

Comment C-2-1

Persons working in the area covered by these drawings must contact the statewide Call-Before-You-Dig System to ascertain the location of underground facilities prior to performing any excavation.

Response to Comment C-2-1

A minimization measure has been added on page 129 that states “Prior to any underground construction, all contractors will contact the statewide Call-Before-You-Dig System to determine the exact location of any and all underground utilities. This clause will be included in the construction specifications”.

Comment C-2-2

If it is determined that an adjustment and/or relocation of the Facilities is necessary to accommodate the Project, please contact the undersigned to discuss and reference the file number XXXXX CA with any future communications.

Response to Comment C-2-2

Thank you for your comment and any future adjustments or relocations with Level 3 Communications will be coordinated through Matt Prink, Business Analyst, with a reference to the file number. This clause will be included in the construction specifications.

Comment C-2-3

We would like to request that all utility submittals in the future be sent via email with a detailed letter stating the project information, as well as any existing plan that may be beneficial in determining potential conflict.

Response to Comment C-2-3

All future utility submittals will be e-mailed to the address provided, complete with a project information letter and a copy of the existing plan.

**Commenter 3: Anna Rahtz, Planning Projects Manager, Omnitrans
(Letter) – August 30, 2012**

Comment C-3-1

Page 19: The IS/EA mentions that Cedar Avenue is a primary access route to two middle schools. It should be explained how pedestrian and bicycle trips to school will be accommodated through the design of this project. With the prevalence of Safe Routes to School Projects that retrofit corridors within walking distance of elementary schools and middle schools in the region, it is much more cost-efficient to coordinate investments to meet all mobility goals for the community simultaneously rather than retrofitting the corridor later to accommodate non-motorized modes.

Response to Comment C-3-1

On page 19, the discussion of access to the two middle schools is specifically pertaining to the purpose and need of the project, specifically addressing “Roadway Deficiencies”. Discussion on improvements to facilities pertaining to any impacts or benefits toward pedestrian and bicycle uses are discussed in Section 2.5 (Traffic and Transportation/Pedestrian and Bicycle Facilities).

To clarify how pedestrians will be accommodated permanently by the project, Section 2.5 (Traffic and Transportation/Pedestrian and Bicycle Facilities), subsection “Permanent Impacts” of the IS/EA has been updated to read:

All sidewalks at intersections shall be constructed with ramps for access to the sidewalk and these will comply with ADA requirements. Sidewalks will be constructed along Cedar Avenue throughout the project limits ranging from 6 to 8 ft. Curb returns will have ADA ramps as required in the Title 24 California Code.

Accommodations for bicycle users is discussed in Section 2.5 (Traffic and Transportation/Pedestrian and Bicycle Facilities) of the IS/EA. Under subsection “Bikeways” the IS/EA states “This interchange improvement project proposes a

shoulder width varying from 6 to 10 ft that is adequate to accommodate a Class II bike lane within the project limits.”

It is beyond the scope of this project, and the project’s funding, to do any further improvements along Cedar Avenue that are not a direct solution to the purpose and need of the project, to alleviate congestion on the ramps and along Cedar Avenue. Complete streets work will need to be done with a future project.

Comment C-3-2

Page 22: The name of the Omnitrans bus route mentioned is Route 19, not SR-19.

Response to Comment C-3-2

The IS/EA has been revised to identify the Omnitrans bus route as Route 19, not SR-19.

Comment C-3-3

Page 22: It would be helpful to reference the walking distance from the existing bus stops to the project area.

Response to Comment C-3-3

Since the project area is linear, it is not feasible to identify a specific “walking distance” from the existing bus stops. There are two bus stops for Route 29 within the project limits, Valley/Cedar and Orange/Cedar.

Section 1.2 (Purpose and Need) of the IS/EA has been updated to read:

Route 29 has two bus stops within the project limits. The first is at Valley/Cedar and the second at Orange/Cedar.

Comment C-3-4

Page 22: The San Bernardino Avenue Corridor, just north of the project site, is a planned future bus rapid transit (BRT) corridor, as outlined in the San Bernardino Associated Governments (SANBAG)’s Long Range Transit Plan (2009).

Response to Comment C-3-4

The discussion in Section 1.2 (Purpose and Need) subsection “Intermodal Facilities” is meant to describe existing Intermodal Facilities within the project area. Since the San Bernardino Avenue Corridor is a future BRT corridor, it is not appropriate to discuss in the I-10 Cedar IS/EA.

Comment C-3-5

Page 22: Areas within a ½-mile walking distance and 3 miles bicycling distance of future BRT stops will be a draw area for BRT riders, per Federal Transit Administration guidance. Since the project area is adjacent to the future BRT corridor along either San Bernardino Avenue or Valley Boulevard (exact corridor alignment will be determined through Alternatives Analysis process (2012-2013), the project goals and the project design should consider pedestrian and bicycle access to future BRT stations along San Bernardino Avenue.

Response to Comment C-3-5

The discussion in Section 1.2 (Purpose and Need) subsection “Intermodal Facilities” is meant to describe existing Intermodal Facilities within the project area. Since the San Bernardino Avenue and Valley Boulevard are future BRT corridors, it is not appropriate to discuss in the I-10 Cedar IS/EA. In addition, it is beyond the scope of this project, and the project’s funding, to do any further improvements along Cedar Avenue that are not a direct solution to the purpose and need of the project, to alleviate congestion on the ramps and along Cedar Avenue. Complete streets work will need to be done with a future project.

Comment C-3-6

Page 22: It may also be helpful to consider that future premium transit service within walking distance of the project area may reduce projected vehicular traffic levels in the future by increased transit mode share.

Response to Comment C-3-6

The discussion in Section 1.2 (Purpose and Need) subsection “Intermodal Facilities” is meant to describe existing Intermodal Facilities within the project area. Therefore discussion of future premium transit service does not apply.

Comment C-3-7

Page 22 and 44: How will the project accomplish the expressed desire to encourage alternative forms of transportation and reduce the number of motor vehicles within the community of Bloomington?

Response to Comment C-3-7

The discussion in Section 1.2 (Purpose and Need) subsection “Intermodal Facilities” is meant to describe existing Intermodal Facilities within the project area. Section 1.4 (Alternatives Under Consideration) discusses other modes of transportation that is being considered as part of the analysis. Subsection “Transportation System Management and Transportation Demand Management Alternatives” discusses

alternative forms of transportation in the project area. However, the project's Purpose and Need, discussed in Section 1.2 (Purpose and Need), is to relieve existing traffic congestion and solve the deficient levels of service. The Transportation System Management and Transportation Demand Management Alternatives do not meet the project's purpose and need, therefore improvements within the project limits have been considered in the analysis.

Comment C-3-8

Page 24 and 44: The IS/EA mentions that the existing bridge has a bike lane and a 5' wide sidewalk on each side. Will the proposed bridge have the same?

Response to Comment C-3-8

Discussion on improvements to facilities pertaining to any impacts or benefits toward pedestrian and bicycle uses are discussed in Section 2.5 (Traffic and Transportation/Pedestrian and Bicycle Facilities).

Accommodations for bicycle users are discussed under subsection "Bikeways". The IS/EA states "This interchange improvement project proposes a shoulder width varying from 6 to 10 ft that is adequate to accommodate a Class II bike lane within the project limits."

To clarify how pedestrians will be accommodated permanently by the project, Section 2.5 (Traffic and Transportation/Pedestrian and Bicycle Facilities), subsection "Permanent Impacts" of the IS/EA has been updated to read:

All sidewalks at intersections shall be constructed with ramps for access to the sidewalk and these will comply with ADA requirements. Sidewalks will be constructed along Cedar Avenue throughout the project limits ranging from 6 to 8 ft. Curb returns will have ADA ramps as required in the Title 24 California Code.

Comment C-3-9

Page 24 and 44: A street cross-section designed to make walking and cycling more pleasant will encourage alternative modes of transportation, such as providing a wide sidewalk with trees for shade and a parkway strip separating non-motorized users from traffic. Some elements of the project design may encourage vehicular traffic and discourage non-motorized travel, such as removal of trees and addition of vehicular travel lanes, which increases walking distance to cross the street.

Response to Comment C-3-9

The project's Purpose and Need, discussed in Section 1.2 (Purpose and Need), is to relieve existing traffic congestion and solve the deficient levels of service. It is beyond the scope of this project, and the project's funding, to do any further improvements along Cedar Avenue that are not a direct solution to the purpose and need of the project.

Comment C-3-10

Page 65: How will the project promote General Plan Goal BL/CI2: Ensure safe and efficient non-motorized traffic circulation within the community?

Response to Comment C-3-10

Implementation of the I-10 Cedar Avenue Interchange project would support the circulation/transportation related goals and policies of the Bloomington Community Plan and the County of San Bernardino General Plan which support the purpose and need of the project. Specifically, General Plan Goal BL/CI2 will be addressed as discussed on Page 43, in the Non Motorized and Pedestrian Features Section of Build Alternative – Alternative 2A Compact Diamond Interchange Alternative (Preferred Alternative). This section states that “Alternative 2A includes the provision of sufficient shoulder width varying from 6 to 10 ft within the project segments of Cedar Avenue and Slover Avenue. The proposed width for the Class II bike lanes exceeds Caltrans standard of 5 ft and includes a 2 ft gutter. The Class II bike lanes would allow bicyclists to cross over I-10 on the widened segments of Cedar Avenue and Slover Avenues. All pedestrian facilities, including sidewalks, access ramps, and crosswalks would be designed consistent with the requirements of the Americans with Disabilities Act (ADA).”

Comment C-3-11

Page 73: What will the cross-section of each alternative for the entire right of way including the sidewalk widths be?

Response to Comment C-3-11

Cross sections for the entire limits of the project are located in Appendix I of the IS/EA.

Comment C-3-12

Page 73: Details of crosswalk locations would be helpful – in the project plan, a crosswalk is not shown on the south side of the intersection of Valley Boulevard and Cedar Avenue, or east-west crosswalks at the interchange. Removing crosswalks on

one side of an intersection triples the walking distance for pedestrians, discouraging walking as a mode of transportation.

Response to Comment C-3-12

There is no crosswalk on the south side of the intersection of Valley Boulevard and Cedar Avenue due to the proposed traffic signal phasing. The traffic signal phasing is established based on vehicular and pedestrian traffic volumes. East-west crosswalks at the ramps are not included based on Caltrans policy. Pedestrians should cross Cedar Avenue at Valley Boulevard or at Orange Street. Existing sidewalks on Valley Boulevard will remain. New sidewalks are proposed on Cedar Avenue throughout the project limits. Detailed project plans are located in Appendix I of the IS/EA.

Comment C-3-13

Page 73: How will the signal be phased for pedestrians to cross 11 lanes of traffic? Will there be a median island to facilitate crossings?

Response to Comment C-3-13

Signal timing to allow pedestrians to cross the street at all painted crosswalks would be in accordance with County of San Bernardino's standards, which will include a standard walking speed to allow pedestrians to safely cross the full width of the street. Median islands will not be used as a refuge for pedestrians crossing the street, as that would be an unsafe condition.

Comment C-3-14

Page 73: The neighboring City of Fontana is current studying transit oriented development at Valley Boulevard and Sierra Avenue (approximately 3 miles from the project area), which may cause Valley Boulevard to become a highly-used corridor for walking, biking, or transit (see first paragraphs) in the future.

Response to Comment C-3-14

Thank you for your comment. It will be taken into the administration record for the project.

Comment C-3-15

Page 119: Specifically, how will the project "address deficiencies of the existing transportation system and ... enhance mobility and improve connections for minority and low-income populations within the project area?"

Response to Comment C-3-15

By decreasing congestion within the project area, public transit on time performance will be improved, which would result in better access and improved reliability for all transit users.

Comment C-3-16

Page 145: How will the pedestrian detour plan affect access to transit stops during the proposed 2-year construction period? This will help Omnitrans coordinate stop closures or detours if necessary.

Response to Comment C-3-16

The Traffic Management Plan, which contains the pedestrian detour plan, will be developed during final design of the project. Caltrans, in consultation with the County of San Bernardino will coordinate with Omnitrans to ensure that access would be provided to all users. In the event that a bus stop would need to be temporarily relocated due to construction activities, the temporary location would be reviewed and approved by Omnitrans.

Comment C-3-17

Page 155: The simulation of the off-ramp presents an opportunity to show a simulated intersection with pedestrian access to show the project's intention to accommodate a multimodal corridor.

Response to Comment C-3-17

The intent of the visual simulation at this location is to identify what the off ramp would look like after construction. It is not meant to describe in detail all characteristics of the project.

Comment C-3-18

It may also be helpful to mention in the document what impacts, if any, the proposed changes to the Caltrans Highway Design Manual will have on the design of the project.

Response to Comment C-3-18

The changes in the 2012 Highway Design Manual will not have any effect on any of the elements of the project.

Commenter 4: Rosa Muñoz, PE, Senior Utilities Engineer, California Public Utilities Commission (Letter) – August 10, 2012

Comment C-4-1

Caltrans should arrange a meeting with Caltrans, County, UPRR and RCES (California Public Utilities Commission’s Rail Crossings Engineering Section) staff to discuss relevant safety issues and requirements for authorization to alter the existing grade-separated crossing.

Response to Comment C-4-1

Caltrans will comply with all CPUC regulations and requirements throughout this project. During the final design process, and prior to the County hiring a construction contractor, a diagnostic meeting will be scheduled with the CPUC, the UPRR, RCES staff, and County staff and a proper general order permit will be applied. This clause will be included in the construction specifications.

Commenter 5: Nuha Jawad and Hussein Alkhafaje, Individual (Public Meeting Comment Card) – August 15, 2012

Comment C-5-1

Even though the proposed plan does not affect my property, I would like to request to have an opening made to allow access to the gas station. Currently 2 (two) openings are available only on Valley Blvd., which minimizes the amount of traffic flow. If we can have at least 1 (one) opening included on Valley Blvd., that would greatly improve traffic flow.

Response to Comment C-5-1

This project will not modify the existing accessibility to and from the gas station, therefore additional access cannot be provided along Cedar Avenue within the scope of this project’s improvements.

Commenter 6: Soonam Hahn, Individual (Public Meeting Comment Card) – August 15, 2012

Comment C-6-1

The public accesses the park and ride on the corner of Valley and Cedar through the business property. This negative impact on the business would be removed if access were provided more directly from the street. (Diagram provided)

Response to Comment C-6-1

This project will not modify the existing accessibility to and from the park and ride, therefore additional access cannot be provided along Cedar Avenue within the scope of this project's improvements.

Commenter 7: Farmer Boys (Millie Dhillon), Local Business (Public Meeting Comment Card) – August 22, 2012

Comment C-7-1

Due to this project I will be losing two of my business signs, one parking lot light, and two of my water meters.

Response to Comment C-7-1

All business signs, light pole(s), and water meters will be relocated to a new location and the design team/right of way acquisition team will work with the property owner to identify a mutually acceptable location for these items. Provisions within the construction documents shall be included for the construction of these relocations.

Commenter 8: Larry Walker, Auditor-Controller/Treasurer/Tax Collector, San Bernardino County (Letter) – August 7, 2012

Comment C-8-1

This letter is intended to clarify that the letter and disk you sent to my office should be filed at the Clerk of the Board's office located at:

Clerk of the Board of Supervisors
385 North Arrowhead Avenue
2nd Floor
San Bernardino, CA 92415-0139

Response to Comment C-8-1

Thank you for this information. All future communications will be forwarded to the Clerk of the Board Supervisors at the address you provided.

Commenter 9: Dave Singleton, Program Analyst, Native American Heritage Commission (Letter) – August 10, 2012

Comment C-9-1

The NAHC recommends that the lead agency request that the NAHC do a Sacred Lands File search as part of the careful planning for the project.

Response to Comment C-9-1

On March 21, 2003, the NAHC was contacted via fax and requested to conduct a search of the Sacred Lands File in order to identify areas of religious and/or cultural significance that might be affected by this undertaking.

On April 7, 2003, a letter from the NAHC stated that “a record search of the sacred lands file has failed to indicate the presence of Native American cultural resources in the immediate project area.” A copy of the letter is included in Attachment D of the Historic Property Survey Report.

Comment C-9-2

We strongly urge that you make contact with the list of Native American Contacts on the attached list of Native American contacts, to see if your proposed project might impact Native American cultural resources and to obtain their recommendations concerning the proposed project.

Response to Comment C-9-2

Upon the recommendation of the Native American Heritage Commission (NAHC), 18 Native American individuals/groups were contacted via certified mail from March 21 to April 8, 2003. No responses were received from any of the groups. Attempts were made to contact each entity via telephone from April 7 to April 23, 2003. None of the Native American individuals/groups that were contacted knew of any historic properties of religious and/or cultural significance that might be affected by this undertaking. Copies of the letters sent and phone calls made are available in Attachment D of the Historic Property Survey Report.

Comment C-9-3

The NAHC requests that pertinent project information be provided [to] consulting tribal parties, including archaeological studies.

Response to Comment C-9-3

If and when any pertinent project information (including archaeological studies) is requested by a consulting tribal party, the requested information will be sent within 10 business days to the tribal party in the format requested.

Commenter 10: Manny Alonzo, Unit Chief, Brownfields and Environmental Restoration Program (Letter) – August 23, 2012

Comment C-10-1

The Mitigated Negative Declaration (MND) should evaluate whether conditions within the Project area may pose a threat to human health or the environment.

Following are the databases of some of the regulatory agencies:

- National Priorities List (NPL): A list maintained by the United States Environmental Protection Agency (U.S.EPA).
- EnviroStor (formerly CalSites): A Database primarily used by the California Department of Toxic Substances Control, accessible through DTSC's website (see below).
- Resource Conservation and Recovery Information System (RCRIS): A database of RCRA facilities that is maintained by the U.S.EPA.
- Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS): A database of CERCLA sites that is maintained by U.S.EPA.
- Solid Waste Information System (SWIS): A database provided by the California Integrated Waste Management Board which consists of both open as well as closed and inactive solid waste disposal facilities and transfer stations.
- GeoTracker: A List that is maintained by Regional Water Quality Control Boards.
- Local Counties and Cities maintain lists for hazardous substances cleanup sites and leaking underground storage tanks.
- The United States Army Corps of Engineers, 911 Wilshire Boulevard, Los Angeles, California, 90017, (213) 452-3908, maintains a list of Formerly Used Defense Sites (FUDS).

Response to Comment C-10-1

These processes were completed during the development of the June 2006 Hazardous Waste Initial Site Assessment Report (Phase 1) and the findings were documented in Section 2.12 (Hazardous Wastes and Materials) within the IS/EA.

Comment C-10-2

The MND should identify the mechanism to initiate any required investigation and/or remediation for any site within the proposed Project area that may be contaminated, and the government agency to provide appropriate regulatory oversight. If necessary, DTSC would require an oversight agreement in order to review such documents.

Response to Comment C-10-2

These processes were completed during the development of the June 2006 Hazardous Waste Initial Site Assessment Report (Phase 1) and the findings were documented in Section 2.12 (Hazardous Wastes and Materials) within the IS/EA.

Comment C-10-3

Any environmental investigations, sampling and/or remediation for a site should be conducted under a Workplan approved and overseen by a regulatory agency that has jurisdiction to oversee hazardous substance cleanup. The findings of any investigations, including any Phase I or II Environmental Site Assessment Investigations should be summarized in the document. All sampling results in which hazardous substances were found above regulatory standards should be clearly summarized in a table. All closure, certification or remediation approval reports by regulatory agencies should be included in the EIR.

Response to Comment C-10-3

These processes were completed during the development of the June 2006 Hazardous Waste Initial Site Assessment Report (Phase 1) and the findings were documented in Section 2.12 (Hazardous Wastes and Materials) within the IS/EA.

Comment C-10-4

If buildings, other structures, asphalt or concrete-paved surface areas are being planned to be demolished, an investigation should also be conducted for the presence of other hazardous chemicals, mercury, and asbestos containing materials (ACMs). If other hazardous chemicals, lead-based paints (LPB) or products, mercury or ACMs are identified, proper precautions should be taken during demolition activities. Additionally, the contaminants should be remediated in compliance with California environmental regulations and policies.

Response to Comment C-10-4

All testing of potential ACMs and LBPs in building structures will be conducted in accordance with Measures HW-1 and HW-5. All testing of potential ACMs in roadway structures will be conducted in accordance with Measures HW-1 and HW-5. With the implementation of Measures HW-1 through HW-4, all ACM- and LBP-containing material will be handled and disposed of at an appropriate designated facility.

Comment C-10-5

Future project construction may require soil excavation or filling in certain areas. Sampling may be required. If soil is contaminated, it must be properly disposed and not simply placed in another location on-site. Land Disposal Restrictions (LDRs) may be applicable to such soils. Also, if the project proposes to import soil to backfill the areas excavated, sampling should be conducted to ensure that the imported soil is free of contamination.

Response to Comment C-10-5

Contaminated soils will be properly handled, tested, and disposed of. In addition, imported soil will be tested for contamination prior to introduction to the project site.

Comment C-10-6

Human health and the environment of sensitive receptors should be protected during any construction or demolition activities. If necessary, a health risk assessment overseen and approved by the appropriate government agency should be conducted by a qualified health risk assessor to determine if there are, have been, or will be, any releases of hazardous materials that may pose a risk to human health or the environment.

Response to Comment C-10-6

With implementation of Measures HW-1 through HW-9 of the IS/EA, impacts to human health and the environment or sensitive receptors will be minimized during construction or demolition activities. Based on the results of all analysis completed to date, the project does not require a health risk assessment, and one is not planned. However, if it is subsequently determined, based on new information, that a health risk assessment might be warranted, it will be overseen and approved by the appropriate government agency and will be conducted by a qualified health risk assessor.

Comment C-10-7

If the project site was used for agricultural, livestock or related activities, on-site soils and groundwater might contain pesticides, agricultural chemical, organic waste or other related residue. Proper investigation, and remedial actions, if necessary, should be conducted under the oversight of and approved by a government agency at the site prior to construction of the project.

Response to Comment C-10-7

These processes were completed during the development of the June 2006 Hazardous Waste Initial Site Assessment Report (Phase 1) and the findings were documented in Section 2.12 (Hazardous Wastes and Materials) within the IS/EA.

Comment C-10-8

If it is determined that hazardous wastes are, or will be, generated by the proposed operations, the wastes must be managed in accordance with the California Hazardous Waste Control Law (California Health and Safety Code, Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations, Title 22, Division 4.5). If it is determined that hazardous wastes will be generated the

facility should also obtain a United States Environmental Protection Agency Identification Number by contact (800) 618-6942. Certain hazardous waste treatment processes or hazardous materials, handling, storage or uses may require authorization from the local Certified Unified Program Agency (CUPA). Information about the requirement for authorization can be obtained by contacting your local CUPA.

Response to Comment C-10-8

If it is determined that hazardous wastes are, or will be, generated by the proposed operations, the wastes will be managed in accordance with the California Hazardous Waste Control Law (California Health and Safety Code, Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations, Title 22, Division 4.5). If it is determined that hazardous wastes will be generated, the facility will also obtain a United States Environmental Protection Agency (EPA) Identification Number by contacting (800) 618-6942. If it is found that certain hazardous waste treatment processes or hazardous materials, handling, storage, or uses require authorization from the local Certified Unified Program Agency (CUPA), the local CUPA will be contacted.

Comment C-10-9

DTSC can provide cleanup oversight through an Environmental Oversight Agreement (EOA) for government agencies that are not responsible parties, or a Voluntary Cleanup Agreement (VCA) for private parties. For additional information on the EOA or VCA, please see www.dtsc.ca.gov/SiteCleanup/Brownfields, or contact Ms. Maryam Tasnif-Abbasi, DTSC's Voluntary Cleanup Co-ordinator, at (714) 484-5489.

Response to Comment C-10-9

The information is noted and will be retained for reference.

Comment C-10-10

Also, in future CEQA document, please provide your e-mail address, so DTSC can send you the comments both electronically and by mail.

Response to Comment C-10-10

Caltrans does accept comments via email. The Draft Initial Study with Proposed Mitigated Negative Declaration/ Environmental Assessment (Draft Environmental Document) circulated for this project included a page just after the Cover Page, "*General Information About This Document*," that referenced an email address: I-10_Cedar_Ave_IC_D8@dot.ca.gov for comments. Caltrans welcomes comments sent by postal mail or electronic mail.

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Chapter 4 List of Preparers

This IS/EA was prepared by LSA Associates, Inc. under contract to Lim and Nascimento Engineering for San Bernardino County and District 8 of Caltrans. The following staff prepared this IS/EA and supporting technical studies:

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Alicia Lemke	Project Manager/Environmental Planner	AECOM	Environmental Planning	12	Environmental/Project Report
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Chapter 5 Distribution List

The Draft IS/EA will be distributed to the state, regional, and local agencies listed on the following pages. In addition, all property owners and occupants within a 300-foot-radius of the project limits will be provided notice of the availability of the Draft IS/EA.

I-10/Cedar Avenue Interchange Project Distribution List for Draft IS/EA

REGIONAL AND LOCAL AGENCIES

County of Riverside
Administrative Center
4080 Lemon Street, 4th floor
Riverside, CA 92501

County of San Bernardino
825 East Third Street
San Bernardino, CA 92425

Rialto Unified School District
182 East Walnut Avenue
Rialto, California 92376-3598

Colton Joint Unified School District
1212 Valencia Drive
Colton, CA 92324

Fontana Unified School District
9680 Citrus Avenue
Fontana, California 92335

County of San Bernardino
Department of Public Works-Flood Control
District
Patrick J. Mead
825 East Third Street
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of Commerce
P.O. Box 658
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San Bernardino Land Use Department
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385 N. Arrowhead Avenue - 1st Floor
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City of Rialto
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Rialto, CA 92376

City of Fontana
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8353 Sierra Ave., Fontana, CA 92335

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Planning Department
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Land Use Services Department
 Michael E. Hays
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 San Bernardino, CA 92415-0181

City of Fontana
 Community Services and Recreation
 Ken Herron
 9460 Sierra Ave.
 Fontana, CA 92335

Fontana Chambers of Commerce
 8491 Sierra Avenue
 Fontana, CA 92335-3860

San Bernardino County Office of Education
 601 North E Street
 San Bernardino 92410-3093

City of Colton
 650 North La Cadena Drive
 Colton, CA 92324-2823

County of San Bernardino
 Mark Uffer, County Administrative Officer
 385 N. Arrowhead Avenue
 San Bernardino, CA 92415-0120

Clerk of the Board of Supervisors
 385 N. Arrowhead Avenue, 2nd Floor
 San Bernardino, CA 92415-0130

County of Orange
 Administrative Office
 1535 E. Orangewood Avenue
 Anaheim, CA 92805

City of Grand Terrace
 22795 Barton Road,
 Grand Terrace, CA 92313

Department of Public Works
 Mike Fox
 Water Resources/Land Development
 825 East Third Street
 San Bernardino, CA 92415

SANBAG
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County of Kern
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 1115 Truxtun Avenue, 5th Floor
 Bakersfield, CA 93301

SBC LAFCO
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Division of Water Rights
P.O. Box 2000
Sacramento, CA 95812-2000

California Highway Patrol
9530 Pittsburg Ave.
Rancho Cucamonga 91730-6014

California Department of Conservation
Division of Land Resource Protection
801 K. Street, MS 13-71
Sacramento, CA 95814

Air Resources Board
1001 "I" Street
P.O. Box 2815
Sacramento, CA 95814

State Clearinghouse
P.O. Box 3044
Sacramento, CA 95812-3044

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Chapter 6 References

In addition to the project-specific technical reports listed in Appendix D, the following additional technical reports and studies were used in the preparation of the environmental document for the Interstate 10/Cedar Avenue Interchange project.

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Appendix A CEQA Checklist

ENVIRONMENTAL SIGNIFICANCE CHECKLIST I-10/CEDAR AVENUE INTERCHANGE PROJECT

08-SBD-10	17.8/19.3	08-1A8300
Dist.-Co.-Rte.	P.M/P.M.	E.A.

This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included either following the applicable section of the checklist or is within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
VI. GEOLOGY AND SOILS: Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
VII. GREENHOUSE GAS EMISSIONS: Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document. While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the body of the environmental document.			
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				
VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
IX. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
X. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XI. MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XII. NOISE: Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XIII. POPULATION AND HOUSING: Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES:				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Schools?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Parks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
XV. RECREATION:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XVI. TRANSPORTATION/TRAFFIC: Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?				
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?				
	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I. AESTHETICS

The potential impacts of the I-10/Cedar Avenue Interchange project related to aesthetics are described in detail in Section 2.6, Visual and Aesthetics, and in the *Visual Impact Assessment* (July 2007).

- a) **Less Than Significant Impact.** Permanent visual impacts on a scenic vista are not anticipated as a result of implementation of the I-10/Cedar Avenue Interchange project. However, temporary visual impacts would occur as a result of construction. Such impacts would cease following completion of construction for the project.
- b) **No Impact.** Cedar Avenue and I-10 are not state-designated scenic highways, and there are no scenic resources in the project area.¹
- c) **Less Than Significant with Mitigation Incorporated.** The I-10/Cedar Avenue Interchange project would be constructed generally within existing state and county publicly owned ROWs. The construction would be in the same general design as the existing I-10/Cedar Avenue interchange and would not result in substantially different views than those currently experienced in the area. No new impacts to the existing visual quality of the site are anticipated to result from the project. However, Measures V-1 to V-8, provided in Section 2.6, would ensure that the project would not result in adverse visual impacts associated with the removal of existing landscaping and construction of the project.
- d) **Less Than Significant with Mitigation Incorporated.** The project area is urban/semiurban, and there is existing street lighting and other lighting in the area. The I-10/Cedar Avenue Interchange project would add new lighting. The new lighting would not result in a significant adverse new source of light due to the limited nature of the required lighting and because the project lighting will be shielded and focused within the project ROW as described in Measure V-9, provided in Section 2.6. No new light and glare impacts are anticipated to result from the project.

¹ California Scenic Highway Mapping System, available at: www.dot.ca.gov/hq/LandArch/scenic_highways.

II. AGRICULTURAL RESOURCES

The potential impacts of the I-10/Cedar Avenue Interchange project related to agricultural resources are described in detail in the Introduction section under Chapter 2.

- a) **No Impact.** The project site is located in a suburban/urban environment. There are no farmlands in the project area, and there are no agricultural resources on or in the immediate vicinity of the project site.
- b) **No Impact.** The I-10/Cedar Avenue Interchange project would not conflict with existing agricultural zoning for the project site.
- c) **No Impact.** There are no forest lands or timberlands within the project limits. Therefore, the I-10/Cedar Avenue Interchange project would not conflict with existing zoning or cause rezoning of forest land (as defined in Public Resources Code section 12220(g) or timberland (as defined in Public Resources Code section 4526).
- d) **No Impact.** There are no forest lands within the project limits. Therefore, the I-10/Cedar Avenue Interchange project would not result in the loss of forest land or conversion of forest land to non-forest use.
- e) **No Impact.** There are no existing agricultural uses or resources on the project site.

III. AIR QUALITY

The potential impacts of the I-10/Cedar Avenue Interchange project related to air quality are discussed in detail in Section 2.13, Air Quality, and the *Air Quality Analysis* (December 2012).

- a) **No Impact.** The project would not conflict with or obstruct implementation of any applicable air quality plan.
- b) **No Impact.** The project is in a nonattainment area for the federal ambient air quality standards (AAQS) for particulate matter smaller than 10 and 2.5 microns in diameter (PM₁₀ and PM_{2.5}, respectively) and in an attainment/maintenance area for the federal carbon monoxide (CO) and nitrogen dioxide (NO₂) standards. As described in Section 2.13, the I-10/Cedar Avenue Interchange project would not result in any exceedances of the 1- and 8-hour CO AAQS. The project would not

contribute to a particulate matter (PM) hot spot that would cause or contribute to a violation of the federal PM_{2.5} and PM₁₀ AAQS.

- c) **No Impact.** The I-10/Cedar Avenue Interchange project would not result in any exceedances of the 1- and 8-hour CO AAQS or contribute to a particulate matter hot spot that would cause or contribute to a violation of the federal PM_{2.5} and PM₁₀ AAQS.
- d) **Less Than Significant Impact.** The I-10/Cedar Avenue Interchange project may result in temporary short-term construction-related increases in pollutant concentrations specifically associated with fugitive dust and construction equipment emissions. Implementation of the South Coast Air Quality Management District (SCAQMD) Rules and Regulations and Caltrans Standard Construction Specifications described in Section 2.13 would reduce potential short-term adverse air quality impacts on sensitive receptors to below a level of significance. No further mitigation is required.
- e) **Less Than Significant Impact.** The project may result in temporary short-term construction-related increases in objectionable odors. Implementation of SCAQMD Rules and Regulations, as described in Section 2.13, would reduce this potential short-term adverse impact to below a level of significance. No further mitigation is required.

IV. BIOLOGICAL RESOURCES

The potential impacts of the I-10/Cedar Avenue Interchange project on biological resources are discussed in detail in Section 2.15, Biological Resources, and the *Natural Environment Study* (July 2006).

- a) **Less Than Significant with Mitigation Incorporated.** The project area is a previously disturbed suburban/urban area, and the project limits generally occur within existing state and county rights-of-way (ROWs). However, as discussed in Section 2.15, the project area contains potentially recoverable habitat for the Delhi Sands flower-loving fly (DSF). To avoid adverse indirect effects to 8.7 acres (ac) of potentially recoverable DSF habitat, mitigation credits will be purchased as described in Measure BIO-2 in Section 2.15. Therefore, potential indirect effects of the project on the DSF would be reduced to below a level of significance. No other listed or special-status plant or animal species were identified on the project site, and no additional mitigation is required.

- b) **No Impact.** There are no natural communities of concern located within the project limits. The project site is a previously disturbed suburban/urban area, and it does not include any riparian or suitable habitat for any other listed or special-status species; therefore, no mitigation is required.
- c) **No Impact.** There are no federally protected wetlands on or in the immediate vicinity of the project site.
- d) **Less Than Significant.** As discussed in Section 2.16, raptors and other birds protected by the Migratory Bird Treaty Act may use eucalyptus and other ornamental trees in the project area for nesting habitat. To avoid adverse impacts to nesting raptors and other migratory birds, trees will be removed outside the raptor nesting season (March 15 through September 15) as described in the standard avoidance and minimization measure identified as BIO-1 in Section 2.15.
- e) **No Impact.** The project does not conflict with any local or regional ordinances. Therefore, mitigation is not required.
- f) **No Impact.** The project site is within a developed area and is not within any designated habitat conservation plan (HCP) or natural community conservation plan (NCCP) area. Therefore, the project would not conflict with any designated HCP or NCCP.

V. CULTURAL RESOURCES

The potential impacts of the I-10/Cedar Avenue Interchange project on cultural resources are discussed in detail in Section 2.7, Cultural Resources, and in the *Historic Property Survey Report* (April 2006).

- a) **No Impact.** As discussed in Section 2.7, no resources eligible for or listed on the National Register of Historic Places were identified within the Area of Potential Effects (APE) for the project. Three buildings at the Washington Alternative Middle School were determined to be eligible for listing in the California Register of Historical Resources (California Register). The school was identified as a significant historical resource for the purposes of CEQA. The project will not result in any impacts to these three structures. Caltrans has determined that a finding of no impact is appropriate because there are no impacts to historical resource(s) pursuant to CEQA Guidelines §15064.5(b)(3).

- b) **No Impact.** No archaeological resources were identified within or immediately adjacent to the APE for the I-10/Cedar Avenue Interchange project.

Previously unrecorded archaeological resources could be uncovered during project construction. If buried cultural materials are exposed during construction, it is Caltrans policy that work in the area must halt until a qualified archaeologist can evaluate the nature and significance of the find (Caltrans Environmental Handbook 1991, Volume 2, Chapter 1).

- c) **Less Than Significant.** The paleontological resource sensitivity map from the San Bernardino County Planning Department indicates that the project area has the potential for important paleontological resources at depths greater than 3 feet (ft). However, as shown in Table 2.11.1, excavations as part of the project are not anticipated to impact potential paleontological resources.

- d) **No Impact.** No human remains are known to exist within the project APE. If human remains are exposed during construction, State Health Code Section 7050.5 states that no further disturbance shall occur until the county Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code 5097.98 as required in Measure CR-2 in Section 2.7. The District 8 Environmental Planning Branch shall be immediately notified.

VI. GEOLOGY AND SOILS

The potential impacts of the project related to geology and soils are discussed in detail in Section 2.10, Geology, Soils, Seismic, and Topography, and the *Preliminary Geotechnical/Structures Design Report* (October 2003).

- a) i) **No Impact.** There are no known unique geologic or physical features on or in the vicinity of the project site, including any known earthquake faults. The I-10/Cedar Avenue Interchange project does not involve the construction of any facilities for human occupation. Implementation of Caltrans procedures regarding seismic design during project design and construction would minimize or avoid any adverse impacts related to geologic and physical features on or near the project site.
- ii) **Less Than Significant Impact.** The project site is within a seismically active region and can be expected to be subjected to ground shaking during a seismic event. The proposed facilities would be designed in accordance with Caltrans

Seismic Design Criteria, which would reduce impacts from seismic ground shaking to below a level of significance. No further mitigation is required.

iii) No Impact. The project site is not within any area of known liquefaction or slope instability. Therefore, the project would not be subject to impacts related to liquefaction and slope stability.

iv) No Impact. The project site is not located within an area of slope instability and is not within a designated Landslide Management Zone or a Landslide Potential Management Zone.

b) Less Than Significant Impact. The project area contains existing roads and bridge structures. The top layers of soil within the project limits could include fill material placed during construction of these existing structures. Implementation of Caltrans and County's standard erosion control measures during construction would minimize or avoid any adverse impacts related to erosion and the loss of topsoil. No further mitigation is required.

c) No Impact. The project site is not within an area of known liquefaction or slope instability. Therefore, the project would not be subject to impacts related to liquefaction and slope stability.

d) No Impact. Near-surface soils on the project site likely consist of artificial fill placed during construction of the existing transportation facilities. This fill material is anticipated to generally consist of sands, silty sands, sandy silts, and sands with silts, with loose to medium-dense condition. Compliance with Caltrans procedures regarding seismic design during design and construction of the project would prevent any adverse impacts related to expansive soils. No further mitigation is required.

e) No Impact. No septic or alternative wastewater disposal systems are proposed as part of the I-10/Cedar Avenue Interchange project. Therefore, no impacts related to alternative wastewater disposal systems are anticipated.

VII GREENHOUSE GAS EMISSIONS—Would the project:

a) and b) An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document. While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans determination that in the

absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the body of the environmental document.

VIII HAZARDS AND HAZARDOUS MATERIALS

The potential impacts of the I-10/Cedar Avenue Interchange project related to hazards and hazardous materials are discussed in detail in Section 2.12, Hazardous Wastes and Materials, and the *Hazardous Waste Initial Site Assessment* (June 2006).

- a) **Less Than Significant Impact.** During construction, there is the potential to encounter hazardous materials in the existing transportation facilities and in soils. The handling of hazardous wastes or substances encountered during construction would follow Caltrans Construction Hazardous Waste Contingency Plan. Hazardous wastes would be transported to an approved disposal facility. In addition, hazardous materials such as paint, solvents, and fuel would be used and transported during construction of the project and would be handled in a manner consistent with applicable federal, state, and local regulations. No further mitigation is required.
- b) **Less Than Significant Impact.** Refer to Response VII.a. Any hazardous substances accidentally released during construction would be handled in a manner consistent with Caltrans Construction Hazardous Waste Contingency Plan. No further mitigation is required.
- c) **No Impact.** The project site is immediately adjacent to Washington Alternative Middle School. The project will not result in hazardous emissions or handle acutely hazardous materials or wastes. However, as noted in Response VII.a, hazardous materials will be used during construction of the project, and there is potential for encountering currently unknown hazardous substances during construction. All handling of hazardous materials will be conducted in accordance with applicable federal, state, and local regulations. Therefore, the project would not result in adverse impacts related to hazardous materials near schools. No further mitigation is required.
- d) **Less Than Significant with Mitigation Incorporated.** There are documented hazardous releases near the project site, and the project could potentially result in

the exposure of asbestos, lead, and other hazardous substances as a result of demolition of existing structures. Implementation of Measures HW-1 to HW-9 in Section 2.12 would reduce these potential adverse project impacts to below a level of significance.

- e) **and f) No Impact.** The project site is not located within 2 miles (mi) of a public airport, public-use airport, or private airstrip.
- g) **Less Than Significant with Mitigation Incorporated.** During construction, traffic will be temporarily rerouted, potentially resulting in a temporary increase in emergency response times in the immediate project area. Implementation of a Transportation Management Plan (TMP), as outlined in Measure TRA-1, provided in Section 2.5, Traffic, would minimize or avoid short-term adverse project impacts during construction.
- h) **No Impact.** The project site is in a suburban/urban area surrounded by existing commercial, industrial, and residential uses. There are no wildlands or fire hazard areas in the vicinity of the project site, and no impacts are anticipated.

IX HYDROLOGY AND WATER QUALITY

The potential impacts of the I-10/Cedar Avenue Interchange project related to hydrology and water quality are discussed in detail in Sections 2.9, Hydrology and Floodplains, and 2.9, Water Quality and Storm Water Runoff; and the *Draft Preliminary Drainage Study Report* (January 2004).

- a) **Less Than Significant with Mitigation Incorporated.** During construction, there is the potential for soil erosion and discharge of pollutants into drainages or storm drains. The additional pavement areas may contribute greater volumes of typical road pollutants. Compliance with Caltrans National Pollutant Discharge Elimination System (NPDES) permits for construction and operation would minimize potential water quality impacts. Measures WQ-1 and WQ-2 would reduce these potential project impacts to below a level of significance.
- b) **Less Than Significant Impact.** The project involves the widening of existing transportation facilities. If groundwater levels are high, limited groundwater dewatering may be required during construction. The project would not use groundwater during operations, and no significant adverse groundwater supply impacts are anticipated.

- c) **Less Than Significant Impact.** The I-10/Cedar Avenue Interchange project involves previously disturbed areas and would extend but not substantively modify any of the existing drainage facilities on the site. Therefore, postproject drainage patterns are anticipated to be similar to the existing patterns. The project does not involve altering the course of a stream or a river.
- d) **Less Than Significant Impact.** Refer to Response IX.c. No stream courses or points of discharge will be altered as a result of the I-10/Cedar Avenue Interchange project. The project would increase the amount of impervious surface on the site; however, the resulting increase in the amount of surface water would not be substantial.
- e) **Less Than Significant with Mitigation Incorporated.** The project proposes modifications to existing transportation facilities. Increasing peak storm flows such that they would impact downstream drainage facilities is not anticipated. Compliance with Caltrans NPDES permit requirements and Measures WQ-1 and WQ-2 would minimize any incremental pollutant loading associated with the increased surface area of the project.
- f) **Less Than Significant with Mitigation Incorporated.** Refer to Responses IX.a and IX.e.
- g) **No Impact.** The project does not propose any housing.
- h) **No Impact.** The project site is not located within the 100-year floodplain.
- i) **No Impact.** The project involves modification to existing transportation facilities. The construction and operation of the I-10/Cedar Avenue Interchange project would not expose people or structures to a significant risk of flooding.
- j) **No Impact.** Due to the distance of the project site from the ocean, there is no foreseeable risk of tsunami inundation. There is no risk from seiches (oscillations in enclosed bodies of water caused by seismic waves) or mudflows at the project site.

X LAND USE AND PLANNING

The potential impacts of the I-10/Cedar Avenue Interchange project related to land use and planning are discussed in detail in Section 2.1, Land Use.

- a) **Less Than Significant Impact.** As discussed in Section 2.3, Community Impacts, Relocation, and Environmental Justice, the project would require the acquisition of private property. Properties to be fully acquired are listed in Tables 2.3.2 and 2.3.3 in Section 2.3. The proposed acquisitions would not physically divide an established community, and no substantial adverse impacts are anticipated.
- b) **No Impact.** The project is consistent with the San Bernardino County General Plan Circulation Element and does not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project.
- c) **No Impact.** The project site is within an urbanized, developed area and is not within any designated HCP or NCCP area and, therefore, would not conflict with any designated HCP or NCCP.

XI MINERAL RESOURCES

- a) **No Impact.** The project is not anticipated to result in the loss of any known valuable mineral resources. There are no active sand and gravel mining or other mineral resource recovery operations on or in the vicinity of the project site. There are no pending proposals to establish any new surface mining operations in the area. Therefore, the I-10/Cedar Avenue Interchange project would not result in the loss of availability of known mineral resources.
- b) **No Impact.** There are no significant mineral deposits in the project area. Therefore, the I-10/Cedar Avenue Interchange project is not anticipated to result in the loss of any known locally important mineral resources.

XII NOISE

The potential impacts of the I-10/Cedar Avenue Interchange project related to noise are discussed in detail in Section 2.14, Noise, and in the *Noise Impact Analysis* (October 2007).

- a) **Less Than Significant Impact.** Noise levels during operation and construction of the I-10/Cedar Avenue Interchange project may impact sensitive receptors. Implementation of Standard Conditions during construction would reduce impacts to less than significant levels. Two sound walls, shown on Figure 2.14-2 in Section 2.14, were determined to be reasonable and feasible and are incorporated in the project description. No further mitigation is necessary. The project is consistent with the San Bernardino County General Plan.

- b) Less Than Significant Impact.** The project would potentially expose persons to or result in the generation of groundborne vibration or groundborne noise from pile-driving activities and during construction. However, pile-driving would be very limited and would be conducted in a manner consistent with Caltrans Standard Specifications, Section 5-1, “Sound Control Requirements,” in the Standard Special Provisions. No further mitigation is required.
- c) Less Than Significant Impact.** The I-10/Cedar Avenue Interchange project may result in temporary short-term construction-related increases in ambient noise levels. Implementation of Standard Conditions during construction would reduce impacts to less than significant levels. The project is consistent with the San Bernardino County General Plan.
- d) Less Than Significant Impact.** Refer to Responses XI.a, XI.b, and XI.c.
- e and f) No Impact.** The project is not located within 2 mi of a public or private airport.

XIII POPULATION AND HOUSING

- a) No Impact.** The project is consistent with the San Bernardino County General Plan Circulation Element. Construction of the improvements would not generate more capacity. The improvements would improve traffic flow and operational efficiency at the I-10/Cedar Avenue interchange.
- b and c) Less Than Significant Impact.** As discussed in Section 2.3, Community Impacts, Relocation, and Environmental Justice, the project would require the full acquisition of four residential properties. According to the Relocation Impact Report (May 2009), there is sufficient housing available in the county to accommodate the potentially displaced residents. Compliance with the Uniform Relocation Assistance and Real Property Acquisitions Policies Act would reduce the potential project impacts related to property acquisition to below a level of significance. Therefore, the I-10/Cedar Avenue Interchange project does not necessitate the construction of replacement housing. No further mitigation is required.

XIV PUBLIC SERVICES

- a) Less Than Significant with Mitigation Incorporated.** The I-10/Cedar Avenue Interchange project involves modifications to existing transportation facilities. It would not directly or indirectly affect the provision of police or emergency

services or public facilities such as schools and parks. The project would not result in substantial adverse physical impacts to governmental facilities in the area. The project does not include the construction of housing or other development that would necessitate the construction of additional public facilities (including schools and parks) in the area. No parks are located in the project vicinity. During construction, traffic would be temporarily delayed and/or would be rerouted, resulting in a temporary increase in emergency response times in the area. Measure TRA-1, provided in Section 2.5, Traffic and Transportation/ Pedestrian and Bicycle Facilities, would reduce these temporary traffic impacts to below a level of significance. Emergency response times are expected to improve after project completion. The other impacts related to public services are considered less than significant, and no mitigation is required.

XV RECREATION

The potential impacts of the I-10/Cedar Avenue Interchange project related to recreation are evaluated in detail in Section 2.1, Land Use.

- a) **No Impact.** As discussed in detail in Section 2.1, the I-10/Cedar Avenue Interchange project proposes modifications to existing transportation facilities. The project would widen Cedar Avenue adjacent to the existing sports fields at Washington Alternative Middle School. As described in Mitigation Measure L-1, provided in Section 2.1, the I-10/Cedar Avenue Interchange project includes a measure that requires installation of exclusionary fencing during construction activities to widen Cedar Avenue adjacent to the basketball courts. Reconstruction of the existing chain-link fence adjacent to the basketball courts may be required. However, reconstruction of the chain-link fence (if necessary) would not affect the continued use of the basketball courts during construction. Therefore, the project would not result in adverse impacts to existing recreation resources. Furthermore, the project would not increase the use of existing neighborhood and regional parks or other recreational facilities that would substantially accelerate the deterioration of any such facilities.
- b) **No Impact.** The I-10/Cedar Avenue Interchange project does not include the construction of housing or other development that would necessitate the construction of recreational facilities in the project area.

XVI TRANSPORTATION AND TRAFFIC

The potential impacts of the I-10/Cedar Avenue Interchange project related to transportation and traffic are discussed in Section 2.5, Traffic and Transportation/ Pedestrian and Bicycle Facilities and the TOA (October 2003 and Supplement to the Traffic Operations Analysis, January 2009).

- a) **Less Than Significant with Mitigation Incorporated.** Anticipated short-term adverse traffic impacts associated with construction would be reduced under the TMP described in detail in Measure TRA-1 in Section 2.5. As discussed in Section 2.5, the project would provide an acceptable level of service (LOS) on the freeway mainline and ramps and at intersections in the study area. Therefore, the completed project would not result in the capacity of the existing circulation system being exceeded.
- b) **Less Than Significant Impact.** Refer to Response XVI.a. The project is not anticipated to exceed a LOS standard established by the County Congestion Management Plan (CMP).
- c) **No Impact.** The project would not result in any facilities or operations that would cause a change in air traffic patterns in the vicinity of the project site.
- d) **No Impact.** The project would be constructed in compliance with Caltrans Standard Construction Specifications. The improvements do not include any hazardous design features or incompatible uses.
- e) **Less Than Significant with Mitigation Incorporated.** During construction, traffic would be temporarily delayed and/or rerouted, potentially resulting in a temporary increase in emergency response times in the project area. As discussed in detail in Section 2.5, the implementation of a TMP during construction, described in Measure TRA-1, would reduce adverse impacts to emergency access.
- f) **No Impact.** The project would not conflict with any adopted policies, plans, or programs supporting alternative transportation in San Bernardino County.

XVII UTILITIES AND SERVICE SYSTEMS

The potential impacts of the I-10/Cedar Avenue Interchange project related to utilities and services systems are discussed in detail in Section 2.4, Utilities and Emergency Services.

- a) **No Impact.** The I-10/Cedar Avenue Interchange project would not result in the generation of wastewater and would not result in wastewater treatment requirements that would require the construction of new water or wastewater treatment facilities. The project would comply with the requirements of the Santa Ana Regional Water Quality Control Board (RWQCB).
- b) **No Impact.** The project involves improvements to existing transportation facilities. It would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities.
- c) **Less Than Significant Impact.** The project involves improvements to existing transportation facilities. It would result in the construction of new storm water drainage facilities and/or the expansion of existing storm water drainage facilities to adequately collect and channel storm water on the project site. Specifically, the existing drainage facilities within the project limits would be realigned and reconstructed as necessary during construction to accommodate the road improvements.
- d) **No Impact.** The project involves improvements to existing transportation facilities. Therefore, it is not expected that new or expanded water entitlements would be needed as a result of the project.
- e) **No Impact.** Refer to Responses XVI.a and XVI.b.
- f) **Less Than Significant Impact.** The solid waste disposal requirements of the project would be minor, temporary, and limited to the construction phase of the project. The amount of waste material generated during construction would be limited. Waste generated during the project construction would be properly disposed of in appropriately permitted facilities.
- g) **Less Than Significant Impact.** Construction waste would be disposed of in accordance with federal, state, and local regulations related to recycling, which would minimize the amount of waste material entering local landfills.

XVIII MANDATORY FINDINGS OF SIGNIFICANCE

- a) **No Impact.** The I-10/Cedar Avenue Interchange project involves improvements to existing transportation facilities in a suburban/urban area that was previously disturbed. No sensitive species or habitats were observed on the project site.

Additionally, no important examples of the major periods of California history or prehistory were observed within the project APE.

- b) **No Impact.** The I-10/Cedar Avenue Interchange project involves modifications to existing transportation facilities consistent with the Circulation Element of the San Bernardino County General Plan. It would provide congestion relief by removing an existing bottleneck and would not induce growth beyond that projected by the County's General Plan.
- c) **Less Than Significant with Mitigation Incorporated.** The I-10/Cedar Avenue Interchange project would not result in substantial adverse effects on human beings. Construction-related activities are anticipated to result in minor temporary impacts that would be mitigated under a TMP. The project would require the displacement of residential properties that would result in the relocation of residents. These displacements and relocations would not cause substantial environmental justice impacts, as described in Section 2.3. Any impacts would be reduced under Caltrans Relocation Assistance Program as described in Appendix C.

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Appendix B Title VI Policy Statement

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*Flex your power!
Be energy efficient!*

August 25, 2009

TITLE VI POLICY STATEMENT

The California State Department of Transportation under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.


RANDELL H. IWASAKI
Director

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Appendix C Summary of Relocation Benefits

California Department of Transportation Relocation Assistance Program Declaration of Policy

“The purpose of this title is to establish a ***uniform policy for fair and equitable treatment*** of persons displaced as a result of federal and federally assisted programs in order that such persons ***shall not suffer disproportionate injuries*** as a result of programs designed for the benefit of the public as a whole.”

The Fifth Amendment to the U.S. Constitution states, “No Person shall...be deprived of life, liberty, or property, without due process of law, nor shall private property be taken for public use without just compensation.” The Uniform Act sets forth in statute the due process that must be followed in Real Property acquisitions involving federal funds. Supplementing the Uniform Act is the government-wide single rule for all agencies to follow, set forth in 49 Code of Federal Regulations (CFR) Part 24. Displaced individuals, families, businesses, farms, and nonprofit organizations may be eligible for relocation advisory services and payments, as discussed below.

Fair Housing

The Fair Housing Law (Title VIII of the Civil Rights Act of 1968) sets forth the policy of the United States to provide, within constitutional limitations, for fair housing. This Act, and as amended, makes discriminatory practices in the purchase and rental of most residential units illegal. Whenever possible, minority persons shall be given reasonable opportunities to relocate to any available housing regardless of neighborhood, as long as the replacement dwellings are decent, safe, and sanitary and are within their financial means. This policy, however, does not require Caltrans to provide a person a larger payment than is necessary to enable a person to relocate to a comparable replacement dwelling.

Any persons to be displaced will be assigned to a relocation advisor, who will work closely with each displacee in order to see that all payments and benefits are fully utilized, and that all regulations are observed, thereby avoiding the possibility of displacees jeopardizing or forfeiting any of their benefits or payments. At the time of the initiation of negotiations (usually the first written offer to purchase), owner-occupants are given a detailed explanation of the state’s relocation services. Tenant occupants of properties to be acquired are contacted soon after the initiation of

negotiations, and also are given a detailed explanation of the Caltrans Relocation Assistance Program. To avoid loss of possible benefits, no individual, family, business, farm, or nonprofit organization should commit to purchase or rent a replacement property without first contacting a Caltrans relocation advisor.

Relocation Assistance Advisory Services

In accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, The California Department of Transportation (Caltrans) will provide relocation advisory assistance to any person, business, farm or nonprofit organization displaced as a result of Caltrans acquisition of real property for public use. Caltrans will assist eligible displacees in obtaining comparable replacement housing by providing current and continuing information on the availability and prices of both houses for sale and rental units that are “decent, safe and sanitary.” Nonresidential displacees will receive information on comparable properties for lease or purchase (For business, farm and nonprofit organization relocation services, see below).

Residential replacement dwellings will be in a location generally not less desirable than the displacement neighborhood at prices or rents within the financial ability of the individuals and families displaced, and reasonably accessible to their places of employment. Before any displacement occurs, comparable replacement dwellings will be offered to displacees that are open to all persons regardless of race, color, religion, sex, national origin, and consistent with the requirements of Title VIII of the Civil Rights Act of 1968. This assistance will also include the supplying of information concerning federal and state assisted housing programs, and any other known services being offered by public and private agencies in the area.

Persons who are eligible for relocation payments and who are legally occupying the property required for the project will not be asked to move without first being given at least 90 days written notice. Residential occupants eligible for relocation payment(s) will not be required to move unless at least one comparable “decent, safe and sanitary” replacement dwelling, available on the market, is offered to them by Caltrans.

Residential Relocation Payments

The Relocation Assistance Program will help eligible residential occupants by paying certain costs and expenses. These costs are limited to those necessary for or incidental to the purchase or rental of a replacement dwelling and actual reasonable

moving expenses to a new location within 50 miles of the displacement property. Any actual moving costs in excess of the 50 miles are the responsibility of the displacee. The Residential Relocation Assistance Program can be summarized as follows:

Moving Costs

Any displaced person, who lawfully occupied the acquired property, regardless of the length of occupancy in the property acquired, will be eligible for reimbursement of moving costs. Displacees will receive either the actual reasonable costs involved in moving themselves and personal property up to a maximum of 50 miles, or a fixed payment based on a fixed moving cost schedule. Lawful occupants who move into the displacement property after the initiation of negotiations must wait until the Caltrans obtains control of the property in order to be eligible for relocation payments.

Purchase Differential

In addition to moving and related expense payments, fully eligible homeowners may be entitled to payments for increased costs of replacement housing.

Homeowners who have owned and occupied their property for 180 days or more prior to the date of the initiation of negotiations (usually the first written offer to purchase the property), may qualify to receive a price differential payment and may qualify to receive reimbursement for certain nonrecurring costs incidental to the purchase of the replacement property. An interest differential payment is also available if the interest rate for the loan on the replacement dwelling is higher than the loan rate on the displacement dwelling, subject to certain limitations on reimbursement based upon the replacement property interest rate. The maximum combination of these three supplemental payments that the owner-occupant can receive is \$22,500. If the total entitlement (without the moving payments) is in excess of \$22,500, the Last Resort Housing Program will be used (See the explanation of the Last Resort Housing Program below).

Rent Differential

Tenants and certain owner-occupants (based on length of ownership) who have occupied the property to be acquired by Caltrans prior to the date of the initiation of negotiations may qualify to receive a rent differential payment. This payment is made when Caltrans determines that the cost to rent a comparable “decent, safe and sanitary” replacement dwelling will be more than the present rent of the displacement dwelling. As an alternative, the tenant may qualify for a down payment benefit

designed to assist in the purchase of a replacement property and the payment of certain costs incidental to the purchase, subject to certain limitations noted under the Down Payment section below. The maximum amount payable to any eligible tenant and any owner-occupant of less than 180 days, in addition to moving expenses, is \$5,250. If the total entitlement for rent supplement exceeds \$5,250, the Last Resort Housing Program will be used.

In order to receive any relocation benefits, the displaced person must buy or rent and occupy a “decent, safe and sanitary” replacement dwelling within one year from the date the Caltrans takes legal possession of the property, or from the date the displacee vacates the displacement property, whichever is later.

Down Payment

The down payment option has been designed to aid owner-occupants of less than 180 days and tenants in legal occupancy prior to Caltrans’ initiation of negotiations. The down payment and incidental expenses cannot exceed the maximum payment of \$5,250. The one-year eligibility period in which to purchase and occupy a “decent, safe and sanitary” replacement dwelling will apply.

Last Resort Housing

Federal regulations (49 CFR 24) contain the policy and procedure for implementing the Last Resort Housing Program on federal-aid projects. Last Resort Housing benefits are, except for the amounts of payments and the methods in making them, the same as those benefits for standard residential relocation as explained above. Last Resort Housing has been designed primarily to cover situations where a displacee cannot be relocated because of lack of available comparable replacement housing, or when the anticipated replacement housing payments exceed the \$22,500 and \$5,250 limits of the standard relocation procedure, because either the displacee lacks the financial ability or other valid circumstances.

After the initiation of negotiations, Caltrans will within a reasonable length of time, personally contact the displacees to gather important information, including the following:

- Number of people to be displaced;
- Specific arrangements needed to accommodate any family member(s) with special needs;
- Financial ability to relocate into comparable replacement dwelling which will adequately house all members of the family;
- Preferences in area of relocation; and
- Location of employment or school.

Nonresidential Relocation Assistance

The Nonresidential Relocation Assistance Program provides assistance to businesses, farms and nonprofit organizations in locating suitable replacement property, and reimbursement for certain costs involved in relocation. The Relocation Advisory Assistance Program will provide current lists of properties offered for sale or rent, suitable for a particular business's specific relocation needs. The types of payments available to eligible businesses, farms and nonprofit organizations are: searching and moving expenses, and possibly reestablishment expenses; or a fixed in lieu payment instead of any moving, searching and reestablishment expenses. The payment types can be summarized as follows:

Moving Expenses

Moving expenses may include the following actual, reasonable costs:

- The moving of inventory, machinery, equipment and similar business-related property, including: dismantling, disconnecting, crating, packing, loading, insuring, transporting, unloading, unpacking, and reconnecting of personal property. Items acquired in the right-of-way contract may not be moved under the Relocation Assistance Program. If the displacee buys an Item Pertaining to the Realty back at salvage value, the cost to move that item is borne by the displacee.
- Loss of tangible personal property provides payment for actual, direct loss of personal property that the owner is permitted not to move.
- Expenses related to searching for a new business site, up to \$2,500, for reasonable expenses actually incurred.

Reestablishment Expenses

Reestablishment expenses related to the operation of the business at the new location, up to \$10,000 for reasonable expenses actually incurred.

Fixed In Lieu Payment

A fixed payment in lieu of moving, searching, and reestablishment payments may be available to businesses which meet certain eligibility requirements. This payment is an amount equal to half the average annual net earnings for the last two taxable years prior to the relocation and may not be less than \$1,000 nor more than \$20,000.

Additional Information

Reimbursement for moving costs and replacement housing payments are not considered income for the purpose of the Internal Revenue Code of 1954, or for the purpose of determining the extent of eligibility of a displacee for assistance

under the Social Security Act, or any other law, *except* for any federal law providing local “Section 8” Housing Programs.

Any person, business, farm or nonprofit organization which has been refused a relocation payment by the Caltrans relocation advisor or believes that the payment(s) offered by the agency are inadequate, may appeal for a special hearing of the complaint. No legal assistance is required. Information about the appeal procedure is available from the relocation advisor.

California law allows for the payment for lost goodwill that arises from the displacement for a public project. A list of ineligible expenses can be obtained from Caltrans Right-of-Way. California’s law and the federal regulations covering relocation assistance provide that no payment shall be duplicated by other payments being made by the displacing agency.

Important Notice

To avoid loss of possible benefits, no individual, family, business, farm or nonprofit organization should commit to purchase or rent a replacement property without first contacting a Department of Transportation relocation advisor at:

State of California
Department of Transportation, District 8
464 West 4th Street
San Bernardino, CA 92401-1400

Your Rights and Benefits as a
Displacee Under the Uniform
Relocation Assistance Program
(Residential)
2007



Caltrans

California Department of Transportation

Introduction

In building a modern transportation system, the displacement of a small percentage of the population is often necessary. However, it is the policy of Caltrans that displaced persons shall not suffer unnecessarily as a result of programs designed to benefit the public as a whole.

Displaced individuals, families, businesses, farms, and nonprofit organizations may be eligible for relocation advisory services and payments.

This brochure provides information about available relocation services and payments. If you are required to move as the result of a Caltrans transportation project, a Relocation Agent will contact you. The Relocation Agent will be able to answer your specific questions and provide additional information.

Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 As Amended "The Uniform Act"

The purpose of this Act is to provide for uniform and equitable treatment of persons displaced from their homes, businesses, or farms by federal and federally assisted programs and to establish uniform and equitable land acquisition policies for federal and federally assisted programs.

49 Code of Federal Regulations Part 24 implements the "Uniform Act" in accordance with the following relocation assistance objective:

To ensure that persons displaced as a direct result of federal or federally-assisted projects 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.

While every effort has been made to assure the accuracy of this booklet, it should be understood that it does not have the force and effect of law, rule, or regulation governing the payment of benefits. Should any difference or error occur, the law will take precedence.

Some Important Definitions...

Your relocation benefits can be better understood if you become familiar with the following terms:

Comparable Replacement: means a dwelling which is:

- (1) Decent, safe, and sanitary. (See definition below)
- (2) Functionally equivalent to the displaced dwelling.
- (3) Adequate in size to accommodate the family being relocated.
- (4) In an area not subject to unreasonable adverse environmental conditions.
- (5) In a location generally not less desirable than the location of your displacement dwelling with respect to public utilities and commercial and public facilities, and reasonably accessible to the place of-employment.
- (6) On land that is typical in size for residential development with typical improvements.

Decent, Safe and Sanitary (DS&S): Replacement housing must be decent, safe, and sanitary...which means it meets all of the minimum requirements established by federal regulations and conforms to applicable housing and occupancy codes. The dwelling shall:

- (1) Be structurally sound, weather tight, and in good repair.
- (2) Contain a safe electrical wiring system adequate for lighting and other devices.



- (3) Contain a heating system capable of sustaining a healthful temperature (of approximately 70 degrees) for a displaced person, except in those areas where local climatic conditions do not require such a system.
- (4) Be adequate in size with respect to the number of rooms and area of living space needed to accommodate the displaced person. The Caltrans policy is that there will be no more than 2 persons per room unless the room is of adequate size to accommodate the normal bedroom furnishings for the occupants.
- (5) Have a separate, well-lighted and ventilated bathroom that provides privacy to the user and contains a sink, bathtub or shower stall, and a toilet, all in good working order and properly connected to appropriate sources of water and to a sewage drainage system.

Note: In the case of a housekeeping dwelling, there shall be a kitchen area that contains a fully usable sink, properly connected to potable hot and cold water and to a sewage drainage system, and adequate space and utility service connections for a stove and refrigerator.

- (6) Contains unobstructed egress to safe, open space at ground level. If the replacement dwelling unit is on the second story or above, with access directly from or through a common corridor, the common corridor must have at least two means of egress.
- (7) *For a displaced person who is handicapped, be free of any barriers which would preclude reasonable ingress, egress, or use of the dwelling by such displaced person.*

Displaced Person or Displacee: Any person who moves from real property or moves personal property from real property as a result of the acquisition of the real property, in whole or in part, or as the result of a written notice from the agency to vacate the real property needed for a transportation project. In the case of a partial acquisition, Caltrans shall determine if a person is displaced as a direct result of the acquisition.

Residents **not lawfully present** in the United States are not eligible to receive relocation payments and assistance

Relocation benefits will vary, depending upon the type and length of occupancy. As a residential displacee, you will be classified as either a:

- An owner occupant of a residential property (includes mobile homes)
- A tenant occupant of a residential property (includes mobile homes and sleeping rooms)

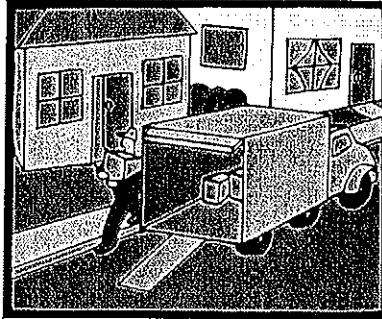
Dwelling: The place of permanent or customary and usual residence of a person, according to local custom or law, including a single family house; a single family unit in a two-family, multi-family, or multi-purpose property; a unit of a condominium or cooperative housing project; a non-housekeeping unit; a mobile home; or any other residential unit.

Owner: A person is considered to have met the requirement to own a dwelling if the person purchases or holds any of the following interests in real property:

- (1) Fee title, a life estate, a land contract, a 99-year lease, oral lease including any options for extension with at least 50 years to run from the date of acquisition; or
- (2) An interest in a cooperative housing project which includes the right to occupy a dwelling; or
- (3) A contract to purchase any interests or estates; or
- (4) Any other interests, including a partial interest, which in the judgment of the agency warrants consideration as ownership.

Tenant: A person who has the temporary use and occupancy of real property owned by another.

Moving Expenses



If you qualify as a displaced person, you are entitled to reimbursement of your moving costs and certain related expenses incurred in moving. The methods of moving and the various types of moving cost payments are explained. Below.

Displaced individuals and families may choose to be paid on the basis of actual, reasonable moving costs and related expenses, or according to a fixed moving cost schedule. However, to ensure your eligibility and prompt payment of moving expenses, you should contact your Relocation Agent before you move.

You Can Choose Either:

Actual Reasonable Moving Costs - You may be paid for your actual reasonable moving costs and related expenses when a commercial mover performs the move. Reimbursement will be limited to a move of 50 miles or less. Related expenses may include:

- Transportation
- Packing and unpacking personal property.
- Disconnecting and reconnecting household appliances.
- Temporary storage of personal property.
- Insurance while property is in storage or transit.

OR

Fixed Moving Cost Schedule - You may be paid on the basis of a fixed moving cost schedule. Under this option, you will not be eligible for reimbursement of related expenses listed above. The fixed schedule is designed to cover such expenses.

Examples (Year 2005 Rate):

4 Rooms - \$ 950

7 Rooms - \$1,550

If the furniture is moved with the mobile home, the amount of the fixed payment is based on Schedule B.

Examples (Year 200 Rate):

4 Rooms - \$1,175

7 Rooms - \$1,900

Under the Fixed Move Schedule for a furnished unit (e.g. you are a tenant of an apartment that is furnished by your landlord) is based on Schedule B.

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1 Room - \$400

Under the Fixed Move Schedule, you will not receive any additional payments for temporary storage, lodging, transportation or utility hook-ups.

Replacement Housing Payments

The type of Replacement Housing Payment (RHP) depends on whether you are an owner or a tenant, and the length of occupancy in the property being acquired.

If you are a qualified **owner occupant** of more than 180 days prior to the initiation of negotiations for the acquisition of your property, you may be entitled to a RHP that consists of:

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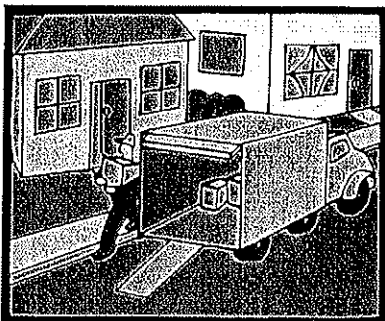
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Under the Fixed Move Schedule, you will not receive any additional payments for temporary storage, lodging, transportation or utility hook-ups.

Replacement Housing Payments

The type of Replacement Housing Payment (RHP) depends on whether you are an owner or a tenant, and the length of occupancy in the property being acquired.

If you are a qualified **owner occupant** of more than 180 days prior to the initiation of negotiations for the acquisition of your property, you may be entitled to a RHP that consists of:

Price Differential, and

Mortgage Differential, and

Incidental Expenses;

OR

Rent Differential

If you are a qualified **owner occupant** of more than 90 days but less than 180 days, OR you are a qualified **tenant occupant** of at least 90 days, you may be entitled to a RHP as follows:

Rent Differential

OR

Downpayment Option

Length of occupancy simply means counting the number of days that you actually occupied a dwelling before the date of initiation of negotiations by Caltrans for the purchase of the property. The term "initiation of negotiations" means the date Caltrans makes the first personal contact with the owner of real property, or his/ her representative, to give him/her a written offer for the property to be acquired.

Note: If you have been in occupancy less than 90 days before the initiation of negotiations and the property is subsequently acquired, or if you move onto the property after the initiation of negotiations and you are still in occupancy on the date of acquisition, you may or may not be eligible for a Replacement Housing Payment. Check with your Relocation Agent before you make any decision to vacate your property.

For Owner Occupants of 180 Days or More

If you qualify as a 180-day owner occupant, you may be eligible -- in addition to the fair market value of your property -- for a Replacement Housing Payment that consists of a Price Differential, Mortgage Differential and/or Incidental Expenses.

The **Price Differential** payment is the amount by which the cost of a replacement dwelling exceeds the acquisition cost of the displacement dwelling. This payment will assist you in purchasing a comparable decent, safe, and sanitary (DS&S) replacement dwelling. Caltrans will compute the maximum payment you may be eligible to receive.

In order to receive the full amount of the calculated price differential, you must spend at least the amount calculated by Caltrans on a replacement property

The **Mortgage Differential** payment will reimburse you for any increased mortgage interest costs you might incur because the interest rate on your new mortgage exceeds the interest rate on the property acquired by Caltrans. The payment computation is complex as it is based on prevailing rates, your existing loan and your new loan. Also, a part of this payment may be prorated such as reimbursement for a portion of your loan origination fees and mortgage points.

To be eligible to receive this payment, the acquired property must have been encumbered by a bona fide mortgage which was a valid lien for at least 180 days prior to the initiation of negotiations.

You may also be reimbursed for any actual and necessary **Incidental Expenses** that you incur in relation to the purchase of your replacement property. These expenses may be those costs for title search, recording fees, credit report, appraisal report, and certain other closing costs associated with the purchase of property. You will not be reimbursed for any recurring costs such as prepaid real estate taxes and property insurance.

If the total amount of your **Replacement Housing Payment** (Price Differential, Mortgage Differential and Incidental Expenses) exceeds \$22,500, the payment must be deposited directly into an escrow account or paid directly to the mortgage company.

EXAMPLES OF PRICE DIFFERENTIAL PAYMENT COMPUTATION:

Assume that Caltrans purchases your property for \$98,000. After a thorough study of available, decent, safe and sanitary dwellings on the open market, Caltrans determines that a comparable replacement property will cost you \$100,000. If your purchase price is \$100,000, you will receive \$2,000 (see *Example A*).

If your actual purchase price is more than \$100,000, you pay the difference (see *Example B*). If your purchase price is less than \$100,000, the differential payment will be based on actual costs (see *Example C*).

How much of a differential payment you receive depends on how much you actually spend on a replacement dwelling as shown in these examples:

Caltrans' Computation

Comparable Replacement Property and Mobile Home	\$100,000
Acquisition Price of Your Property and Mobile Home	<u>-\$ 98,000</u>
Maximum Price Differential	\$ 2,000

Example A

Purchase Price of Replacement	\$100,000
Comparable Replacement Property	\$100,000
Acquisition Price of Your Property	<u>-\$ 98,000</u>
Maximum Price Differential	\$ 2,000

Example B

Purchase Price of Replacement Property	\$105,000
Comparable Replacement Property	\$100,000
Acquisition Price of Your Property	<u>\$ 98,000</u>
Maximum Price Differential	\$ 2,000
You Must Pay the Additional	\$ 5,000

Example C

Comparable Replacement Property	\$100,000
Purchase Price of Replacement	\$ 99,000
Acquisition Price of Your Property	<u>\$ 98,000</u>
Price Differential	\$ 1,000

In Example C you will only receive \$1,000 - not the full amount of the Caltrans "Comparable Replacement Property" because of the "Spend to Get" requirements.

IN ORDER FOR A "180 DAY OWNER OCCUPANT" TO RECEIVE THE FULL AMOUNT OF THEIR REPLACEMENT HOUSING PAYMENT (*Price Differential, Mortgage Differential and Incidental Expenses*), **you must:**

A) Purchase and occupy a DS&S replacement dwelling within one year after the later of:

(1) The date you first receive a notification of an available replacement house, **OR**

(2) The date that Caltrans has paid the acquisition cost of your current dwelling (usually the closing of escrow on State's acquisition),

AND

B) Spend at least the amount of the Caltrans "Comparable Replacement Property" for a replacement property,

AND

C) File a claim for relocation payments within 18 months of the later:

(1) The date you vacate the property acquired by Caltrans, **OR**

(2) The date that Caltrans has paid the acquisition cost of your current dwelling (usually the close of escrow on State's acquisition)

You will not be eligible to receive any relocation payments until the State has actually made the first written offer to purchase the property. Also, you will also receive at least 90 days' written notice before you must move.

For Owner Occupants and Tenants of 90 Days or More

If you qualify as a 90-day occupant (either as an owner or tenant), you may be eligible for a Replacement Housing Payment in the form of a Rent Differential.

The **Rent Differential** payment is designed to assist you in renting a comparable decent, safe and sanitary replacement dwelling. The payment is based on the difference between the base monthly Rent for the property acquired by Caltrans (including average monthly cost for utilities) and the lesser of:

- a) The monthly rent and estimated average monthly cost of utilities for a comparable replacement dwelling as determined by Caltrans, **OR**
- b) The monthly rent and estimated average monthly cost of utilities for the decent, safe and sanitary dwelling that you actually rent as a replacement dwelling.

Utility costs are those expenses you incur for heat, lights, water and sewer - regardless of the source (e.g. electricity, propane, and septic system). It does not include garbage, cable, telephone, or security. The utilities at your property are the average costs over the last 12 months. The utilities at the comparable replacement property are the estimated costs for the last 12 months for the type of dwelling and area used in the calculation.

This difference is multiplied by 42 months and may be paid to you in a lump sum payment or in periodic installments in accordance with policy and regulations.

In order to receive the full amount of the calculated Rent Differential, you must spend at least the amount calculated by Caltrans on a replacement property.

This payment may - with certain limitations - be converted to a **Downpayment Option** to assist you in purchasing a replacement property.

Example of Rent Differential Payment Computation:

After a thorough study of comparable, decent, safe and sanitary dwellings that are available for rent, Caltrans determines that a comparable replacement property will rent for \$325.00 per month.

Caltrans Computation (rates are per month)

Rental Rate for Comparable Replacement Property	\$ 325
PLUS average estimated utilities costs	<u>+ 100</u>
TOTAL Cost to Rent Comparable Replacement Property	= \$ 425

Rental Rate for Your Current Property	\$ 300
PLUS average utilities costs	<u>+ 90</u>
TOTAL Cost to Rent Current Property	= \$ 390

Comparable Replacement Property including utilities	\$ 425
Cost you pay to rent your property including utilities	<u>+ 390</u>
Difference	= \$ 35

Multiplied by 42 months = \$1,470 Rent Differential

Example A:

Rental Rate for a Replacement Property including Estimated average utilities costs	\$ 525
Comparable Replacement Property including utilities	\$ 425
Cost you pay to rent your property including utilities	\$ 390

Since \$425 is less than \$525, the Rent Differential is based on the difference between \$390 and \$425.

Rent Differential (\$35 x 42 months = \$1,470)

In this case you spent "at least" the amount of the Comparable Replacement Property on the replacement property and will receive the full amount.

Example B:

Rental Rate for a Replacement Property including Estimated average utilities costs	\$ 400
Comparable Replacement Property including utilities	\$ 425
Cost you pay to rent your property including utilities	\$ 390

Since \$400 is less than \$525, the Rent Differential is based on the difference between \$400 and \$390.

Rent Differential (\$10 x 42 months = \$420)

In this case you spent "less than" the amount of the Comparable Replacement Property on the replacement property and will not receive the full amount.

IN ORDER FOR A "90 DAY OWNER OCCUPANT" TO RECEIVE THE FULL AMOUNT OF THEIR REPLACEMENT HOUSING PAYMENT (Rent Differential), you must:

A) Rent and occupy a DS&S replacement dwelling within one year after the later of:

(1) The date you first receive a notification of an available replacement house, **OR**

(2) The day you vacate the property acquired by Caltrans.

AND

B) Spend at least the amount of the Caltrans "Comparable Replacement Property" to rent a replacement property,

AND

C) File a claim for relocation payments within 18 months of the later of:

(1) The date you vacate the property acquired by Caltrans, **OR**

(2) The date that Caltrans has paid the acquisition cost of your current dwelling (usually the close of escrow on State's acquisition)

You will not be eligible to receive any relocation payments until the State has actually made the first written offer to purchase the property. And, you will also receive at least 90 days' written notice before you must move.

Note1: The time periods for a 90-day owner occupant are different than a 180-day owner occupant.

Note 2: If the Rent Differential is converted to a Downpayment Option, there is no "spend-to-get" requirement.

DOWN PAYMENT OPTION

The Rent Differential payment may - with certain limitations - be converted to a **Down Payment Option** to assist you in purchasing a replacement property. The down payment option is a direct conversion of the Rent Differential payment.

If the Caltrans calculated Rent Differential is between \$0 and \$5,250, your down payment option will be \$5,250, which can be used towards the purchase of a replacement decent, safe and sanitary dwelling.

If the Rent Differential is over \$5,250, you may be able to convert the entire amount of the Rent Differential to a downpayment option.

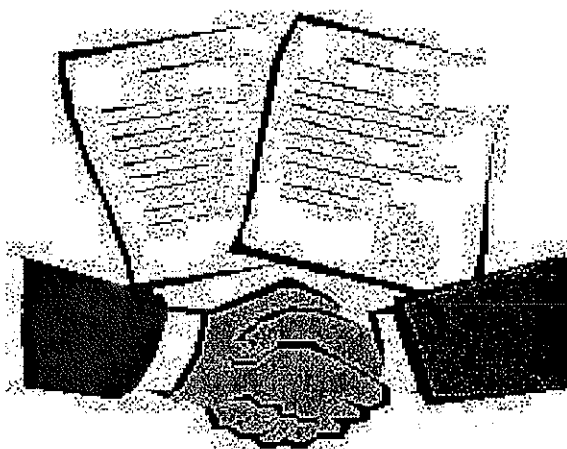
The down payment option must be used for the acquisition of the replacement dwelling, plus any eligible incidental expenses (see "180-day Owner Occupants Incidental Expenses") related to the purchase of the property. You must work closely with your Relocation Agent to ensure you can utilize the full amount of your down payment option towards the purchase.

If any portion of the Rent Differential was used prior to the decision to convert to a down payment option, those advance payments will be deducted from the entire benefit.

LAST RESORT HOUSING

On most projects, an adequate supply of housing will be available for sale and for rent, and the benefits provided will be sufficient to enable you to relocate to comparable housing. However, there may be projects in certain locations where the supply of available housing is insufficient to provide the necessary housing for those persons being displaced. In such cases, Caltrans will utilize a method called Last Resort Housing. Last Resort Housing allows Caltrans to construct, rehabilitate or modify housing in order to meet the needs of the people displaced from a project. Caltrans can also pay above the statutory limits of \$5,250 and \$22,500 in order to make available housing affordable.

Relocation Advisory Assistance



Any individual, family, business or farm displaced by Caltrans shall be offered relocation advisory assistance for the purpose of locating a replacement property. Relocation services are provided by qualified personnel employed by Caltrans. It is their goal and desire to be of service to you and assist in any way possible to help you successfully relocate.

A Relocation Agent from Caltrans will contact you personally. Relocation services and payments will be explained to you in accordance with your eligibility. During the initial interview with you, your housing needs and desires will be determined as well as your need for assistance. You cannot be required to move unless at least one comparable replacement dwelling is made available to you.

You can expect to receive the following services, advice and assistance from your Relocation Agent who will:

- Explain the relocation benefits and eligibility requirements.
- Provide the amount of the replacement housing payments in writing.
- Assure the availability of a comparable property before you move.
- Inspect possible replacement residential units for DS&S compliance.
- Provide information on counseling you can obtain to help minimize hardships in adjusting to your new location.
- Assist you in completing loan documents, rental applications or Relocation Claims Forms.

AND provide information on:

- Security deposits
- Interest rates and terms
- Typical down payments
- VA and FHA loan requirements
- Real property taxes.
- Consumer education literature on housing

If you desire, your Relocation Agent will give you current listings of other available replacement housing. Transportation will be provided to inspect available housing, especially if you are elderly or handicapped. Though you may use the services of a real estate broker, Caltrans cannot provide a referral.

Your Relocation Agent is familiar with the services provided by others in your community and will provide information on other federal, state, and local housing programs offering assistance to displaced persons. If you have special problems, your Relocation Agent will make every effort to secure the services of those agencies with trained personnel who have the expertise to help you.

If the highway project will require a considerable number of people to be relocated, Caltrans will establish a temporary Relocation Field Office on or near the project. Project relocation offices will be open during convenient hours and evening hours if necessary.

In addition to these services, Caltrans is required to coordinate its relocation activities with other agencies causing displacements to ensure that all persons displaced receive fair and consistent relocation benefits.

Remember - YOUR RELOCATION AGENT is there to offer advice and assistance. Do not hesitate to ask questions. And be sure you fully understand all of your rights and available benefits.



YOUR RIGHTS AS A DISPLACEE

All eligible displacees have a freedom of choice in the selection of replacement housing, and Caltrans will not require any displaced person to accept a replacement dwelling provided by Caltrans. If you decide not to accept the replacement housing offered by Caltrans, you may secure a replacement dwelling of your choice, providing it meets DS&S housing standards. Caltrans will not pay more than your calculated benefits on any replacement property.

The most important thing to remember is that the replacement dwelling you select must meet the basic "decent, safe, and sanitary" standards. Do not execute a purchase agreement or a rental agreement until a representative from Caltrans has inspected and certified in writing that the dwelling you propose to occupy meets the basic standards. **DO NOT jeopardize** your right to receive a replacement housing payment by moving into a substandard dwelling.

It is important to remember that your relocation benefits will not have an adverse affect on your:

- Social Security Eligibility
- Welfare Eligibility
- Income Taxes

In addition, the Title VIII of the Civil Rights Act of 1968 and later acts and amendments make discriminatory practices in the purchase and rental of most residential units illegal if based on race, color, religion, sex, or national origin.

Whenever possible, minority persons shall be given reasonable opportunities to relocate to decent, safe, and sanitary replacement dwellings, not located in an area of minority concentration, and that is within their financial means. This policy, however, does not require Caltrans to provide a person a larger payment than is necessary to enable a person to relocate to a comparable replacement dwelling.

Caltrans' Non-Discrimination Policy ensures that all services and/or benefits will be administered to the general public without regard to race, color, national origin, or sex in compliance with Title VI of the 1964 Civil Rights Act (42 USC 2000d. et seq.).

And you always have the Right to Appeal any decision by Caltrans regarding your relocation benefits and eligibility.

Your Right of Appeal is guaranteed in the "Uniform Act" which states that any person may file an appeal with the head of the responsible agency if that person believes that the agency has failed to properly determine the person's eligibility or the amount of a payment authorized by the Act.

If you indicate your dissatisfaction, either verbally or in writing, Caltrans will assist you in filing an appeal and explain the procedures to be followed. You will be given a prompt and full opportunity to be heard. You have the right to be represented by legal counsel or other representative in connection with the appeal (but solely at your own expense).

Caltrans will consider all pertinent justifications and materials submitted by you and other available information needed to ensure a fair review. Caltrans will provide you with a written determination resulting from the appeal with an explanation of the basis for the decision. If you are still dissatisfied with the relief granted, Caltrans will advise you that you may seek judicial review.

NOTES

Sus Derechos y Beneficios Como Una Persona Desplazada Bajo el Programa Uniforme De Asistencia Para Reubicación (Residencial)

Introducción

En la construcción de un sistema moderno de transportación, el desplazamiento de un pequeño porcentaje de la población es a menudo necesario. Sin embargo, la política de Caltrans es que las personas desalojadas no tengan que sufrir innecesariamente como resultado de los programas diseñados para el beneficio del público en general.

Los individuos y familias desplazadas pueden ser elegibles para recibir servicios de asesoramiento y pagos de reubicación.

Este folleto provee información acerca de los servicios y pagos de reubicación disponibles. Si usted es requerido a mudarse como resultado de un proyecto de transportación, un Agente de Reubicación se comunicará con usted. El Agente de Reubicación le contestará preguntas específicas y le proveerá información adicional.

Ley de Procedimiento Uniforme de Asistencia para Rubicación y Adquisición de Bienes Raíces de 1970, Enmendada “La Ley Uniforme”

El propósito de esta Ley es proveer tratamiento igual y uniforme para las personas que son desplazadas de sus hogares, negocios, u operaciones agrícolas por programas federales o programas que son asistidos con fondos federales y para establecer uniformidad e igualdad en la política de adquisición de tierras por programas federales y programas asistidos con fondos federales.

La ley trata de asegurar que las personas desplazadas directamente como resultado de proyectos federales o proyectos asistidos con fondos federales sean tratados con igualdad, consistencia y equidad para que esas personas no sufran

daños desproporcionados como resultado de proyectos designados para el beneficio del público en general.

Aunque se ha hecho un esfuerzo para asegurar la precisión de este folleto, debe de ser entendido que no tiene la fuerza o efectos de la ley, regla, o regulación que gobierna el pago de los beneficios. Si hay diferencias o error, la ley tomará precedencia.

Algunas Definiciones Importantes...

Sus beneficios de reubicación pueden ser entendidos mejor si usted entiende los siguientes términos:

Vivienda de Restitución comparable: significa una propiedad que es:

- (1) Decente, segura y sanitaria. (Vea la definición abajo.)
- (2) Equivalente funcionalmente a la propiedad desplazada.
- (3) Adecuada en tamaño para acomodar a la familia que esta siendo reubicada.
- (4) En un área que no esté sujeta a condiciones irrazonablemente adversas.
- (5) En una localidad generalmente no menos deseable que la localidad de su propiedad desplazada con respecto a servicios públicos, y acceso razonable al lugar de empleo.
- (6) En una parcela de tamaño típico para el desarrollo de una residencia de tamaño normal.

Decente, Segura y Sanitaria (DS&S): La vivienda de restitución debe de ser decente, segura y sanitaria ... que significa que llena todos los requisitos mínimos establecidos por las regulaciones federales y conforme a los códigos de ocupación de viviendas aplicables. La propiedad será:

- (1) Buena estructuralmente, cerrada a las condiciones climáticas y en buen estado de reparación.
- (2) Contiene un sistema eléctrico adecuado para iluminación y otros aparatos.
- (3) Contiene un sistema de calefacción capaz de mantener una temperatura saludable (de aproximadamente 70 grados) para la persona desplazada,

con excepción en aquellas áreas donde las condiciones climáticas no requieren dicho sistema.

- (4) Debe de ser adecuada en tamaño con respecto al número de cuartos y áreas para vivir necesarias para acomodar a las personas desplazadas. Es política de Caltrans que más de dos personas no deben de estar en un solo cuarto, a menos que el tamaño del cuarto sea suficientemente adecuado para acomodar los muebles de dormitorios necesarios de los ocupantes.
- (5) Tener un baño separado, bien iluminado y ventilado que sea privado a los usuarios y que contenga un lavamanos, una tina o regadera, y un excusado, todos en buenas condiciones y apropiadamente conectados a los sistemas de aguas negras y aguas potables.

Nota: En el caso de una propiedad residencial, debe de haber una área de cocina que contenga un lavatrastos usable, propiamente conectado a agua caliente y agua fría, y al sistema de drenaje, y con espacio adecuado para utilizar los servicios y conexiones para una estufa y un refrigerador.

- (6) Que contenga salidas sin obstrucción y seguros espacio abierto al nivel del suelo. Si la propiedad de restitución está en el segundo piso o más arriba, que tenga acceso directamente desde o a través de un corredor, y que éste corredor común debe de tener al menos dos salidas.
- (7) Si la persona desplazada es incapacitada físicamente, debe de ser libre de cualquier barrera que le impidan la entrada o salida, o uso razonable de la propiedad por dicha persona incapacitada.

Persona Desplazada: Cualquier individuo o familia que se mueva de una propiedad o mueva sus bienes personales de una propiedad como resultado de la adquisición de bienes raíces, en todo o en parte, o como resultado de una notificación escrita de una agencia pidiéndole que desocupe la propiedad que se necesita para un proyecto de transportación. En el caso de una adquisición parcial, Caltrans debe de determinar si la persona es desplazada directamente como resultado de esta adquisición.

Los residentes **que no están legalmente** en los Estados Unidos no son elegibles para recibir pagos y asistencia de reubicación.

Los beneficios de reubicación van a variar dependiendo del tipo y tiempo de ocupación. Como una persona desplazada de una unidad residencial usted puede ser clasificado como:

- Un dueño ocupante de una propiedad residencial (incluyendo casas movibles)
- Un inquilino ocupante de una propiedad residencial (incluyendo casas movibles y cuartos para dormir)

Vivienda: El lugar de permanencia o residencia regular y usual de una persona, de acuerdo a las costumbres locales o la ley, incluyendo una unidad familiar, una unidad familiar en un complejo doble o multi-familiar, o una propiedad de uso múltiple, una unidad de condominio o proyecto de vivienda en cooperativa, una unidad libre de mantenimiento doméstico, una casa movable, o cualquier otra unidad residencial.

Dueño: Una persona es considerada que llena los requisitos de dueño de una casa, si esta persona compra, tiene título o tiene algunos de los siguientes intereses en una propiedad:

- (1) Una escritura de propiedad, un interés de por vida en una propiedad, un contrato de renta por 99 años, un contrato oral de renta incluyendo una opción para extensión con al menos 50 años que queden después de la fecha de adquisición; o
- (2) El interés en un proyecto de vivienda en cooperativa que incluya el derecho de ocupar una vivienda; o
- (3) Un contrato de compra de interés, o bienes raíces.
- (4) Algún otro interés, incluyendo intereses parciales, que a juicio de la agencia garanticen los pagos como dueño.

Inquilino: Una persona que tiene el uso y la ocupación temporal de una propiedad de la que otro es dueño.

Gastos de Mudanza

Si usted califica como persona desplazada, usted tiene derecho a reembolso de sus gastos de mudanza y a ciertos gastos relacionados incurridos durante el traslado. Los métodos de traslado y los distintos tipos de pagos para gastos de mudanza son explicados abajo.

Los individuos y familias desplazadas pueden escoger un pago basado en los gastos reales, razonables y los gastos relacionados, o de acuerdo a una lista de costos fijos de mudanza. Sin embargo, para asegurar su elegibilidad y el pago rápido de sus gastos de mudanza, usted debe de ponerse en contacto con su Agente de Rubicación antes de mudarse.

Usted Puede Elegir Entre:

Los Gastos Razonables de Mudanza – A usted se le puede pagar por los gastos razonables de mudanza y gastos relacionados cuando una compañía comercial de mudanza hace la mudanza. Los reembolsos deberán ser limitados a una mudanza de 50 millas o menos. Los gastos relacionados pueden incluir:

- Transportación.
- Empaque y desempaques de propiedades personales.
- Desconexión y reconexión de aparatos eléctricos.
- Almacenaje temporal de propiedades personales.
- Seguros cuando la propiedad está almacenada o en tránsito.

Ó

Lista de Costos Fijos de Mudanza – A usted se le puede pagar basado en una lista de costos fijos de mudanza. Bajo esta opción, usted no puede ser elegible para reembolsos de gastos relacionados incluidos en la lista de arriba. Esta lista de gastos fijos está designada a cubrir todos esos gastos.

Por ejemplo (Tarifa para el año 2001)

4 Cuartos - \$ 950

7 Cuartos - \$1,550

Los costos fijos de mudanza para una unidad amueblada (ejemplo, usted es inquilino en un apartamento donde los muebles pertenecen al dueño de la vivienda) están basados en la Tabla de Honorarios B.

Ejemplos (Taza en el año 2001):

4 Cuartos - \$475

7 Cuartos - \$625

Bajo la lista de Pago Fijos de Mudanza, usted no puede recibir ningún pago adicional por almacenamiento temporario, vivienda temporaria, transportación o conexiones de servicios públicos.

Pagos Para Vivienda de Restitución

El tipo de Pago Para Vivienda de Restitución (RHP) depende de si usted es dueño o un inquilino, y en el tiempo de ocupación que tiene de la propiedad que será adquirida.

Si usted es calificado **como dueño ocupante** de más de 180 días antes de la iniciación de negociaciones para la adquisición de su propiedad, usted puede tener derecho a recibir RHP que consiste en:

Diferencia de Precio, y

Diferencia para Hipoteca, y

Gastos Incidentales

O

Diferencia Para Rentar

Si usted es calificado como **dueño ocupante** de más de 90 días, pero menos de 180 días, O si usted es calificado como **inquilino ocupante** de al menos 90 días, usted puede tener derecho a recibir RHP así:

Diferencia Para Rentar

U

Opción para Enganche

Tiempo de ocupación simplemente significa contar el número de días que usted actualmente ocupó la vivienda antes de la fecha de iniciación de negociaciones por Caltrans para la compra de la propiedad. El término "iniciación de negociaciones" significa la fecha que Caltrans hizo el primer contacto personal con el dueño de bienes raíces, o su representante, para darle a el/ella una oferta escrita para la adquisición de la propiedad.

*Nota: Si usted ocupó una vivienda por **menos de 90 días** antes de la iniciación de negociaciones y la propiedad es posteriormente adquirida, o si usted se mudó a la propiedad después de la iniciación de negociaciones y usted todavía*

ocupaba la propiedad a la fecha de adquisición, usted puede ser elegible para un Pago para Restitución de Vivienda, basado en una guía de elegibilidad establecida. Consulte con su Agente de Reubicación antes de que haga cualquier decisión de mudarse de su propiedad.

Para Ocupantes de 180 Días o Más

Si usted califica como dueño ocupante de 180 días, puede ser elegible – además del valor equitativo en el mercado de su propiedad – para un Pago de Restitución de Vivienda que consiste en un pago de Diferencia de Precio y/o Gastos Incidentales.

El Pago de **Diferencia de Precio** es la cantidad por la que el costo de una vivienda de restitución excede el costo de adquisición de la vivienda desplazada. Este pago le asistirá en la compra de una vivienda decente, segura, y sanitaria (DS&S). Caltrans computará el pago máximo que usted puede ser elegible para recibir. (Vea un ejemplo en la página 15.)

Para recibir la cantidad total de la diferencia de precio calculadas, usted debe de gastar al menos la cantidad calculada por Caltrans en la propiedad de restitución.

El pago de **Diferencia de Hipoteca** le será reembolsado por cualquier aumento del costo de interés en la hipoteca que usted haya incurrido porque la tasa de interés en su nueva hipoteca excede la tasa de interés de la propiedad adquirida por Caltrans. La computación del pago es complicada ya que está basada en las tasas típicas entre su préstamo anterior y su préstamo nuevo. También, una parte de los pagos pueden ser prorrateado como reembolso por una porción de los honorarios de su préstamo y los puntos (intereses) de la hipoteca.

Para ser elegible para recibir este pago, la propiedad adquirida debe de ser hipotecada con una hipoteca de buena fé, la cual fue un crédito válido de por lo menos 180 días antes de la iniciación de negociaciones.

Usted también puede ser reembolsado por cualquier **Gasto Incidental** actual y necesario que usted incurra en relación con la compra de su propiedad de restitución. Estos gastos pueden ser los costos por búsqueda de título, honorarios de copia en el Registro, reporte de crédito, reporte de evaluación, y ciertos otros gastos de cierre de escritura. Usted no puede ser reembolsado por ningún gasto frecuente como pre-pagos de impuesto de bienes raíces y seguro de propiedad.

Si la cantidad total de su **Pago de Vivienda de Restitución** (Diferencia de Precio, Diferencia Para Hipoteca y Gastos Incidentales) excede \$22,500, el pago debe de ser depositado directamente en una cuenta fiduciaria o ser pagado directamente a la compañía financiera.

EJEMPLO DE COMO SE CALCULA LA DIFERENCIA DE PAGO:

Suponga que Caltrans compra su propiedad por \$98,000. Después de un estudio completo de viviendas disponibles en el mercado, que sean decentes, seguras y sanitarias, Caltrans determina que la propiedad de restitución comparable en el mercado abierto le costará \$100,000. Si su precio de compra es \$100,000 usted recibirá \$2,000 (*Vea el Ejemplo A*)

Si su precio de compra es de más de \$100,000, usted paga la diferencia (*vea el Ejemplo B*). Si su precio de compra es menos de \$100,000, el pago se basará en los costos actuales (*vea el Ejemplo C*).

La cantidad que usted recibe en un pago diferencial dependerá de cuanto usted realmente gasta en una vivienda de restitución, como se muestra en estos ejemplos.

Computación de Caltrans

Precio Comparable de la Propiedad de Restitución	\$100,000
Precio de Adquisición de su Propiedad	<u>-\$ 98,000</u>
Diferencia Máxima de Precio	\$ 2,000

Ejemplo A

Precio de Compra de Restitución	\$100,000
Propiedad Comparable de Restitución	\$100,000
Precio de Adquisición de su Propiedad	<u>-\$ 98,000</u>
Diferencia Máxima de Precio	\$ 2,000

Ejemplo B

Precio de Compra de Restitución	\$105,000
Propiedad Comparable de Restitución	\$100,000
Precio de Adquisición de su Propiedad	<u>– \$ 98,000</u>
Diferencia Máxima de Precio	\$ 2,000
Usted Debe de Pagar el Precio Adicional de	\$ 5,000

Ejemplo C

Propiedad Comparable de Restitución	\$100,000
Precio de Compra de Restitución	\$ 99,000
Precio de Adquisición de su Propiedad	<u>– \$ 98,000</u>
Diferencia de Precio	\$ 1,000

En el ejemplo C usted solo recibirá \$1,000 – no la cantidad completa de “La propiedad Comparable de Restitución” por los requisitos de “Gastar para Obtener” de Caltrans.

PARA QUE UN “DUENO OCUPANTE DE 180 DÍAS” RECIBA LA CANTIDAD TOTAL DE SUS BENEFICIOS DE PAGOS PARA VIVIENDA (*Diferencia de Precio, Diferencia de Hipoteca y Gastos Incidentales*), usted debe:

A) Comprar y ocupar una vivienda de restitución que sea DS&S dentro de al menos un año desde la fecha más tarde de:

(1) La fecha en que recibió la primera notificación de una casa de restitución, **O**

(2) La fecha que Caltrans pagó los costos de adquisición de su vivienda actual (usualmente los gastos de cierre de escritura en la adquisición del Estado.)

Y

B) Haber gastado al menos la cantidad que Caltrans estableció para “La Propiedad Comparable de Restitución” para la propiedad de restitución.

Y

C) Reportar un reclamo para pago para reubicación dentro de los 18 meses de la fecha más tarde de:

- (1) La fecha en que se mudó de la propiedad adquirida por Caltrans, **O**
- (2) La fecha en que Caltrans le pagó los costos de adquisición de su vivienda actual (usualmente al cierre de escritura en la adquisición del Estado.)

Usted no será elegible para recibir ningún pago de reubicación hasta que el Estado haya hecho la primera oferta por escrito de la compra de la propiedad. Usted también recibirá una notificación escrita por lo menos 90 días antes de tener que mudarse.

Para Dueños Ocupantes e Inquilinos de 90 Días o Más

Si usted califica como un ocupante (ya sea como dueño o inquilino) de 90 días, usted puede ser elegible para un Pago de Vivienda de Restitución en la forma de Diferencia para Rentar.

El pago de la **Diferencia para Rentar** es designado para asistirle en la renta de una vivienda comparable que sea decente, segura y sanitaria. El pago será basado en la diferencia entre la renta básica mensual por la propiedad adquirida por Caltrans (incluyendo el promedio del costo mensual de servicios públicos) y el menor de:

- a) La renta mensual y el promedio del costo mensual estimado de los servicios públicos para una vivienda comparable de restitución determinada por Caltrans, **O**
- b) La renta mensual y el promedio del costo mensual estimado de los servicios públicos para una vivienda decente, segura y sanitaria que usted rente como vivienda de restitución.

Gastos de servicios públicos son esos gastos que usted incurre por calefacción, luz, agua, aguas negras y basura – sin importar quien los provea (ejemplo, electricidad, gas propano, y sistema séptico.) No incluye cable de televisión, teléfono, o seguridad. Los servicios públicos en su propiedad de restitución será el estimado del promedio de costos por los 3 últimos meses para el tipo de vivienda y área usados en los cálculos.

Esta diferencia es multiplicada por 42 meses y le puede ser pagado en una sola suma o en pagos periódicos de acuerdo con la política y regulaciones. (Vea un ejemplo en la página 21.)

Para recibir la cantidad calculada total de la diferencia para rentar, usted debe gastar al menos la cantidad calculada por Caltrans en la propiedad de restitución.

Este pago puede – con ciertas limitaciones – ser convertido en una **Opción para Enganche** para asistirle en la compra de una propiedad de restitución (Vea la página 25 para una explicación completa.)

EJEMPLO DE LA COMPUTACIÓN DEL PAGO DE LA DIFERENCIA PARA RENTAR:

Después de hacer un estudio completo de viviendas comparables, decentes, seguras y sanitarias que estén disponibles para rentar, Caltrans determina que una propiedad comparable de restitución podría ser rentada por \$325 al mes.

Computación de Caltrans

Renta por una Propiedad Comparable de Restitución	\$ 325 al mes
MÁS: estimado de costos de servicios públicos	100 al mes
TOTAL Costo de renta por una Propiedad Comparable de Restitución	\$ 425 al mes
Renta por su Propiedad Actual	\$ 300 al mes
MÁS: costos de servicios públicos	90 al mes
TOTAL Costo para pagar la renta de su propiedad actual	\$ 390 al mes
Propiedad Comparable de Restitución incluyendo servicios públicos	\$ 425 al mes
Costo para pagar la renta de su propiedad incluyendo servicios públicos	390 al mes
Diferencia	\$ 35 al mes

Multiplicado por 42 meses = \$1,470 Diferencia para Rentar

Ejemplo A:

Renta para una Propiedad de Restitución, incluyendo los costos estimados de servicios públicos	\$ 525 al mes
Propiedad Comparable de Restitución incluyendo servicios públicos	\$ 425 al mes
Costos de pago de la renta de su propiedad incluyendo servicios públicos	\$ 390 al mes

Ya que \$425 es menos que \$525, la diferencia para rentar está basada en la diferencia entre \$390 y \$425.

Diferencia para Rentar ($\$35 \times 42 \text{ meses} = \$1,470$)

En este caso usted gasta “al menos” la cantidad de la Propiedad de Restitución Comparable en la propiedad de restitución y así recibirá la cantidad total.

Ejemplo B:

Renta por una Propiedad de Restitución, incluyendo los costos estimados de servicios públicos	\$ 400 al mes
Propiedad Comparable de Restitución incluyendo servicios públicos	\$ 425 al mes
Costos de pago de la renta de su propiedad incluyendo servicios públicos	\$ 390 al mes

Ya que \$400 es menos que \$525, la diferencia para rentar está basada en la diferencia entre \$400 y \$390.

Diferencia para Rentar ($\$10 \times 42 \text{ meses} = \420)

En este caso usted va a gastar “menos que” la cantidad de Propiedad de Restitución Comparable en la restitución de la vivienda y usted no recibirá la cantidad total.

PARA QUE UN “DUENO OCUPANTE DE 90 DÍAS” RECIBA LA CANTIDAD TOTAL DE PAGO PARA SU VIVIENDA DE RESTITUCION (Diferencia para Rentar), usted debe de:

A) Rentar y ocupar una vivienda de restitución DS&S dentro de un año después de la última fecha de:

(1) La fecha en que usted recibió la primera notificación de una casa de restitución disponible,

(2) El día en que usted se mudó de la propiedad adquirida por Caltrans.

Y

B) Gastar al menos la cantidad de la "Propiedad Comparable de Restitución" de Caltrans para rentar una vivienda de restitución.

Y

C) Reportar un reclamo para pagos de reubicación dentro de los 18 meses de la fecha más tarde:

(1) La fecha en que usted se mudó de la propiedad adquirida por Caltrans,

(2) La fecha en que Caltrans le pagó los costos de adquisición de su propiedad actual (usualmente al cierre de escritura de la adquisición del Estado.)

Usted no será elegible para recibir ningún pago de reubicación hasta que haya hecho la primera oferta escrita para comprar la propiedad. Además, usted recibirá al menos una noticia por escrito 90 días antes de tener que mudarse.

OPCIÓN PARA ENGANCHE

El pago de Diferencia para Rentar puede – con ciertas limitaciones – ser convertido en una **Opción para Enganche** para asistirle en la compra de una propiedad de restitución. La Opción para Enganche es una conversión directa del pago de la diferencia para rentar.

Si la diferencia para rentar es calculada entre \$0 y \$5,250, su Opción Para Enganche será de \$5,250 la cual puede ser usada para la compra de una vivienda de restitución decente, segura y sanitaria.

Si la diferencia para rentar es más de \$5,250 usted podrá convertir la cantidad completa de diferencia para rentar a una Opción Para Enganche.

La Opción Para Enganche debe de ser usada para el enganche requerido, la cual usualmente es un porcentaje del precio total de compra, más cualquier gasto incidental elegible (vea la página 14, “Gastos Incidentales para Dueños Ocupantes de 180 días”) relacionado con la compra de la propiedad. Usted debe trabajar junto con su Agente de Reubicación para asegurarse de que puede utilizar la cantidad total de su Opción Para Enganche en su compra.

Si alguna porción de la diferencia para rentar fue usada antes de su decisión de convertirla a una Opción Para Enganche, los pagos avanzados serán deducidos de los beneficios completos.

CASA DEL ÚLTIMO RECURSO

En la mayoría de los proyectos de Caltrans, existe una cantidad adecuada de viviendas de venta y alquiler, y los beneficios serán suficientes para que usted pueda reubicarse a una vivienda comparable. Sin embargo, en ciertas localidades pueden haber proyectos donde el número de viviendas disponibles no son suficientes para proveer viviendas a todas las personas desplazadas. En estos casos, Caltrans utiliza un método llamado Casa del Último Recurso. La Casa del Último Recurso permite a Caltrans construir, rehabilitar, o modificar viviendas para cumplir con las necesidades de las personas desplazadas por un proyecto. Caltrans puede también pagar arriba de los límites legales de \$5,250 y \$22,500 para hacer posible viviendas con precios razonables.

Asistencia de Consulta Para Reubicación

A cualquier individuo, familia, negocio u operación agrícola desplazada por Caltrans deberá ofrecérsele servicios de asistencia con el propósito de localizar una propiedad de restitución. Los servicios de reubicación son proveídos por empleados calificados de Caltrans. Es la meta de ellos y el deseo de estos empleados de servirle y asistirle de cualquier manera posible para ayudarle a reubicarse exitosamente.

Un Agente de Reubicación de Caltrans se pondrá en contacto con usted personalmente. Los servicios de reubicación y pagos se le explicarán de acuerdo con su elegibilidad. Durante la entrevista inicial, sus necesidades de vivienda y deseos se determinarán así como sus necesidades de asistencia. No se le puede pedir que se mude a menos que una vivienda comparable de restitución le sea disponible.

Usted puede esperar recibir los siguientes servicios, consejos y asistencia de su Agente de Reubicación quien le:

- Explicará los beneficios de reubicación y los requisitos de elegibilidad.
- Proveerá por escrito la cantidad de pago por su vivienda de restitución.
- Asegurará la disposición de una propiedad comparable antes de que se mude.
- Inspeccionará las posibles unidades residenciales de restitución para el cumplimiento de DS&S.

- Proveerá información y aconsejará como puede obtener ayuda para minimizar las adversidades en ajustarse a su nueva localidad.
- Ayudará en completar los documentos de préstamos, aplicaciones de rentas o las Formas de Reclamo para Reubicación.

Y proveerle información de:

- Seguro de Depósitos
- Taza de intereses y términos
- Pagos típicos de enganches
- Requisitos de préstamos de la Administración de Veteranos (VA) y la Administración de Vivienda Federal (FHA)
- Impuestos sobre bienes raíces
- Literatura de educación en viviendas para el consumidor

Si usted lo desea, el Agente de Reubicación le dará una lista actual de otras viviendas de restitución disponibles.

Se proveerá transportación para inspeccionar viviendas disponibles, especialmente si usted es mayor de edad o con impedimento físico. Aunque usted puede utilizar los servicios de un agente de bienes raíces, Caltrans no lo podrá referir.

Su Agente de Reubicación está familiarizado con los servicios proveídos por otras agencias de su comunidad y le proveerá información de otros programas de viviendas federales, estatales y locales que ofrecen programas de asistencia para personas desplazadas. Si usted tiene algún problema especial, su Agente de Reubicación hará su mejor esfuerzo para asegurarle los servicios de esas agencias con personal capacitado y con experiencia que le ayudarán.

Si el proyecto de transportación requiere un número considerable de personas que sean reubicados, Caltrans establecerá una Oficina Temporal de Reubicación en, o cerca del proyecto. Las oficinas de proyectos de reubicación deberán de abrirse durante horas convenientes y en horas tempranas de la noche, si es necesario.

Además de estos servicios, Caltrans es requerido que coordine las actividades de otras agencias que causen desplazamientos para asegurar que todas esas personas desplazadas reciban beneficios de reubicación equitativos y consistentes.

Recuerde – SU AGENTE DE REUBICACIÓN está para aconsejarle y asistirle. No vacile en hacer preguntas, y asegúrese de que entiende completamente sus derechos y beneficios de reubicación disponibles.

SUS DERECHOS COMO UNA PERSONA DESPLAZADA

Todas las personas elegibles como personas desplazadas tienen la libertad de escoger dentro de la selección de viviendas de restitución, y Caltrans no requerirá a ninguna persona que sea desplazada que acepte una vivienda de restitución proveída por Caltrans. Si usted decide no aceptar la vivienda de restitución ofrecida por Caltrans, usted puede elegir una vivienda de restitución de su propia selección, mientras que cumple con los requisitos de DS&S. Caltrans no pagará más que los beneficios calculados por una vivienda de restitución.

Lo más importante que usted debe de recordar es que la vivienda de restitución que usted seleccione debe de llenar los requisitos básicos de “decente, segura y sanitaria”. No ejecute los documentos de compra o el contrato de renta hasta que un representante de Caltrans haya inspeccionado y certificado por escrito que la vivienda que usted se propone ocupar cumple con los requisitos básicos. **NO ARRIESGUE** su derecho de recibir los pagos de vivienda de restitución por mudarse a una vivienda que no sea “decente, segura y sanitaria.”

Es importante recordar que sus beneficios de reubicación no van a tener ningún efecto adverso en su:

- Elegibilidad para Seguro Social
- Elegibilidad para Asistencia Social
- Impuestos sobre ingresos

Además, el Título VIII de los Derechos Civiles, Ley de 1968 y luego otras leyes y enmiendas hacen discriminatoria la práctica de compra y renta de unidades de vivienda si es basada ilegalmente en la raza, color, religión, sexo u origen nacional.

Cuando sea posible, a personas de minorías se les debe de dar oportunidades razonables para reubicarse a viviendas de restitución que sean decentes, seguras y sanitarias, no localizadas en áreas de concentración de minorías, y que estén dentro de sus recursos económicos. Esta política, sin embargo, no requiere que Caltrans provea a una persona pagos más grandes de lo que sean necesarios para permitir que la persona sea reubicada a una vivienda de restitución comparable.

La política No-Discriminatoria de Caltrans asegura que todos los servicios y/o los beneficios deben de ser administrados al público en general sin importar la raza, color, origen nacional, o sexo en cumplimiento con el Título VI de la Ley de Derechos Civiles de 1964 (42 USC 2000 d. et seq.)

Usted siempre tendrá el Derecho de Apelar cualquier decisión hecha por Caltrans relacionada a los beneficios de reubicación y elegibilidad.

Su Derecho de Apelar está garantizado en la "Ley Uniforme" la cual establece que una persona puede apelar al jefe de la agencia responsable, si ella cree que la agencia ha fallado en determinar correctamente su elegibilidad, o la cifra del pago autorizado por la Ley.

Si usted indica su disatisfacción, ya sea verbalmente o por escrito, Caltrans le asistirá en hacer su demanda de apelación y le explicará el procedimiento que debe de seguir. Usted tiene derecho de ser representado por un asesor legal u otro representante en conexión con su apelación (pero solamente por su propia cuenta.)

Caltrans considerará toda justificación y materia pertinente que usted entregue u otra información disponible, necesaria para asegurar una audiencia equitativa. Caltrans le proveerá una determinación por escrito del resultado de su apelación, con una explicación sobre la base de la decisión. Si usted aún no está satisfecho con la decisión otorgada, Caltrans le aconsejará que usted puede pedir una audiencia judicial.

Noticiero de la Ley para Americanos con Incapacidades Físicas (ADA):

Para personas con incapacidades físicas, este documento es disponible en formatos alternativos. Para Información llame al número (916) 654-5413 Voz, CRS: 1-800-735-2929, o escriba a Derecho de Vía, MS 37, 1120 N Street, Sacramento, CA 95814.

NOTAS

Your Rights and Benefits as a Displaced Business, Farm or Nonprofit Organization Under the Uniform Relocation Assistance Program

Introduction

In building a modern transportation system, the displacement of a small percentage of the population is often necessary. However, it is the policy of Caltrans that displaced persons shall not suffer unnecessarily as a result of programs designed to benefit the public as a whole.

Displaced businesses, farms, and nonprofit organizations may be eligible for relocation advisory services and payments.

This brochure provides information about available relocation services and payments. If you are required to move as the result of a Caltrans transportation project, a Relocation Agent will contact you. The Relocation Agent will be able to answer your specific questions and provide additional information.

Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 As Amended "The Uniform Act"

The purpose of this Act is to provide for uniform and equitable treatment of persons displaced from their business, farm or nonprofit organization, by federal and federally assisted programs and to establish uniform and equitable land acquisition policies for federal and federally assisted programs.

49 Code of Federal Regulations Part 24 implements the "Uniform Act" in accordance with the following relocation assistance objective:

To ensure that persons displaced as a direct result of federal or federally-assisted projects 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.

While every effort has been made to assure the accuracy of this booklet, it should be understood that it does not have the force and effect of law, rule, or regulation governing the payment of benefits. Should any difference or error occur, the law will take precedence.

Relocation Services

The California Department of Transportation has two programs to aid businesses, farms and nonprofit organizations which must relocate.

These are:

1. The Relocation Advisory Assistance Program, which is to aid you in locating a suitable replacement property, and
2. The Relocation Payments Program, which is to reimburse you for certain costs involved in relocating. These payments are classified as:
 - Moving and Related Expenses (costs to move personal property not acquired).
 - Reestablishment Expenses (expenses related to the replacement property).
 - In-Lieu Payment (a fixed payment in lieu of moving and related expenses, and reestablishment expenses).

NOTE: *Payment of loss of goodwill is considered an acquisition cost. California law and the federal regulations mandate that relocation payments cannot duplicate other payments such as goodwill. You will **not** be eligible to receive any relocation payments until the State has actually made the first written offer to purchase the property. You will also receive at least 90 days' written notice before you must move.*

Some Important Definitions...

Your relocation benefits can be better understood if you become familiar with the following terms:

Business: Any lawful activity, with the exception of a farm operation, conducted primarily for the purchase, sale, lease and rental of personal or real property, or for the manufacture, processing, and/or marketing of products, commodities, or any other personal property, or for the sale of services to the public, or solely for the purpose of this Act, and outdoor advertising display or displays, when the display(s) must be moved as a result of the project.

Displaced Person or Displacee: Any person who moves from real property or moves personal property from real property as a result of the acquisition of the real property, in whole or in part, or as the result of a written notice from the agency to vacate the real property needed for a transportation project. In the case of a partial acquisition, Caltrans shall determine if a person is displaced as a direct result of the acquisition.

Owners and tenants **not lawfully present** in the United States are not eligible to receive relocation payments and assistance.

Contributes Materially: A business or farm operation must have had average annual gross receipts of at least \$5,000 or average annual net earnings of at least \$1,000, or their income must have contributed at least 33 1/3 percent of the owner's or operator's average annual gross income from all sources, in order to qualify as a bona-fide operation.

Farm Operation: Any activity conducted solely or primarily for the production of one or more agricultural products or commodities, including timber, for sale and home use, and customarily producing such products or commodities in sufficient quantity to be capable of contributing materially to the operator's support.

Nonprofit Organization: A public or private entity that has established its nonprofit status under applicable law.

MOVING EXPENSES

If you qualify as a displaced business, farm or nonprofit organization, you are entitled to reimbursement of your moving costs and certain related expenses incurred in moving. To qualify you must legally occupy the property as the owner or lessee/tenant when Caltrans initiates negotiations for the acquisition of the property **OR** at the time Caltrans acquires title or takes possession of the property. However, to assure your eligibility and prompt payment of moving expenses, you should contact your Relocation Agent before you move.

You Can Choose Either:

Actual Reasonable Moving Costs – You may be paid for your actual reasonable moving costs and related expenses when a commercial mover performs the move. Reimbursement will be limited to a move of 50 miles or less. Related expenses, with limitations, *may* include:

- Transportation.
- Packing and unpacking of personal property.
- Disconnecting and reconnecting personal property related to the operation.
- Temporary storage of personal property.
- Insurance while property is in storage or transit, or the loss and damage of personal property if insurance is not reasonably available.
- Expenses in finding a replacement location.
- Professional services to plan and monitor the move of the personal property to the new location.
- Licenses, permits and fees required at the replacement location.

OR

Self-Move Agreement – You may be paid to move your own personal property based on the lower of two acceptable bids obtained by Caltrans.

Under this option, you will still be eligible for reimbursement of related expenses listed above that were not included in the bids.

OR

In-Lieu Payment – You can accept a fixed payment between \$1,000 and \$20,000, based on your annual earnings IN LIEU OF the moving cost, related expenses and reestablishment cost.

Actual Reasonable Moving Costs

You may be paid the actual reasonable and necessary costs of your move when a professional mover performs the move. All of your moving costs must be supported by paid receipts or other evidence of expenses incurred. In addition to the transportation costs of your personal property, certain other expenses may also be reimbursable, such as packing, crating, unpacking and uncrating, and the disconnecting, dismantling, removing, reassembling, and reinstalling relocated machinery, equipment, and other personal property.

Other expenses such as professional services necessary for planning and carrying out the move, temporary storage costs, and the cost of licenses, permits and certifications may also be reimbursable. This is not intended to be an all-inclusive list of moving related expenses. Your Relocation Agent can provide you with a complete explanation of reimbursable expenses.

Self-Move Agreement

If you agree to take full responsibility for all or part of the move of your business, farm, or nonprofit organization, the Department may approve a payment not to exceed the lower of two acceptable bids obtained by the Department from qualified moving firms or a qualified Department staff employee. A low-cost or uncomplicated move may be based on a single bid or estimate at the Department's discretion. The advantage of this moving option is the fact that it relieves the displaced business, farm or nonprofit organization operator from documenting all moving expenses. The Department may make the payment without additional documentation as long as the payment is limited to the amount of the lowest acceptable bid or estimate. Other expenses, such as professional services for planning, storage costs, and the cost of licenses, permits, and certifications may also be reimbursable if determined to be necessary. These latter expenses must be pre approved by the Relocation Agent.

Requirements:

Before you move, you must provide Caltrans with the:

- Certified inventory of all personal property to be moved.
- Date you intend to vacate the property.
- Address of the replacement property.
- Opportunity to monitor and inspect the move from the acquired property to the replacement property.

Related Expenses

1. **Searching Expenses for Replacement Property:** Displaced businesses, farms and nonprofit organizations are entitled to reimbursement for actual reasonable expenses incurred in searching for a replacement property, not to exceed \$2,500. Expenses may include transportation, meals, and lodging when away from home; the reasonable value of the time spent during the search; fees paid to the real estate agents, brokers or consultants; and other expenses determined to be reasonable and necessary by the Department.
2. **Direct Loss of Tangible Personal Property:** Displaced businesses, farms, and nonprofit organizations may be eligible for a payment for the actual direct loss of tangible personal property which is incurred as a result of the move or discontinuance of the operation. This payment will be based upon the lesser of:

- a. The fair market value of the item for continued use at the displacement site minus the proceeds from its sale.

OR

- b. The estimated cost of moving and reinstalling the replaced item, based on the lowest acceptable bid or estimate obtained by the Department for eligible moving and related expenses, including dismantling and reassembly, but with no allowance for storage, cost of code requirement betterments or upgrades at the replacement site.

EXAMPLE:

You determine that the "document shredder" cannot be moved to the new location because of its condition, and you will not replace it at the new location.

Fair Market Value of the Document Shredder Based on its use at the current location	\$ 1,500
Proceeds: Price received from selling the Document Shredder	- <u>\$ 500</u>
Net Value	\$ 1,000

OR

Estimated cost to move \$ 1,050

Based on the "lesser of", the amount of the
"Loss of Tangible Personal Property" = **\$ 1,000**

Note: You are also entitled to all reasonable costs incurred in attempting to sell the document shredder (e.g. advertisement).

3. Purchase of Substitute Personal Property: If an item of personal property, which is used as part of the business, farm, or nonprofit organization, is not moved but is promptly replaced with a substitute item that performs a comparable function at the replacement site, the displacee is entitled to payment of the lesser of:

a. The cost of the substitute item, including installation costs at the replacement site, minus any proceeds from the sale or trade-in of the replaced item;

OR

b. The estimated cost of moving and reinstalling the replaced item, based on the lowest acceptable bid or estimate obtained by the Department for eligible moving and related expenses, including dismantling and reassembly, but with no allowance for storage, cost of code requirement betterments or upgrades at the replacement site.

EXAMPLE A:

You determine that the copying machine cannot be moved to the new location because it is now obsolete and you will replace it.

Cost of a substitute copy machine	
Including installation costs at the replacement site	\$ 3,000
Trade-in Allowance	- \$ 2,500
Net Value	\$ 500

OR

Estimated cost to move	\$ 550
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Based on the "lesser of", the amount of the "Substitute Personal Property" =	\$ 500
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EXAMPLE B:

You determine that the chairs will not be used at the new location because they no longer match the décor and you will replace them.

Cost of substitute chairs	\$ 1,000
Proceeds from selling the chairs	- \$ 100
Net Value	\$ 900

OR

Estimated cost to move	\$ 200
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Based on the "lesser of", the amount of the "Substitute Personal Property" =	\$ 200
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Note: You are also entitled to all reasonable costs incurred in attempting to sell the copy machine and/or chairs.

- 4. Disconnecting and Reinstallation:** You will be reimbursed for your actual and reasonable costs to disconnect, dismantle, remove, reassemble and reinstall any machinery, equipment or other personal property in relation to its move to the new location. This includes connection to utilities available nearby and any modifications to the

personalty that is necessary to adapt it to utilities at the replacement site.

5. **Physical changes at the new location:** You may be reimbursed for certain physical changes to the replacement property if the changes are necessary to permit the reinstallation of machinery or equipment necessary for the continue operation of the business. **Note:** *The changes cannot increase the value of the building for general purposes, nor can they increase the mechanical capability of the buildings beyond its normal requirements.*
6. The cost of installing utilities from the right of way line to the structure(s) or improvements on the replacement site.
7. Marketing studies, feasibility surveys and soil testing.
8. Professional real estate services needed for the purchase or lease of a replacement site.
9. One-time assessments or impact fees for anticipated heavy utility usage.

Reestablishment Expenses

A small business, farm or nonprofit organization may be eligible for a payment, not to exceed \$10,000, for expenses actually incurred in relocating and reestablishing the enterprise at a replacement site.

Reestablishment expenses may include, but are not limited to, the following:

1. Repairs or improvements to the replacement real property required by Federal, State or local laws, codes or ordinances.
2. Modifications to the replacement real property to make the structure(s) suitable for the business operation.
3. Construction and installation of exterior signing to advertise the business.
4. Redecoration or replacement such as painting, wallpapering, paneling or carpeting when required by the condition of the replacement site or for aesthetic purposes.

5. Advertising the new business location.
6. The estimated increased costs of operation at the replacement site during the first two years, for items such as:
 - a) Lease or rental charges
 - b) Personal or real property taxes
 - c) Insurance premiums, and
 - d) Utility charges (excluding impact fees).
7. Other items that the Department considers essential for the reestablishment of the business or farm.

Note: A nonprofit organization must substantiate that it cannot be relocated without a substantial loss of existing patronage (membership or clientele). The payment is based on the average of two years annual gross revenues less administrative expenses.

In-Lieu Payment (Fixed)

Displaced businesses, farms and nonprofit organizations may be eligible for a fixed payment in lieu of (in place of) actual moving expenses, personal property losses, searching expense, and reestablishment expenses. The fixed payment may not be less than \$1,000 or more than \$20,000.

For a business to be eligible for a fixed payment, the Department must determine the following:

1. The business owns or rents personal property that must be moved due to the displacement.
2. The business cannot be relocated without a substantial loss of existing patronage.
3. The business is not part of a commercial enterprise having more than three other businesses engaged in the same or similar activity, which are under the same ownership and are not being displaced by the department.
4. The business contributed materially to the income of the displaced business operator during the two taxable years prior to displacement.

Any business operation that is engaged solely in the rental of space to others is not eligible for a fixed payment. This includes the rental of space for residential or business purposes.

Eligibility requirements for farms and nonprofit organizations are slightly different than business requirements. If you are being displaced from a farm or your represent a nonprofit organization and are interested in a fixed payment, please consult your relocation counselor for additional information.

The Computation of Your In-Lieu Payment:

The fixed payment for a displaced business or farm is based upon the average annual net earnings of the operation for the two taxable years immediately preceding the taxable year in which it is displaced. Caltrans can use a different two year period if it is determined that the last two taxable years do not accurately reflect the earnings of the operation.

EXAMPLE: Caltrans acquires your property and you move in 2005:

2003 Annual Net Earnings	\$ 10,500
2004 Annual Net Earnings	<u>\$ 12,500</u>
TOTAL	\$ 23,000
Average over two years	\$ 11,500

This would be the amount of your in-lieu payment. Remember – this is in-lieu of all other moving benefits, including reestablishment expenses. You must provide the Department with proof of net earnings to support your claim.

Proof of net earnings can be documented by income tax returns, certified financial statements, or other reasonable evidence of net earnings acceptable to the Department.

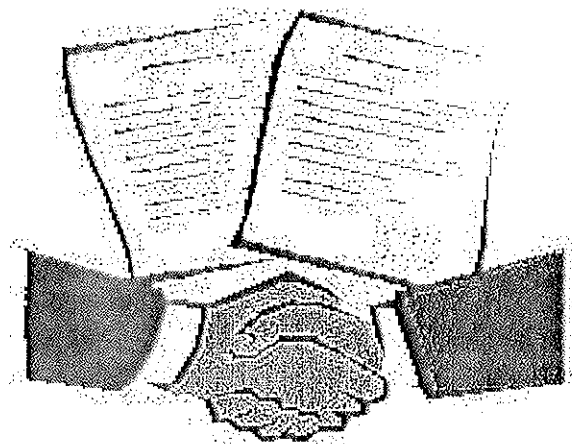
Note: The computation for nonprofit organizations differs in that the payment is computed on the basis of average annual gross revenues less administrative expenses for the two year period specified above.

Before You Move:

- A. Request a determination of entitlement for in-lieu payment from your Relocation Agent.
- B. Include a written statement of the reasons the business cannot be relocated without a substantial loss in net earnings.

- C. Provide certified copies of tax returns for the two tax years immediately preceding the tax year in which you move. (If you move anytime in the year 2005, regardless of when negotiations began or the State took title to the property, the taxable years would be 2003 and 2004).
- D. You will be notified of the amount you are entitled to after the application is received and approved.
- E. You cannot receive the payment until after you vacate the property, AND submit a claim for the payment within 18 months of the date of your move.

Relocation Advisory Assistance



Any business, farm or nonprofit organization displaced by Caltrans shall be offered relocation advisory assistance for the purpose of locating a replacement property. Relocation services are provided by qualified personnel employed by Caltrans. It is their goal and desire to be of service to you and assist in any way possible to help you successfully relocate.

A Relocation Agent from Caltrans will contact you personally. Relocation services and payments will be explained to you in accordance with your eligibility. During the initial interview with you, your needs and desires will be determined as well as your need for assistance.

You can expect to receive the following services, advice and assistance from your Relocation Agent who will:

- Determine your needs and preferences.
- Explain the relocation benefits and eligibility requirements.
- Provide information on replacement properties for your consideration.
- Provide information on counseling you can obtain to help minimize hardships in adjusting to your new location.
- Assist you in completing loan documents, rental applications or Relocation Claims Forms.

AND provide information on:

- Security deposits
- Interest rates and terms
- Typical down payments
- Permits, fees and local planning
- SBA loan requirements
- Real property taxes.
- Consumer education literature

If you desire, your Relocation Agent will give you current listings of other available replacement property. Transportation will be provided to inspect available property, especially if you are elderly or handicapped. Though you may use the services of a real estate broker, Caltrans cannot provide a referral.

Your Relocation Agent is familiar with the services provided by others in your community and will provide information on other federal, state, and local programs offering assistance to displaced persons. If you have special needs, your Relocation Agent will make every effort to secure the services of those agencies with trained personnel who have the expertise to help you.

If the highway project will require a considerable number of people to be relocated, Caltrans will establish a temporary Relocation Field Office on or near the project. Project relocation offices will be open during convenient hours and evening hours if necessary.

In addition to these services, Caltrans is required to coordinate its relocation activities with other agencies causing displacements to ensure that all persons displaced receive fair and consistent relocation benefits.

Remember - YOUR RELOCATION AGENT is there to offer advice and assistance. Do not hesitate to ask questions. And be sure you fully understand all of your rights and available benefits.



YOUR RIGHTS AS A DISPLACEE

It is important to remember that your relocation benefits will not have an adverse affect on your:

- Social Security Eligibility
- Welfare Eligibility
- Income Taxes

In addition, the Title VIII of the Civil Rights Act of 1968 and later acts and amendments make discriminatory practices in the purchase and rental of most residential units illegal if based on race, color, religion, sex, or national origin.

Caltrans' Non-Discrimination Policy ensures that all services and/or benefits will be administered to the general public without regard to race, color, national origin, or sex in compliance with Title VI of the 1964 Civil Rights Act (42 USC 2000d. et seq.).

And you always have the Right to Appeal any decision by Caltrans regarding your relocation benefits and eligibility.

Your Right of Appeal is guaranteed in the "Uniform Act" which states that any person may file an appeal with the head of the responsible agency if that

person believes that the agency has failed to properly determine the person's eligibility or the amount of a payment authorized by the Act.

If you indicate your dissatisfaction, either verbally or in writing, Caltrans will assist you in filing an appeal and explain the procedures to be followed. You will be given a prompt and full opportunity to be heard. You have the right to be represented by legal counsel or other representative in connection with the appeal (but solely at your own expense).

Caltrans will consider all pertinent justifications and materials submitted by you and other available information needed to ensure a fair review. Caltrans will provide you with a written determination resulting from the appeal with an explanation of the basis for the decision. If you are still dissatisfied with the relief granted, Caltrans will advise you that you may seek judicial review.

NOTES

Sus Derechos y Beneficios Como Negocio, Operación Agrícola o Organización No Lucrativa Desplazada Bajo el Departamento de Transportación de California, Programa para Asistencia de Reubicación

Introducción

Cuando se está construyendo un sistema de transporte moderno, el desplazamiento de un pequeño porcentaje de la población es a veces necesario. Sin embargo, es el procedimiento de Caltrans que las personas desplazadas no deben de sufrir innecesariamente como resultado de los programas diseñados para el beneficio del público en general.

Los negocios, operaciones agrícolas, y organizaciones no-lucrativas desplazadas pueden ser elegibles para servicios de reubicación y pagos.

Este libreto le provee información acerca de los servicios y pagos de reubicación disponibles. Si usted tiene que mudarse como resultado de un proyecto de transportación de Caltrans, un Agente de Reubicación lo contactará. El Agente de Reubicación estará disponible para responderle preguntas específicas y darle información adicional.

Acta de Procedimiento Uniforme de Asistencia para Reubicación y Adquisición de Bienes Raíces de 1970, Emendada “El Acta Uniforme”

El propósito de esta Acta es de proveer uniformidad e igualdad de tratamiento a personas desplazadas de sus negocios, operaciones agrícolas, u organización no-lucrativa, por programas federales o programas asistidos con fondos federales, y de establecer uniformidad e igualdad en los procedimientos para adquisición de tierras para los programas federales y programas asistidos con fondos federales.

El Código de Regulaciones Federales 49, Parte 24 implementa el “Acta Uniforme” de acuerdo a los siguientes objetivos de asistencia de relocalización:

Para asegurar que las personas desplazadas como resultado directo de proyectos federales o proyectos asistidos con fondos federales sean tratados con justicia, consistencia e igualdad de tal manera que esas personas no sufran daños desproporcionados como resultado de los proyectos diseñados para el beneficio del público en general.

Mientras se ha hecho todo esfuerzo para asegurar la veracidad de este folleto, debe entenderse que no tiene la fuerza ni efecto de la ley, regla o regulaciones que gobiernan el pago de los beneficios. Si alguna diferencia o error resulta, la ley tomará precedencia.

Servicios de Reubicación

El Departamento de Transportación tiene dos programas para ayudar a negocios, granjas y organizaciones no-lucrativas que tienen que reubicarse. Estas son:

1. El Programa de Consejos de Asistencia de Reubicación, que es para ayudarle en localizar una propiedad de reemplazo conveniente, y
2. El Programa de Pagos para Reubicación, que le reembolsará de ciertos costos envueltos en la reubicación. Estos pagos están clasificados como:
 - Gastos Relacionados a Mudanza (costos de mover propiedad personal no adquirida).
 - Gastos de Reestablecimiento (gastos relacionados a la propiedad de reemplazo.)
 - Pagos Fijos (pago fijo en vez de los gastos de mudanzas y otros gastos relacionados, y gastos de reestablecimiento).

Nota: Pagos por pérdida de clientela es considerado un costo de adquisición. La ley de California y las regulaciones federales mandan que los pagos de reubicación no pueden duplicar otros pagos, como los pagos de pérdida de clientela.

Usted **no** puede ser elegible a recibir ningún pago de reubicación hasta que el Estado haya hecho la primera oferta escrita para comprar su propiedad. Usted también recibirá un aviso escrito por lo menos 90 días antes que se tenga que mover.

Algunas Definiciones Importantes...

Sus beneficios de relocalización pueden ser entendidos mejor si usted se familiariza con los siguientes términos:

Negocio: Cualquier actividad legal, con la excepción de operaciones agrícolas, conducida principalmente para la compra, venta, arrendamiento, y alquiler de bienes personales o bienes raíces, o para la fabricación, elaboración y/o mercadotecnia de productos, mercancías, u otros bienes personales, o solamente para el propósito de ésta Acta, un rótulo con anuncio o anuncios, cuando el rótulo(s) tenga(n) que ser movido(s) como resultado del proyecto.

Negocios Pequeños: Un negocio que tenga no más de 500 empleados trabajando en el lugar que esta siendo adquirido o desplazado por un programa o proyecto.

Contribuye Materialmente: Un negocio u operación agrícola debe de haber tenido un ingreso bruto en recibos de al menos \$5,000 o un promedio anual de ingreso netos de al menos \$1,000, para poder calificar como una operación de buena fé.

Operación Agrícola: Cualquier actividad conducida sola o primariamente para la producción de uno o más productos de agricultura o mercancías, incluyendo venta de madera, para la venta y uso en casa, y producción ordinaria de tales productos o mercancía en cantidades suficientes para tener la capacidad de contribuir materialmente al soporte del operario.

Organización No-lucrativa: Una entidad pública o privada que haya establecido su estado de organización no-lucrativa bajo las leyes aplicables.

Persona desplazada: Cualquier individuo o familia que se muda de una propiedad o mueva sus bienes personales de una propiedad como resultado de la adquisición de bienes raíces, en todo o en parte, o como resultado de una notificación escrita de una agencia para desocupar la propiedad que se necesita para un proyecto de transportación. En el caso de una adquisición parcial, Caltrans determinará si la persona es desplazada directamente como resultado de la adquisición.

Los residentes que no están legalmente en los Estados Unidos no son elegibles para recibir pagos y asistencia de reubicación.

Los beneficios de reubicación varían según el tipo y tiempo de ocupación. Como una persona desplazada de un unidad residencial usted puede ser clasificado como:

- Un dueño ocupante de una propiedad residencial (incluye casas movibles)
- Un inquilino ocupante de una propiedad Residencial (incluye casas movibles y cuartos para dormir)

GASTOS DE MUDANZA

Si usted califica como un negocio, operación agrícola, u organización no-lucrativa desplazada, usted puede recibir reembolso de los gastos de mudanza y ciertos gastos relacionados incurridos en la mudanza. Para calificar, usted tiene que ocupar la propiedad legalmente como dueño o inquilino cuando Caltrans inicie negociaciones para la adquisición de la propiedad, O al tiempo que Caltrans adquiera título, o tome posesión de la propiedad. Sin embargo, para asegurar su elegibilidad y el pronto pago de los gastos de mudanza, usted tiene que haber contactado a su Agente de Reubicación antes de que se mude.

Usted Puede Escoger Entre:

Gastos Razonables de Mudanza Actual – Usted tiene que haber pagado por sus gastos de mudanza razonables y gastos relacionados cuando una compañía comercial hace la mudanza.

El reembolso será limitado a mudanza de 50 millas o menos. Los gastos relacionados, con limitaciones, *pueden* incluir:

- Transportación.
- Empacamiento y desempacamiento de la propiedad personal.
- Desconexión y reconexión relacionada a la operación de la propiedad personal.
- Almacenamiento temporal de la propiedad personal.

Seguros mientras la propiedad está en almacenamiento o en tránsito, o la propiedad personal es perdida y dañada, si los seguros no son razonablemente disponible.

- Gastos en encontrar un lugar de reemplazamiento.
- Servicios profesionales para planificar y supervisar la mudanza de la propiedad personal al nuevo lugar.
- Licencias, permisos y honorarios requeridos en el lugar de reemplazamiento.

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Contrato de Mudanza Propia – Usted puede ser pagado por mover su propia propiedad personal basado en la más baja de dos ofertas aceptables obtenidas por Caltrans. Bajo esta opción, usted deberá todavía ser elegible para el reembolso de los gastos arriba relacionados que no fueron incluidos en la oferta

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Pago Fijo – Usted puede aceptar un pago fijo entre \$1,000 y \$20,000 basado en sus ganancias anuales EN VEZ de los costos y gastos relacionados de la mudanza.

Costos Actuales Razonables de Mudanza:

Pueden pagársele los gastos actuales razonables y necesarios de su mudanza si lo transporta con una compañía comercial de muebles y mudanzas. Todos sus gastos deben de ser respaldados con recibos u otra evidencia de gastos incurridos. Además de los gastos de transportación de su propiedad personal, ciertos otros gastos también pueden ser reembolsados, tales como empaque, embalaje, desempaque y desembalaje, desconexión, desmantelación, removimiento, reensamblamiento, y reinstalación de maquinaria relocalizada, equipos y otras propiedades personales. Otros gastos necesarios tales como servicios profesionales para planificar y supervisar la mudanza, almacenaje temporal y el costo para licencias, permisos y certificados también pueden ser reembolsables. Esta no es la intención de ser una lista inclusiva de todos los gastos relacionados de mudanza. Su Agente de Reubicación puede proveerle una explicación completa de los gastos reembolsables.

Contrato de Mudanza Propia

Si usted elige tomar la responsabilidad total o parcial para la mudanza de su negocio, operación agrícola, u organización no-lucrativa, Caltrans puede aprobar un pago sin exceder el presupuesto mas bajo de dos ofertas aceptables de una compañía comercial de muebles y mudanzas o por el Agente de Reubicación. Una mudanza a costo bajo o sin complicaciones puede ser basada en una sola oferta o estimado. En realidad, la ventaja de esta opción es que releva de la obligación al operador del negocio, operación agrícola u organización no-lucrativa desplazadas de documentar todos los gastos de mudanza. Caltrans puede hacer el pago sin documentación adicional siempre y cuando el pago sea limitado a la cantidad más baja aceptable de la oferta o del estimado. Otros gastos tales como servicios profesionales para planificar, costos de almacenaje y el costo de licencias, permisos, y certificados también pueden ser reembolsables si son necesarios. Estos gastos tienen que ser aprobados de ante mano por el Agente de Reubicación.

Requisitos:

Antes de que se mueva, usted tiene que proveer a Caltrans con:

- El inventario certificado de toda la propiedad personal que va a mover.
- La fecha que usted intenta desalojar la propiedad.
- La dirección de la propiedad de reemplazamiento.
- La oportunidad de supervisar e inspeccionar la mudanza desde la propiedad adquirada a la propiedad de reemplazo.

Gastos Relacionados

(1) **Gastos Para la Búsqueda de una Propiedad de Reemplazo** – Negocios, operaciones agrícolas, y organizaciones no-lucrativas tienen derecho a un reembolso por gastos actuales razonables, incurridos en la búsqueda de una propiedad de reemplazo, sin exceder \$1,000. Los gastos pueden incluir transportación, alimento y alojamiento cuando esté lejos de su casa; el valor razonable del tiempo que ha gastado buscando una propiedad de reemplazo; los honorarios pagados a agentes de bienes raíces o asesores; y otros gastos determinados por Caltrans como razonables y necesarios.

(2) **Pérdidas Directas de Bienes Personales Tangibles:** Los negocios, operaciones agrícolas, y organizaciones no-lucrativas desplazadas pueden ser elegibles para un pago por pérdidas directas de bienes personales tangibles incurrido como resultado de la mudanza o discontinuación de la operación. Este pago deberá ser basado en el menor de:

(a) El valor de mercado de un producto para uso continuo en el sitio de desplazamiento menos la ganancia por su venta.

O

(b) El costo estimado de mudanza y reinstalación de los objetos reemplazados es basado en la oferta mas baja o el estimado obtenido por Caltrans para mudanza elegible y costos relacionados, incluyendo desmantelamiento y reemsamblaje, pero sin pago por almacenamiento.

POR EJEMPLO:

Usted determina que el "cortador de documentos" no puede ser movido a la nueva localidad por su condición, y usted no lo va a reemplazar en la nueva localidad.

El Valor de Mercado del Cortador de Documentos basado en su uso actual en la localidad actual es de	\$1,500
Ganancia: Precio recibido por la venta del Cortador de Documentos	- \$ 500
Valor Neto	\$1,000

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El costo estimado de moverlo	\$ 1,050
Basado en el "menor de", la cantidad de la "Pérdida de Propiedad Personal Tangible"	= \$ 1,000

Nota: *Usted tambien tiene derecho a todos los costos razonables incurrido en su esfuerzo por vender el cortador de documentos (por ejemplo, anuncio commercial)*

(3) **Compra de Substitución de la Propiedad Personal:** Si un objeto de propiedad personal, el cual es usado como parte del negocio, la operación agrícola, o la organización no-lucrativa, no es movido pero es prontamente reemplazado con un objeto sustituto que hace una función comparable en el sitio de reemplazo, el desplazado tiene derecho al menor de:

(a) El costo de un objeto sustituto, incluyendo los costos de instalación en el sitio de reemplazo, menos cualquier ganancia por la venta o intercambio del objeto reemplazado.

O

(b) El costo estimado de mudanza y reinstalación del objeto de reemplazo, basado en la oferta mas baja aceptable o el estimado obtenido por Caltrans para una mudanza elegible y gastos relacionados, incluyendo el desmantelamiento y reensamblaje, pero sin pago por almacenamiento

EJEMPLO A:

Usted puede determinar que la máquina copiadora no puede ser movida a la nueva localidad porque es ahora obsoleta y la va a reemplazar.

Costo de substituir una Máquina Copiadora incluyendo costos de instalación en el sitio de reemplazamiento.	\$ 3,000
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Pago por el Intercambio	<u>-\$ 2,500</u>
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Valor Neto	\$ 500
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O

Costo estimado de la mudanza	\$ 550
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Basado en el "menor de" la cantidad de "La Propiedad Personal Substituida"	\$ 500
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EJEMPLO B:

Usted determina que las sillas no van a ser usadas en la nueva localidad, porque ya no combinan con la decoración, y usted las quiere reemplazar.

Costo de la sillas substitutas	\$ 1,000
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Ganancias: Por la venta de las Sillas	<u>-\$ 100</u>
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Valor Neto	\$ 900
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O

Costo estimado de la mudanza	\$ 200
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Basado en el "menor de", la cantidad de "La Propiedad Personal de Substitución"	\$ 200
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***NOTA:** Usted también tiene derecho a todos los gastos razonables incurridos en su esfuerzo por vender la copiadora (Ejemplo A) o las sillas (Ejemplo B).*

(4) **Desconexión y Reinstalación:** Usted va a ser reembolsado por los costos actuales y razonables de desconexión, desmantelamiento, mudanza, reensamblaje, e reinstalación de cualquier maquinaria, equipo u otra propiedad personal en relación a la mudanza a su nuevo local. Esto incluye conexión a los servicios públicos disponibles en el lugar y a cualquier modificación de los objetos personales que sean necesario para adaptar a los servicios públicos en el sitio de reemplazamiento.

(5) **Cambios Físicos en el nuevo local:** Usted puede ser reembolsado por ciertos cambios físicos de la propiedad de reemplazamiento si los cambios son necesarios para permitir la reinstalación de la maquinaria o equipo necesario para la continua operación del negocio.

***Nota:** Los cambios no pueden incrementar el valor del edificio para propósitos generales, tampoco pueden incrementar la capacidad mecánica de los edificios más allá de los requerimientos normales.*

Gastos De Reestablecimiento

Un pequeño negocio, operación agrícola, u organización no-lucrativa puede ser elegible para un pago, que no exceda \$10,000, para los gastos actuales incurridos en la reubicación y el reestablecimiento en el sitio de reemplazo.

Gastos de reestablecimiento pueden incluir, pero no están limitados a, lo siguiente:

1. Reparación y mejoramiento de la propiedad de reemplazamiento requerido por las leyes, códigos, u ordenanzas federales, estatales o locales.
2. Modificaciones de la propiedad de reemplazamiento para hacer la estructura(s) apropiado para la operación del negocio.
3. Construcción e instalación de los letreros exteriores para anunciar el negocio.
4. El costo de instalación de servicios públicos desde la línea del derecho de vía a la estructura(s) o mejoramientos en el sitio de reemplazamiento.

5. Redecoración o reemplazamiento como pintura, tapizado de pared, paneles, o carpetas cuando sean requeridas por la condición del sitio de reemplazo o con propósitos estéticos.
6. El costo de licencias, honorarios, y permisos cuando no sean cubiertos como gastos de mudanza.
7. Estudios de mercado, estudios de factibilidad y exámen de suelo.
8. Anunciar la localidad del nuevo negocio.
9. Servicios profesionales de bienes raíces necesarios para la compra o la renta de un lugar de reemplazo.
10. El aumento del costo estimado de operación en el lugar de reemplazo durante los primeros dos años, por objetos como:
 - a. Cargas de rentas,
 - b. Impuestos de propiedad personal o propiedad real
 - c. Prima de seguros, y
 - d. Carga de servicios públicos (excluyendo honorarios de impacto).
11. Evaluación de una-vez o honorarios de impacto por alta utilización de servicios públicos.
12. Otros objetos que el Departamento considere esenciales para el reestablecimiento del negocio ú operación agrícola.

Pago De Una Vez (O Pago Fijo)

Negocios que han sido desplazados, operaciones agrícolas, y organizaciones no-lucrativas podrían ser elegibles para un pago fijo (en vez de) por los gastos actuales de mudanza, pérdida de propiedad personal, gastos de búsqueda, y gastos de reestablecimiento. Los pagos fijos no podrán ser menos de \$1,000 o más de \$20,000.

Para que un negocio sea elegible por un pago fijo, Caltrans debe de determinar lo siguiente:

1. El negocio posee o renta propiedad personal que debe de ser movida debido al desplazamiento.
2. El negocio no puede ser relocalizado sin una pérdida substancial de la clientela existente.
3. El negocio no es parte de un empresa comercial que tiene mas de tres otros negocios conectados en una misma o actividad similar, las cuales están bajo el mismo dueño y no están siendo desplazadas por el Departamento.
4. El negocio contribuyó materialmente a las ganancias del operador del negocio desplazado durante los dos años anteriores al desplazamiento.

Cualquier operación del negocio que está conectado solamente en la renta del espacio de otros, no es elegible para un pago fijo. Esto incluye la renta de espacio con propósitos residenciales o de negocios.

Los requerimientos de elegibilidad para las operaciones agrícolas y organizaciones no-lucrativas son un poco diferentes a los requerimientos para negocios. Si usted está siendo desplazado de una granja o usted representa una organización no-lucrativa y está interesado en un pago fijo, por favor consulte con su consejero de reubicación para información adicional.

La computación de Su Pago Fijo

El pago fijo para un negocio desplazado o una operación agrícola es basado en el promedio anual neto de ganancias de la operación por los dos años inmediatamente precedentes al año en el cual fue desplazado. Caltrans puede usar un período de dos años diferentes, si se determina que los dos últimos años no reflejan con certeza las ganancias de la operación.

EJEMPLO: Caltrans adquiere su propiedad y usted se mueve en el 2001:

1999 Ganancias Netas Anuales	\$10,500
2000 Ganancias Netas Anuales	<u>\$12,500</u>
TOTAL	\$23,000
Promedio de los dos años	\$11,500

Este podría ser la cantidad de su pago fijo. Recuerde – esto es “en vez de” todos los otros beneficios de mudanza. Usted tendrá que proveer Caltrans pruebas de las ganancias netas para verificar su reclamo.

Prueba de las ganancias netas pueden ser documentas con sus declaraciones de impuestos, cartas financieras certificadas, u otra evidencia razonable de las ganancias netas aceptables por Caltrans.

Nota: La computación de las organizaciones no-lucrativas difiere en que los pagos son computados en la base del promedio anual grueso de las ganancias menos los gastos administrativos por el período de los dos años especificados arriba.

Antes de que se Mueva:

- A. Complete una forma de “Aplicación para Determinación de sus Derechos” que la puede obtener de su Agente de Reubicación, y devuélvala con la mayor prontitud posible.
- B. Incluya una declaración escrita de las razones por las cuales su negocio no puede ser reubicado sin una pérdida substancial en la ganancias netas.
- C. Provea una copia certificada de su declaración de impuestos de los dos años inmediatamente precedentes al año en el que se va a mover. (Si usted se mueve en cualquier momento en el año 2001, sin importar de cuando comenzaron las negociaciones o cuando el Estado tomó título de su propiedad, los años serán el de 1999 y el 2000.
- D. Usted deberá ser notificado de la cantidad a la que tiene derecho después que la aplicación es recibida y aprobada.
- E. Usted no puede recibir un pago hasta que se haya movido de la propiedad, Y que haya entregado un reclamo de pago dentro de los 18 meses de la fecha de mudanza.

Asistencia de Asesoría de Reubicación

A cualquier negocio, operación agrícola, u organización no-lucrativa, desplazado por Caltrans debe de ofrecerle los servicios de asistencia de reubicación con el propósito de localizar una propiedad de reemplazamiento. Los servicios de reubicación deben de ser proveídos por un empleado de Caltrans. Es la meta y el deseo de nosotros de servirle y asistirle en cualquier manera posible para ayudarle a reubicarse exitosamente.

Un Agente de Reubicación de Caltrans se comunicará con usted personalmente. Los servicios de reubicación y los pagos deberán ser explicados a usted de acuerdo con su elegibilidad. Durante la entrevista inicial con usted, sus necesidades y deseos deberán determinarse así como su necesidad de asistencia.

Usted puede esperar recibir los siguientes servicios, consejos, y asistencia de su Agente de Reubicación quien le:

- Determinará sus necesidades y preferencias.
- Explicará los beneficios de reubicación y su elegibilidad.
- Proveerá información en las propiedades de reemplazo para su consideración.
- Proveerá información en aconsejarle como puede obtener ayuda para minimizar la adversidad en ajustarse a su nuevo local.
- Asistirá en completar los documentos de préstamos, aplicaciones de rentas o Formas de Reclamos de Reubicación.

Y puede proveerle información en:

- Depósitos de seguridad.
- Taza de intereses y términos.
- Pagos típicos de enganches.
- Permisos, honorarios, y ordenanzas locales.
- Requerimientos de préstamos SBA
- Impuestos de bienes raíces.
- Literatura de educación al consumidor.

Si usted desea, su Agente de Reubicación le dará una lista actual de otras propiedades de reemplazamiento que estén disponibles. Se le proveerá transportación para inspeccionar la propiedad disponible, especialmente si usted es anciano o discapacitado. Aunque usted puede usar los servicios de un vendedor de bienes raíces, Caltrans no lo puede referir a un agente específico.

Su Agente de Reubicación está familiarizado con los servicios proveído por otros en su comunidad y le proveerá información de otros programas federales, estatales y locales que ofrecen asistencia a las personas desplazadas. Si usted tiene necesidades especiales, su Agente de Reubicación hará un esfuerzo para asegurar los servicios del personal entrenado de estas agencias que tienen la experiencia para ayudarle.

Si el proyecto de carreteras requiere que un número considerable de personas sean reubicadas, Caltrans establecerá Oficinas temporales de Reubicación en o cerca del proyecto. Las oficinas de proyectos de reubicación serán abiertas durante las horas convenientes y hasta horas de la noche si es necesario.

Además de estos servicios, Caltrans será requerido a coordinar las actividades de reubicación con otras agencias causantes de desplazamiento para asegurar que todas las personas desplazadas reciban beneficios de reubicación iguales y consistentes.

Recuerde – Su Agente de Reubicación está ahí para ofrecer consejos y asistencia. No tenga dudas en preguntar. Y esté seguro que usted entiende completamente todos los derechos y beneficios disponibles.

SUS DERECHOS COMO UNA PERSONA DESPLAZADA

Es importante que recuerde que los beneficios de reubicación no tendrán un efecto adverson en su:

- Elegibilidad para Seguro Social
- Elegibilidad para Asistencia Social
- Declaración de Impuestos.

Además, el **Título VIII del Acta de Derechos Civiles de 1968**, y las actas anteriores y sus enmiendas hacen ilegal las prácticas en la venta y renta de las unidades residenciales que estén basadas en la raza, color, religion, sexo, u origen nacional.

Los Procedimientos No-Discriminatorios de Caltrans aseguran que todos los servicios y/o beneficios sean administrados al público en general sin diferencia de raza, color, origen nacional, o sexo en cumplimiento con el Título VI del Acta de Derechos Civiles de 1964. (42 USC 2000 (d.) et seq.).

Y usted siempre tiene el **Derecho de Apelar** una decisión de Caltrans en relación a sus beneficios de reubicación y elegibilidad.

Su Derecho de Apelación es garantizado en la "Ley Uniforme" que establece que una persona puede apelar con el responsable de la agencia si esta persona cree que la agencia ha fallado en determinar apropiadamente la elegibilidad de la persona o la cantidad de un pago autorizado por la Ley.

Si usted indica su disatisfacción, ya sea verbalmente o por escrito, Caltrans puede asistirle en entregar su caso y explicar los procedimientos a seguir. A usted le darán la oportunidad de ser oído pronta y totalmente. Usted tiene el derecho de ser representado por un consejero legal u otro representante en conección con la apelación (pero solamente a su propio costo.)

Caltrans puede considerar todas las justificaciones pertinentes y materiales entregadas por usted y cualquier otra información disponible que sea necesaria para asegurar una revisión justa. Caltrans le proveerá con una determinación de la apelación por escrito con una explicación de la base de la decisión. Si usted todavía no está satisfecho con la asistencia prestada, Caltrans le aconsejará que usted puede buscar una revisión judicial.

Noticiero de la Ley para Americanos con Incapacidades Físicas (ADA):

Para personas con incapacidades físicas, este documento es disponible en formatos alternativos. Para Información llame al número (916) 654-5413 Voz, CRS: 1-800-735-2929, o escriba a Derecho de Vía, MS 37, 1120 N Street, Sacramento, CA 95814.

NOTAS:

Appendix D Glossary of Technical Terms

Landscape unit: A subdivision of the viewshed's landscape setting. Each landscape unit is relatively homogeneous in physical and visual characteristics. Landscape units are used to evaluate physical changes within the viewshed and related visual impacts.

Liquefaction: Involves a sudden loss in strength of a saturated, cohesionless soil (predominantly sand) caused by cyclic loading such as an earthquake. This results in temporary transformation of the soil to a fluid mass. Typically, liquefaction occurs in areas where groundwater is less than 50 feet (ft) from the surface and where the soils are composed of predominantly poorly consolidated sands.

Maximum Credible Earthquake: Defined as the largest earthquake that can be expected to occur on a fault over a particular period of time.

Paleontology: The study of life in past geologic time based on fossilized plants and animals.

Seismic Compaction: A phenomenon in which loose, partly saturated sands tend to settle or densify during earthquake shaking.

Viewer Group: A group of persons that might be affected by the introduction of a project into a viewshed based on location, activity, and length of exposure to a view. These viewer groups will respond differently to the same visual changes based on their visual preferences. Viewer response to physical changes in the visual environment affects the perceived level of change or visual impact.

Viewshed: The surface area that is visible from a variety of viewpoints. It extends to all areas that have a view of and from a project site and identifies potential views that a project could affect.

Visibility or Viewshed: The area from which a project can be seen and the area that can be seen by a project. The viewshed establishes the visual study area for a project and is affected by topography, vegetation, and structures. The viewshed for the I-10/Cedar Interchange project was mapped by driving through and around the study area to determine what could be seen from the project site and from what areas the project site could be seen.

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Appendix E Environmental Commitments Record/Mitigation Monitoring and Reporting Program

The California Environmental Quality Act (CEQA), Public Resources Code Section 21081, and Sections 15091 and 15097 of the CEQA Guidelines require that a Mitigation Monitoring and Reporting Program (MMRP) be adopted when the Lead Agency (in this case the California Department of Transportation [Caltrans] District 8) adopts an environmental document. The purpose of the Environmental Commitments Record (ECR)/MMRP provided in this section is to fulfill this requirement under CEQA and to assign responsibility for the implementation, monitoring, and timing of each mitigation measure that has been identified to reduce an identified environmental impact to a less than significant level. The Lead Agency is required to ensure compliance with each of the adopted avoidance, minimization, and mitigation measures listed in the ECR/MMRP because additional significant adverse environmental impacts could result from the project if these measures are not implemented. The County of San Bernardino (a Responsible Agency under CEQA) will administer the design, ROW acquisition, and construction of the project. Therefore, all the avoidance, minimization, and mitigation measures listed in the ECR/MMRP will be the responsibility of the County to implement.

The attached table lists each of the project's environmental impacts identified in the environmental document and includes the corresponding avoidance, minimization, and mitigation measures required to reduce or eliminate the project's significant adverse environmental impacts, where possible. The three columns on the right side of the table list the timing of the measures and the Department(s) responsible for ensuring that the measure is implemented. The far-right column is left blank to allow staff to add the verification date of each measure. This column should be used as a reference for verifying that each of the mitigation measures is implemented and that ongoing measures are regularly checked. Once the project is constructed, a report will be submitted to Caltrans reporting on the project's compliance with the mitigation measures.

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Avoidance, Minimization, and/or Mitigation Measures	Date
LAND USE					
L-1	During the Plans, Specifications, and Estimates (PS&E) phase of the project and ongoing during construction, the County of San Bernardino will implement the following to protect the recreational values associated with Washington Alternative Middle School: <ul style="list-style-type: none"> Reconstruction of the existing chain-link fence (if necessary) between the sidewalk and the basketball courts. Exclusionary fencing will be installed during construction activities to limit the areas of disturbance. 	County	During final design and construction	--	--
GROWTH					
--	The project would not result in adverse impacts related to growth. No avoidance, minimization, or mitigation measures are required.	--	--	--	--
FARMLANDS AND TIMBERLANDS					
--	The project would not result in adverse impacts related to farmlands and timberlands. No avoidance, minimization, or mitigation measures are required.	--	--	--	--
COMMUNITY IMPACTS, RELOCATION, AND ENVIRONMENTAL JUSTICE					
CI-1	The Uniform Relocation Assistance and Real Property Acquisitions Policies Act (Uniform Act) of 1970 (Public Law 91-646, 84 Statutes 1894) mandates that certain relocation services and payments be made available to eligible residents, businesses, and nonprofit organizations displaced by its projects. The Uniform Act provides for uniform and equitable treatment by federal or federally assisted programs of persons displaced from their homes, businesses, or farms, and establishes uniform and equitable land acquisition policies. The County of San Bernardino shall provide affected property owners with a copy of the Uniform Act.	San Bernardino County	During final design		
CI-2	Where acquisition and relocation are unavoidable, the provisions of the Uniform Act and the 1987 Amendments as implemented by the Uniform Relocation Assistance and Real Property Acquisition Regulations for Federal and Federally Assisted Programs adopted by the United	San Bernardino County	During final design		

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Avoidance, Minimization, and/or Mitigation Measures	Date
	States Department of Transportation (March 2, 1989) would be followed. An independent appraisal of the affected property will be obtained, and an offer for the full appraisal would be made.				
CI-3	The Uniform Relocation Assistance and Real Property Acquisitions Policies Act (Uniform Act) requires that comparable, decent, safe, and sanitary replacement housing that is within a person's financial means be made available before that person may be displaced. In the event that such replacement housing is not available for persons displaced by the project within statutory limits for replacement housing payments, Last Resort Housing may be provided in a number of prescribed ways.	San Bernardino County	During final design		
CI-4	If comparable properties are not available for the potentially displaced businesses, opportunities for relocation will need to be assessed outside the community of Bloomington. An estimate of the business costs will need to be determined between the California Department of Transportation (Caltrans) and the business owners to determine just compensation for the business. Business relocation efforts should be made in coordination with the San Bernardino County Planning Department.	San Bernardino County	During final design		
UTILITIES AND EMERGENCY SERVICES					
U-1	If during final design, it is determined that specific utilities will need to be relocated outside of existing state ROW, additional studies will be conducted as necessary and any additional measures determined to be warranted will be implemented.	County and the construction contractor	During final design and construction	--	--
U-2	Prior to any underground construction, all contractors will contact the statewide Call-Before-You-Dig System to determine the exact location of any and all underground utilities. This clause will be included in the construction specifications.	County and the construction contractor			
--	Mitigation Measure TRA-1, below, addresses potential short-term impacts on emergency services providers.	--	--	--	--

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Avoidance, Minimization, and/or Mitigation Measures	Date
TRAFFIC AND TRANSPORTATION/PEDESTRIAN AND BICYCLE FACILITIES					
TRA-1	<ul style="list-style-type: none"> • The Traffic Management Plan (TMP) will be prepared by Caltrans in consultation with the County prior to completion of Plans, Specifications, and Estimates (PS&E), and will consist of but not be limited to the following standard measures to alleviate traffic inconvenience caused by construction activities: • Traffic Control: This project will require traffic control elements such as lane/shoulder closures and temporary signing/stripping on local streets, the I-10 ramps, and the I-10 mainline. The construction of bridge columns in the median will require the use of narrow lanes 11 feet (ft) and use of parts of the outside shoulders as general-purpose lanes to maintain the general-purpose travel lanes in each direction during construction. • Construction Zone Enhanced Enforcement Program (COZEEP): Through coordination with Caltrans and the California Highway Patrol (CHP), this program was developed to provide a safer work zone for construction workers and the motoring public. The program uses two CHP officers who enforce lane closures and also provide a visual deterrent to errant/speeding vehicles. • Public Awareness Campaign (PAC): Although the majority of the major closures will occur at night, vehicles traveling through the construction zone will likely experience longer than normal delays. To reduce these delays and confusion to the motoring public during construction activities, San Bernardino County, in conjunction with Caltrans, will implement a PAC. The purpose of the PAC is to keep the surrounding community abreast of the project's progress and construction activities that could affect its travel plans. The use of mailers/flyers, local newspaper advertising, local radio information, and 	Caltrans	During final design and construction		

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Avoidance, Minimization, and/or Mitigation Measures	Date
	<p>public meetings, as appropriate, should be effective tools for disseminating this information.</p> <ul style="list-style-type: none"> • Signing: Post information signing on I-10 and the local arterials prior to and during construction to inform motorists of delays, ramp closures, and alternate travel routes. • Pedestrian, Americans with Disabilities Act (ADA), and Bicycle Access: Cedar Avenue is designated as a Class II bike lane or Class III bike route per the San Bernardino County Nonmotorized Transportation Plan - 2001 Update. This project proposes to provide adequate shoulder width on both sides of Cedar Avenue from Valley Boulevard to Slover Avenue to meet the Class II bike route requirements. Bike route signs will be installed where appropriate per County's standard. Sidewalks at each intersection will be constructed with curb ramps and designed in accordance with ADA requirements during final design phase. A pedestrian detour plan shall be provided to accommodate sidewalk closures, and pedestrian, ADA, and bicycle access shall be accommodated during construction activities. • Construction Timing and Phasing: The project construction will occur in two phases to maintain local traffic through the interchange during construction. The first stage includes widening both the freeway and railroad bridges, extending the existing 14 ft diameter culvert, and constructing retaining and sound walls. All traffic movement within this stage will remain unchanged, with minor changes on the lane configuration. The second stage includes widening the on- and off-ramps; Cedar Avenue and Slover Avenue pavement; traffic signal work; and drainage system modifications. Specific details will be prepared during the final design phase of the project. 				

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Avoidance, Minimization, and/or Mitigation Measures	Date
VISUAL AND AESTHETICS					
V-1	During construction, the County of San Bernardino (County) will ensure that construction and staging areas are located within County and/or Union Pacific Railroad (UPRR) rights-of-way and that construction access and staging are within the maximum project disturbance footprint. Staging shall occur outside of the State right-of-way (ROW). A staging area outside the State ROW includes the undeveloped area located south of the UPRR, north of Orange Street, and west of Cedar Avenue.	San Bernardino County	During final design and construction		
V-2	<p>The County of San Bernardino (County) will ensure that the project is constructed in accordance with the California Department of Transportation (Caltrans) Standard Construction Specifications, which include measures to reduce visual impacts, noise, and air pollution emissions during construction. A phased construction program would be implemented to allow for the continuation of local circulation through the project area during construction. The construction plan would comply with the following San Bernardino County General Plan (County 1999) goals to avoid adverse impacts related to visual resources:</p> <ul style="list-style-type: none"> • Require removal of nonconforming signs per County sign ordinance standards for new uses or substantial revisions to existing uses. • Encourage undergrounding of all utility facilities for all projects requiring discretionary or ministerial action. 	San Bernardino County	Final design		
V-3	The County of San Bernardino (County) will ensure that a landscape plan is incorporated into the final design of the Interstate 10 (I-10)/Cedar Avenue Interchange project. This plan would identify opportunities to use areas within the project limits for revegetation. This plan would include landscaping for graded areas with plant species consistent with adjacent vegetation and enhancement of	San Bernardino County	Final design		

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Avoidance, Minimization, and/or Mitigation Measures	Date
	<p>new project structures (overcrossing, sound walls, and retaining walls). This plan is part of the project mitigation for loss of trees and shall be implemented in conjunction with the full landscape project. A separate landscape project will be funded by the parent project with a separate Expenditure Authorization (EA) for mitigation. This plan would incorporate all applicable procedures and requirements as detailed in the California Department of Transportation (Caltrans) <i>Highway Design Manual</i>, Section 902.1B Planting Guidelines (November 2001), the County General Plan, and the planting design criteria in the <i>I-10 Corridor Planting Master Plan</i> (January 1995, The Dike Partnership, Inc.), as presented in Mitigation Measures V-4 and V-5, below.</p>				
V-4	<p>The County of San Bernardino (County) will ensure that the landscape plan incorporates the following San Bernardino County and Valley Region landscaping planting design guidelines from the <i>San Bernardino County Administrative Design Guidelines</i> (County 2002), where feasible:</p> <ul style="list-style-type: none"> • Planting design should coordinate new plant materials and their growth requirements with the climate, soil, orientation, water courses, existing vegetation, fire prevention needs, related natural resources, and manmade facilities. • Maintenance-intensive landscaping should be held to a minimum and located near primary use areas. • Native plant materials or locally adaptable drought-tolerant plantings capable of surviving the prevailing climatic and soil conditions with a minimum of supplemental water will be used. Any plant materials meeting these criteria may be used in the landscape design, providing the Estimated Water Use (EWU) of the project does not exceed the Maximum Applied Water Allowance (MAWA). 	San Bernardino County	Final design and construction		

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Avoidance, Minimization, and/or Mitigation Measures	Date
	<ul style="list-style-type: none"> • To reduce evaporation, competition for water, weed growth, and damage to trees and shrubs, the use of mulch in shrub areas and within 18 inches of tree trunks is strongly encouraged. • New plant materials should represent a good planting variety. Use of one predominant species should be avoided to prevent spread of disease. • Plants having similar water use requirements should be grouped according to water requirements. • Turf areas should be minimized, and turf areas requiring motorized maintenance shall be limited to 50 percent of all parts of the site requiring groundcover. The exception to this would be large recreational areas where the specific use dictates the need for turf, such as a playing field. • Any trees/shrubs should be planted so as not to conflict with planned or existing overhead utility lines or any clear sight triangle. • Any trees planted should be located not less than 25 feet (ft) from the beginning of curb returns at intersections, 10 ft from street lights, 10 ft from fire hydrants, and 10 ft from driveways. • Healthy, existing plant materials should be used to meet landscape requirements wherever possible. All existing trees should be retained on site unless otherwise approved in writing by the County Planning Division or the proper removal permit is granted. • The quantity of trees, shrubs, and groundcover would be sufficient to fulfill the requirements of the property as interpreted by the County Planning Division, based on professional site design analysis and customary planting treatments in the general locale. <p><i>Valley Region Landscape Plan Guidelines</i></p> <ul style="list-style-type: none"> • Existing trees removed to accommodate development should be replaced at the rate of 2:1. Fruit- or nut-bearing trees planted in groves shall be exempt from 				

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Avoidance, Minimization, and/or Mitigation Measures	Date
	<p>this provision. Replacement trees shall be a minimum 15-gallon size.</p> <ul style="list-style-type: none"> • Recommended plant materials include but are not limited to deciduous and evergreen varieties that are drought tolerant or native. NOTE: Existing native trees with a 6 inches or greater stem diameter of 19 inches in circumference measured at 4.5 feet above the average ground level of the tree base shall not be removed except under permit from the County and in accordance with any applicable ordinance, except as provided for herein. For the Valley Region, native trees are defined as three or more palm trees in linear plantings 50 ft or greater in height in established historic windrows, or parkway plantings considered heritage trees. • All building setback areas would be landscaped except for sites where no disturbance of the natural terrain within a setback is proposed, and the natural terrain precludes setback landscaping (e.g., mountainsides or hillsides). • All slopes 5:1 ratio or greater, cut slopes 5 ft vertical height or greater, and fill slopes 3 ft vertical height or greater would be protected against damage from erosion. Ground cover requiring minimal or no irrigation, hardscape, or any combination thereof may be used. Trees and shrubs would be provided on slopes of 15 ft vertical height or greater, spaced sufficiently to allow adequate growth, and in visually attractive groupings. • Adequate irrigation systems will be necessary to maintain plant materials in a healthy state. Irrigation will be provided by aerial and nonaerial water-serving methods. 				

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Avoidance, Minimization, and/or Mitigation Measures	Date
V-5	<p>The County of San Bernardino, in coordination with the District Landscape Architect, will ensure that the final project design incorporates the following historic windrow enhancement and planting guidelines for the interchange improvements as provided in the <i>I-10 Corridor Planting Master Plan</i> (January 1995):</p> <ul style="list-style-type: none"> • Infill of Existing Historic Windrows: Where feasible, infill plantings shall be provided at voids within the existing historic windrows. It is also recommended that single rows of eucalyptus be augmented with two or three rows of plantings to further enhance the effectiveness of the historic windrow. In areas where visibility is required for a sign, windrows can be planted behind the sign, continuing the essential wind abatement function. Infill shall be accomplished using 1-gallon eucalyptus container plants installed in a consistent, linear alignment with the existing trees, at 10 ft on center. These trees shall be provided with water on a regular basis during establishment, if located in an area without a permanent irrigation system. • Establishment of New Windrows: New windrows shall be installed using 1-gallon eucalyptus container plants planted at 10 ft on center. Where feasible, the trees shall be installed on a consistent linear alignment and shall be set at 30 ft from the edge of the outside travel lane, or along the outside of the right-of-way (ROW) fence, where there is insufficient setback within the ROW. • All oleanders shall be removed from the project and not replanted. • The existing tree plantings in the interchanges at Cherry, Citrus, and Cedar Avenues shall be augmented with additional tree planting. At least 50 percent of these trees shall be deciduous; 50 percent would be small evergreen trees. These 	San Bernardino County	Final design and construction		

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Avoidance, Minimization, and/or Mitigation Measures	Date
	<p>trees shall be planted in compliance with Caltrans sight distance setbacks and outside the minimum 30 ft landscape setback. These trees shall be grouped in informal clusters.</p> <ul style="list-style-type: none"> • Texture and color contrast shall be provided in the groundplane within these interchanges with bands of flowers, low shrubs, and characteristic rock cobble and inert materials such as decomposed granite. These bands shall be scaled appropriate to the slope conditions of each interchange. A minimum of three contrasting materials shall be used on the groundplane of each interchange. • The following plant palette shall be applied: <p>Trees: <i>Eucalyptus camaldulensis</i> (red gum) <i>Eucalyptus sideroxylon</i> (pink ironbark) <i>Phoenix canariensis</i> (Canary Island date palm) <i>Cedrus deodara</i> (Deodar cedar) <i>Jacaranda mimosifolia</i> (Jacaranda) <i>Logerstromia indica</i> (Crape Myrtle)</p> <p>Shrubs: <i>Raphiolepis indica</i> (India Hawthorn) <i>Cistus purpureus</i> (Orchid Spot Rockrose) <i>Cassia artemisioides</i> (Feathery Cassia) <i>Phormium tenax</i> (New Zealand flax)</p> <p>Ground Cover: <i>Rosmarinus officinalis</i> (Rosemary) <i>Lantana monteriensis</i> (Lantana "New Gold")</p>				

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Avoidance, Minimization, and/or Mitigation Measures	Date
V-6	The County of San Bernardino will ensure that additional landscape improvements are planted within the project limits to mitigate for the removal of eucalyptus trees along the north side of the eastbound off-ramp. The types and locations of these improvements would be determined during final design.	San Bernardino County	Final design and construction		
V-7	The County of San Bernardino will ensure that a plan to implement attractive walls, medians, and other visually pleasing hardscape would be incorporated into the final design of the Interstate 10 (I-10)/Cedar Avenue Interchange project. The final height of any required sound walls would be determined following public review of the project during final design.	San Bernardino County	Final design and construction		
V-8	<p>The County of San Bernardino will ensure that walls will be incorporated in the final design according to the Interstate 10 (I-10) Corridor Planting Master Plan. The presence of sound walls, retaining walls, and other walls along I-10 provides an opportunity to create a unique regional feature for this corridor. The design of these walls requires compliance with California Department of Transportation (Caltrans) standards for sound attenuation (where the walls provide that function), safety requirements, and other pertinent standards. The wall design would also include the following features:</p> <ul style="list-style-type: none"> • Visual consistency with regard to exterior treatment, regardless of function, to provide an expression of the regional sense of place. • Plantings incorporated to the maximum extent feasible, especially vines, to cover wall spans susceptible to graffiti. • Exterior retaining wall surface treatment with a cobble texture to reflect the area's rural character and ecological heritage. 	San Bernardino County	During final design and construction		

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Avoidance, Minimization, and/or Mitigation Measures	Date
V-9	The County of San Bernardino (County) will ensure that lighting fixtures will be designed to minimize glare on adjacent properties and into the night sky. Lighting would be shielded with nonglare hoods and focused within the project right-of-way (ROW). A lighting plan would be reviewed and approved by the County and Caltrans prior to approval of construction to ensure compliance with these criteria.	San Bernardino County	During construction		
CULTURAL RESOURCES					
	If cultural materials are discovered during construction, all earthmoving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and importance of the find.	San Bernardino County and the construction contractor	Immediately upon discovery of cultural materials during construction		
	If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbance and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to Public Resources Code (PRC) Section 5097.98, if the remains are thought to be Native American, the Coroner will notify the Native American Heritage Commission (NAHC), who will then notify the Most Likely Descendant (MLD). At this time, the person who discovered the remains will contact the San Bernardino County Project Manager and Caltrans District 8 Environmental Planning Branch so that he/she may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.	San Bernardino County and the construction contractor	Immediately upon discovery of human remains during construction		
HYDROLOGY AND FLOODPLAINS					
HY-1	Prior to approval of the Plans, Specifications, and Estimates (PS&E), the County of San Bernardino will review and approve a final hydrology analysis. The hydrology analysis will identify any on-site structures or modifications of existing drainage facilities necessary to accommodate the project and shall indicate project	San Bernardino County	Prior to approval of PS&E		

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Avoidance, Minimization, and/or Mitigation Measures	Date
	contributions to the regional storm water drainage system. These improvements will be shown on the final construction plans and specifications and will show all structural best management practices (BMPs).				
WATER QUALITY AND STORM WATER RUNOFF					
WQ-1	The County of San Bernardino will comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) General Permit, Waste Discharge Requirements for Discharges of Storm Water Runoff associated with Construction Activity, Order No. 99-08-DWQ, NPDES No. CAS000002, and any subsequent permit or individual permit if required by the Santa Ana Regional Water Quality Control Board (SARWQCB) as they relate to construction activities for the project. This shall include submission of a Notice of Intent to the State Water Resources Control Board at least 30 days prior to the start of construction, preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP), and submission of a Notice of Termination to the SARWQCB on completion of construction and stabilization of the site.	San Bernardino County	Prior, during, and on completion of construction		
WQ-2	The County of San Bernardino shall comply with the provisions of the General Waste Discharge Requirements for Discharges to Surface Waters that Pose and Insignificant (De Minimus) Threat to Water Quality, Order No. R8-2003-0061 NPDES No. CAG998001, as they relate to discharge of non-storm water dewatering wastes for the project. This shall include submitting to the Santa Ana Regional Water Quality Control Board a Notice of Intent at least 60 days prior to the start of construction, notification of discharge at least 5 days prior to any planned discharges, and monitoring reports by the 30th day of each month following the monitoring period.	San Bernardino County	During construction		

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Avoidance, Minimization, and/or Mitigation Measures	Date
WQ-3	The County of San Bernardino shall follow the procedures outlined in the Storm Water Quality Handbooks, Project Planning and Design Guide for implementing Design Pollution Prevention and Treatment best management practices (BMPs) for the project that address pollutants of concern. This shall include coordination with the SARWQCB with respect to feasibility, maintenance, and monitoring of treatment BMPs as set forth in Caltrans Statewide Storm Water Management Plan (SWMP).	San Bernardino County	During PS&E		
GEOLOGY, SOILS, SEISMIC, AND TOPOGRAPHY					
G-1	During final design, the County of San Bernardino will prepare a Final Geotechnical/Structures Design Report for the project, refining the existing Preliminary Design Report. The Final Design Report will include detailed site testing and design recommendations based on the recommendations in the Preliminary Design Report. The recommendations of the Final Design Report will be incorporated in the final design for the project.	San Bernardino County	During design and construction		
HAZARDOUS WASTES AND MATERIALS					
HW-1	<p>Concentrations of ADL are present in near surface soils within the proposed construction zone. Special Provision 10-1 Material Containing Lead will be followed prior to and during removal of the materials containing ADL. The Contractor shall prepare a project specific Lead Compliance Plan to prevent or minimize worker exposure to lead while handling material containing aerially deposited lead. Attention is directed to Title 8, California Code of Regulations, Section 1532.1, "Lead," for specific California Department of Industrial Relations, Division of Occupational Safety and Health (Cal-OSHA) requirements when working with lead.</p> <p>The Lead Compliance Plan shall contain the elements listed in Title 8, California Code of Regulations, Section 1532.1(e)(2)(B). Before submission to the Engineer, the Lead Compliance Plan shall be approved by an Industrial</p>	San Bernardino County and the construction contractor	During design and construction		

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Avoidance, Minimization, and/or Mitigation Measures	Date
	<p>Hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene. The plan shall be submitted to the Engineer for review and acceptance at least 7 days prior to beginning work in areas containing aeriually deposited lead.</p> <p>The Lead Compliance Plan shall include perimeter air monitoring incorporating upwind and downwind locations as shown on the plans or as approved by the Engineer. Monitoring shall be by personal air samplers using National Institute of Safety and Health Method 7082. Sampling shall achieve a detection limit of 0.05 µg/m3 of air per day. Daily monitoring shall take place while the Contractor clears and grubs and performs earthwork operations. A single representative daily sample shall be analyzed for lead. Results shall be analyzed and provided to the Engineer within 24 hours. Average lead concentrations shall not exceed 1.5 µg/m3 of air per day. If concentrations exceed this level the Contractor shall stop work and modify the work to prevent release of lead. Monitoring shall be done under the direction of, and the data shall be reviewed by and signed by a Certified Industrial Hygienist.</p> <p>The Contractor shall not work in areas containing aeriually deposited lead within the project limits, unless authorized in writing by the Engineer, until the Engineer has accepted the Lead Compliance Plan. Prior to performing work in areas containing aeriually deposited lead, personnel who have no prior training, including State personnel, shall complete a safety training program provided by the Contractor. The safety training program shall meet the requirements of Title 8, California Code of Regulations, Section 1532.1, "Lead," and the Contractor's Lead Compliance Program.</p>				

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Avoidance, Minimization, and/or Mitigation Measures	Date
HW-2	The yellow stripe was observed to be intact and in good condition during the LBP investigation; therefore, no special handling is required. However, if the presumed yellow LBP should be disturbed during future bridge work, the paint in poor/flaky condition must be removed (scraped), collected, and properly disposed of. All this work should be completed following Occupational Safety & Health Administration (OSHA) [Standards – 28CFR1926.62 App A] for workers, who will potentially be exposed to lead through inhalation, and conducted by an abatement company certified by the State of California Department of Health Services. In addition, removal of traffic striping and pavement markings shall be conducted in accordance with Caltrans Standard Special Provisions (SSPs) 14-001, 15-301, and 15-305.	San Bernardino County and the construction contractor	During design and construction		
HW-3	During final design, the County of San Bernardino shall determine if dewatering of groundwater will be necessary during construction of the project. Dewatering will require compliance with the State General Permit or an individual permit from the Santa Ana Regional Water Quality Control Board (SARWQCB), consistent with National Pollutant Discharge Elimination System (NPDES) requirements. The SARWQCB will decide which permit is applicable and whether sampling is required once it receives and reviews the Notice of Intent (NOI).	San Bernardino County	During final design		
HW-4	Materials that contain greater than one percent asbestos were reported at guardrail post shims. Prior to and during removal of the materials containing asbestos, Special Provisions 5-1 Asbestos Containing Material and 10-1 Sampling and Removal of Asbestos Containing Materials will be followed. The Contractor shall notify the Bay Area Air Quality Management District as required by National Emission Standards for Hazardous Air Pollutants (NESHAP), 40CFR Part 61, and California Air Resources Control Board rules. A copy of the completed notification form and attachments shall be provided to the Engineer	San Bernardino County and the construction contractor	During design and construction		

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Avoidance, Minimization, and/or Mitigation Measures	Date
	<p>prior to submittal to the Air District. Notification shall take place a minimum of ten days prior to demolition or alteration. The Contractor shall also notify other local permitting agencies and utility companies prior to demolition or alternation. Codes and standards included within the Special Provision 5-1 will also be followed during removal and disposal of materials containing asbestos.</p> <p>Removal and management of ACM shall be performed by a contractor who is registered pursuant to Section 6501.5 of the Labor Code and certified pursuant to Section 7058.6 of the Business and Professions Code. Asbestos removal shall conform to Cal/OSHA requirements in Title 8 Section 1529 and 341. Packaging, storage, transporting, and disposing of ACM, shall conform to Title 22, Division 4.5, Chapters 11, 12 and 13 of the California Code of Regulations.</p> <p>In addition, prior to removal of the materials containing ACM, the Contractor shall prepare an Asbestos Compliance Plan (ACP) to prevent or minimize exposure to asbestos. Attention is directed to Title 8, California Code of Regulations, Construction Safety Orders, Section 5192 (b) and Section 1529, "Asbestos", Occupational Safety and Health Guidance Manual published by the National Institute of Occupational Safety and Health (NIOSH) and the USEPA for elements of the ACP.</p>				
HW-5	<p>At least 10 days prior to any demolition or renovation of a structure, the County of San Bernardino shall require proper notification and submittal of fees to the South Coast Air Quality Management District (SCAQMD) (refer to SCAQMD Rule 1403). Failure to do so may result in the County being cited for regulatory noncompliance. Notification would fall under Section 7-1.01F, Air Pollution Control, and Section 7-1.04, Permits and Licenses of the</p>	San Bernardino County	At least 10 days prior to any demolition or renovation of a structure		

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Avoidance, Minimization, and/or Mitigation Measures	Date
	Standard Specifications. Contractors shall adhere to the requirements of SCAQMD Rule 1403 during renovation and demolition activities.				
HW-6	For the WBS 165.10.50 (Perform Preliminary Site Investigation for Hazardous Waste) project phase, the County of San Bernardino shall ensure that any leaking utility pole-mounted transformers are considered a potential polychlorinated biphenyl (PCB) hazard unless tested and are handled accordingly. If any transformers are proposed to be disturbed or removed during construction activities, the testing for potential PCB hazards shall be conducted during Project Approval/Environmental Document (PA/ED).	San Bernardino County	During the WBS 165.10.50 (Perform PSI for Hazardous Waste) project phase and prior to PA/ED		
HW-7	For the WBS 165.10.50 (Perform Preliminary Site Investigation for Hazardous Waste) project phase, the County of San Bernardino shall ensure that soils adjacent to the railroad tracks that will be disturbed during construction of the project are sampled for petroleum hydrocarbons, volatile organic compounds, semi-volatile compounds, polychlorinated biphenyls (PCBs), and metals based on use and spills in this area to determine whether they require special handling and disposal. All sampling activities will occur prior to Project Approval/Environmental Document (PA/ED).	San Bernardino County	During the WBS 165.10.50 (Perform PSI for Hazardous Waste) project phase and prior to PA/ED		

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Avoidance, Minimization, and/or Mitigation Measures	Date
HW-8	The potential exists for unknown hazardous contamination to be revealed during project construction. During construction, the County of San Bernardino shall ensure that for any previously unknown hazardous waste/material encountered during construction, the procedures outlined in Caltrans Unknown Hazards Procedures are followed.	San Bernardino County	During construction		
HW-9	Prepare a site-specific Health and Safety Plan consistent with Caltrans requirements to address contact, handling, and disposal of potentially contaminated groundwater and soil. The Plan shall include: <ul style="list-style-type: none"> • Identification of key personnel • Summary of risk assessment for workers, the community, and the environment • Air Monitoring Plan • Emergency Response Plan 	San Bernardino County and the construction contractor	During design and construction		
AIR QUALITY					
--	<p>SCAQMD Standard Conditions: Most of the construction impacts to air quality are short-term in duration and, therefore, will not result in adverse or long-term conditions. Implementation of the following measures will reduce any air quality impacts resulting from construction activities:</p> <ul style="list-style-type: none"> • The construction contractor shall comply with Caltrans Standard Specifications Section 7-1.01F and Section 10 of Caltrans Standard Specifications (1999). • Section 7, "Legal Relations and Responsibility," addresses the contractor's responsibility on many items of concern, such as: air pollution; protection of lakes, streams, reservoirs, and other water bodies; use of pesticides; safety; sanitation; and convenience of the public; and damage or injury to any person or property as a result of any construction operation. Section 7-1.01F specifically requires compliance by the contractor with all applicable laws and regulations 	Construction contractor	During construction		

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Avoidance, Minimization, and/or Mitigation Measures	Date
	<p>related to air quality, including air pollution control district and air quality management district regulations and local ordinances.</p> <ul style="list-style-type: none"> • Section 10 is directed at controlling dust. If dust-palliative materials other than water are to be used, material specifications are contained in Section 18. • Apply water or dust-palliative to the site and equipment as frequently as necessary to control fugitive dust emissions. • Spread soil binder on any unpaved roads used for construction purposes, and all project construction parking areas. • Wash off trucks as they leave the right-of-way as necessary to control fugitive dust emissions. • Properly tune and maintain construction equipment and vehicles. Use low-sulfur fuel in all construction equipment as provided in California Code of Regulations Title 17, Section 93114. • Develop a dust control plan documenting sprinkling, temporary paving, speed limits, and expedited revegetation of disturbed slopes as needed to minimize construction impacts to existing communities. • Locate equipment and materials storage sites as far away from residential and park uses as practical. Keep construction areas clean and orderly. • Establish ESAs for sensitive air receptors within which construction activities involving extended idling of diesel equipment would be prohibited, to the extent that is feasible. • Use track-out reduction measures such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic. • Cover all transported loads of soils and wet materials prior to transport, or provide adequate freeboard (space from the top of the material to the top of the 				

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Avoidance, Minimization, and/or Mitigation Measures	Date
	<p>truck) to reduce PM₁₀ and deposition of particulate matter during transportation.</p> <ul style="list-style-type: none"> • Remove dust and mud that are deposited on paved, public roads due to construction activity and traffic to decrease particulate matter. • Route and schedule construction traffic to avoid peak travel times as much as possible, to reduce congestion and related air quality impacts caused by idling vehicles along local roads. • Install mulch or plant vegetation as soon as practical after grading to reduce windblown particulate in the area. <p>Compliance with these standard SCAQMD and Caltrans conditions would substantially reduce fugitive dust (PM₁₀) and equipment emissions generated during construction of the I-10/Cedar Avenue Interchange project.</p>				
AQ-1	Caltrans shall ensure that the construction contractor selects construction equipment based on low emission factors and high energy efficiency, to the extent feasible, consistent with the construction equipment requirements for the project. Caltrans will ensure that the construction grading plans include a statement that all construction equipment will be tuned and maintained in accordance with the manufacturer's specifications.	Construction contractor	During construction		
AQ-2	The construction contractor shall use electric- or diesel-powered equipment in lieu of gasoline-powered engines where feasible.	Construction contractor	During construction		
AQ-3	Caltrans shall ensure that construction grading plans include a statement that work crews will shut off equipment when not in use.	Construction contractor	During construction		
AQ-4	Caltrans shall ensure that the construction contractor times the construction activities so as not to interfere with peak-hour traffic and to minimize obstruction of through traffic lanes adjacent to the project disturbance limits. If	Construction contractor	During construction		

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Avoidance, Minimization, and/or Mitigation Measures	Date
	necessary to maintain smooth traffic flow, a flagperson shall be retained to maintain safety adjacent to existing roads.				
AQ-5	Caltrans shall require the construction contractor to support and encourage ridesharing and transit incentives for the construction crew.	Construction contractor	During construction		
NOISE					
--	To minimize construction noise and vibration impacts on sensitive land uses adjacent to the project site, construction noise is regulated by Caltrans Standard Specifications in Section 14-8.02, "Noise Control," and also by Standard Special Provision S5-310, "Noise Control." Noise control shall conform to the provisions in Section 14-8.02 and Standard Special Provision S5-310. The noise level from the Contractor's operations, between the hours of 7:00 p.m. and 7:00 a.m., shall not exceed 86 dBA at a distance of 50 ft. This requirement in no way relieves the contractor from responsibility for complying with local ordinances regulating noise levels. The Contractor should use an alternative warning method instead of a sound signal unless required by safety laws. In addition, the Contractor shall equip all internal combustion engines with the manufacturer-recommended muffler and shall not operate any internal combustion engine on the job site without the appropriate muffler.	Construction contractor	During construction		
N-1	<p>In addition to Caltrans Standard Specifications, the following measures are recommended to reduce construction noise impacts to the extent feasible:</p> <ul style="list-style-type: none"> • Portable equipment should be located as far as possible from the noise-sensitive locations as is feasible. • Construction vehicle staging areas and equipment maintenance areas should be located as far as possible from sensitive receptor locations. 	San Bernardino County and the construction contractor	During construction		

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Avoidance, Minimization, and/or Mitigation Measures	Date
	Incorporate sound walls 1 and 4 in the final design.	San Bernardino County	During final design		
BIOLOGICAL RESOURCES					
BIO-1	To avoid impacts to nesting raptors and other migratory birds, large trees within the project disturbance limits shall be removed outside the raptor nesting season (March 15 through September 15) and outside nesting season for other migratory birds (February 1st through August 15th). The trees shall be surveyed by a qualified biologist 10 days prior to removal to ensure that no nesting raptors or migratory birds would be affected by anticipated tree removal activities. If nesting raptors or migratory birds are discovered during the preconstruction survey a no construction buffer limitation of 500 feet in radius shall be employed for active raptor nests until the nest is vacated and at species specific buffer distances for other migratory birds until the nest is vacated.	San Bernardino County and the construction contractor	Prior to and during construction		
BIO-2	To mitigate for the potential indirect project effects to 8.7 ac of recoverable Delhi Sands flower-loving fly (DSF) habitat, 0.22 ac of mitigation credits will be purchased from the Vulcan Material DSF Mitigation Bank or from a bank established by the Federal Highway Administration (FHWA).	San Bernardino County and the construction contractor	During final design and construction		
INVASIVE SPECIES					
BIO-3	<p>The following will be implemented to mitigate the potential spread of invasive species to or from the project area:</p> <ul style="list-style-type: none"> Bare soil will be landscaped with Caltrans-recommended native seed mix from locally adopted species to preclude the invasion of noxious weeds. Arrangements will be made well in advance of planting (9 months if possible) to ensure that plant materials are located and available for the scheduled planting time. Sufficient time will be allocated for a professional seed company to visit the project site during the appropriate season and collect the native 	San Bernardino County and the construction contractor	During final design and construction		

No.	Avoidance, Minimization, and/or Mitigation Measures	Responsible Party	Timing/Phase	Action Taken to Comply with Avoidance, Minimization, and/or Mitigation Measures	Date
	<p>plant seed. If local propagules are not available or cannot be collected in sufficient quantities, materials collected or grown from other sources within southern California may be substituted. For widespread native herbaceous species that are more likely to be genetically homogeneous, site specificity is a less important consideration, and seed from commercial sources may be used.</p> <ul style="list-style-type: none"> • Seed purity will be certified by planting seed labeled under the California Food and Agricultural Code or that has been tested within a year by a seed laboratory certified by the Association of Official Seed Analysts or by a seed technologist certified by the Society of Commercial Seed Technologists. • Construction equipment will be cleaned of mud or other debris that may contain invasive plants and/or seeds and inspected to reduce the potential of spreading noxious weeds (before mobilizing to arrive at the site and before leaving the site). • Trucks with loads carrying vegetation will be covered, and vegetative materials removed from the site will be disposed of in accordance with all applicable laws and regulations. 				

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Appendix F List of Acronyms

AASHTO	American Association of State Highway and Transportation Officials
ac	acre(s)
AC	asphalt concrete
ACHP	Advisory Council on Historic Preservation
ACM	asbestos-containing materials
ADA	Americans with Disabilities Act
ADL	aerially deposited lead
ADT	average daily traffic/trips
AGR	Agricultural supply
AHERA	Asbestos Hazard Emergency Response Act
amsl	above mean sea level
APE	Area of Potential Effects
AQMP	Air Quality Management Plan
ASR	Archaeological Survey Report
BACM	Best Available Control Measures
BAT	Best Available Technology
BCT	Best Control Technology
bgs	below ground surface
BLM	Bureau of Land Management
BMP(s)	Best Management Practice(s)
BOD	biological oxygen-demand
BSA	Biological Study Area
C	Celsius
C-G	General Commercial
CAA	Clean Air Act
CAC	County Agricultural Commissioner
CAD	computer-aided design
CalEPPC	California Exotic Pest Plant Council
California Register	California Register of Historical Resources
CalIPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCAA	California Clean Air Act
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Compensation and Liability Act of 1980
CERFA	Community Environmental Response Facilitation Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CHP	California Highway Patrol

CIDH	cast-in-drilled-hole
CJUSD	Colton Joint Unified School District
CMP	Congestion Management Program
CO	carbon monoxide
Corps	United States Army Corps of Engineers
COZEEP	Construction Zone Enhancement Enforcement Program
CSP	corrugated steel pipe
CTP	Comprehensive Transportation Plan
CWA	Clean Water Act
dba	A-weighted decibel
DDT	Dichloro-diphenyl-trichloroethane
DE	diesel exhaust
DHHS	United States Department of Health and Human Services
DOF	Department of Finance
DSF	Delhi Sands flower-loving fly
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EA	Environmental Assessment
EB	Eastbound
EO	Executive Order
EPA	United States Environmental Protection Agency
ERNS	Emergency Response Notification System
F	Fahrenheit
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FIA	Federal Insurance Administration
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
ft	foot/feet
FTA	Federal Transit Administration
FTIP	Federal Transportation Improvement Plan
GFIR	Guidelines for Foundation Investigations and Reports
HCM	Highway Capacity Manual
HDM	Highway Design Manual
HOV	high-occupancy vehicle
HPSR	Historic Property Survey Report
HRER	Historical Resources Evaluation Report
HAS	Hydrologic Subarea
I-10	Interstate 10
I-G	General Industrial
I-L	Light Industrial
in	inch(es)
IND	Industrial service supply
IRIS	Integrated Risk Information System

IS	Initial Study
ISA	Initial Site Assessment
kg	kilograms
kph	kilometers per hour
kV	kilovolt(s)
LBP	lead-based paint
lbs	pounds
L _{eq}	equivalent sound levels
LOS	level(s) of service
LUST	leaking underground storage tank
MAC	Municipal Advisory Council
MBA	Michael Brandman Associates
MBTA	Migratory Bird Treaty Act
MCE	maximum credible earthquake
mg	milligram(s)
mi	mile(s)
MLS	Multiple Listing Service
MND	Mitigated Negative Declaration
mph	miles per hour
MSA	Metropolitan Statistical Area
MSAT	mobile source air toxics
MSE	mechanically stabilized embankment
MTBE	methyl tertiary-butyl ether
MUN	Municipal and Domestic Supply
N/A	not applicable
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NAHC	Native American Heritage Commission
NATA	National Air Toxics Assessment
National Register	National Register of Historic Resources
NB	Northbound
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NCHRP	National Cooperative Highway Research Program
NHPA	National Historic Preservation Act of 1966
NLEV	national low-emission vehicle
NO ₂	nitrogen dioxide
NOA	Naturally Occurring Asbestos
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRCS	National Resources Conservation Service
O ₂	oxygen
O ₃	Ozone
OEHHA	Office of Environmental Health Hazard Assessment
OSHA	Occupational Safety & Health Administration
OWTS	On-site Wastewater Treatment Systems

PA	Programmatic Agreement
PAC	presumed asbestos-containing materials OR Public Awareness Campaign
Pb	lead
PCB	polychlorinated biphenyl
PCE	passenger car equivalent
pc/km/ln	passenger cars per kilometer per lane
PDS	Project Development Support
PDT	Project Development Team
PM	post mile
PM _{2.5}	particulate matter that is 2.5 microns in diameter or smaller
PM ₁₀	particulate matter that is 10 microns in diameter or smaller
POAQC	project of air quality concern
ppm	parts per million
PR	Project Report
PRC	Public Resources Code
PRIMP	Paleontological Resource Impact Mitigation Program
PROC	Industrial process supply
PS&E	plans, specifications, and estimates
PSI	preliminary site investigations
PSR	Project Study Report
RAP	Relocation Assistance Program
RARE	Rare, threatened, or endangered species
RCRA	Resource Conservation and Recovery Act of 1976
REC-1	Contact water recreation
REC-2	Noncontact water recreation
RFG	reformulated gasoline
RIR	Relocation Impact Report
ROW	right(s)-of-way
RSA	Resource Study Area
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SANBAG	San Bernardino Association of Governments
SARWQCB	Santa Ana Regional Water Quality Control Board
SB	Southbound
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SCG	Southern California Gas Company
SCH	State Clearinghouse
SCRRA	Southern California Regional Rail Authority
SCS	Soil Conservation Service
SDC	seismic design criteria
SER	Standard Environmental Reference

SFR	single-family residential
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO ₂	sulfur dioxide
SO _x	sulfur oxide
SPRR	Southern Pacific Railroad
SSD	stopping sight distance
SSP	Standard Special Provisions
STP	Surface Transportation Program
SWL	Solid Waste Landfill
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
TASAS	Traffic Accident Surveillance and Analysis System
TCE	temporary construction easement(s)
TCWG	Transportation Conformity Working Group
TCR	Transportation Concept Report
T/E	threatened/endangered
TMDL	Total Maximum Daily Load
TMP	Transportation Management Plan
TSCA	Toxic Substances Control Act
TSM	Transportation Systems Management
µg/L	micrograms per liter
UPRR	Union Pacific Railroad
USC	United States Code
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VIA	Visual Impact Assessment
VMT	vehicle miles traveled
WARM	Warm freshwater habitat
WB	Westbound
WDR	Waste Discharge Requirements
WILD	Wildlife Habitat
WoUS	Waters of the United States
WPA	Works Progress Administration
WQO	water quality objectives
WQV	Water Quality Volume
WSBCWD	West San Bernardino County Water District

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Appendix G List of Technical Studies

The following technical studies were used in the preparation of the Initial Study/ Environmental Assessment (IS/EA) for the Interstate 10/Cedar Avenue Interchange project. These reports are summarized as appropriate in the IS/EA and are available for review at the offices of San Bernardino County, Department of Public Works, and the California Department of Transportation District 8.

Addendum to the Traffic Operations Report (May 2008)

Prepared by LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, CA 92614

Air Quality Analysis (December 2012)

Prepared by LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, CA 92614

Air Quality Conformity Analysis (December 2012)

Prepared by LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, CA 92614

Draft Preliminary Drainage Study Report (January 8, 2004)

Prepared by Lim & Nascimento Engineering Corporation
1887 Business Center Drive, Suite 6
San Bernardino, CA 92408

Hazardous Waste Initial Site Assessment (June 2006)

Prepared by LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, CA 92614

Hazardous Waste Initial Site Assessment Update Memorandum (June 2012)

Prepared by LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, CA 92614

Historic Property Survey Report (April 2006)

Prepared by LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, CA 92614

Natural Environment Study (July 2006)

Prepared by LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, CA 92614

Noise Impact Analysis (October 2007)

Prepared by LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, CA 92614

Preliminary Draft Project Report (June 2009)

Prepared by Lim and Nascimento Engineering Corporation
12 Mauchly, Building L
Irvine, CA 92705

Preliminary Geotechnical/Structures Design Report (October 16, 2003)

Prepared by Lim & Nascimento Engineering Corporation
12 Mauchly, Building L
Irvine, CA 92705

Paleontological Resources Identification and Evaluation Report (July 2008)

Prepared by LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, CA 92614

Relocation Impact Report (June 2012)

Prepared by LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, CA 92614

Supplement to the Traffic Operations Report (January 2009)

Prepared by LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, CA 92614

Supplement to the Traffic Operations Report (December 2012)

Prepared by AECOM.
515 S. Flower, 4th Floor
Los Angeles, CA 90071

Traffic Operations Report (October 2003)

Prepared by LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, CA 92614

Addendum to the Traffic Analysis in the form of a Technical Memorandum (May 2008)

Prepared by LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, CA 92614

Visual Impact Assessment (July 2007)

Prepared by LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, CA 92614

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Appendix H Air Quality Conformity

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U.S. Department
of Transportation
**Federal Highway
Administration**

California Division

December 20, 2012

650 Capitol Mall, Suite 4-100
Sacramento, CA 95814
(916) 498-5001
(916) 498-5008 (fax)

In Reply Refer To:
HDA-CA
EA 1A8300

Mr. Basem Muallem
District Director
California Department of Transportation
District 8
464 West Fourth Street
San Bernardino, CA 92401-1400

Attention: Tony Louka, Office Chief, Environmental Engineering

Dear Mr. Louka:

SUBJECT: Project-Level Conformity Determination for the I-10/Cedar Avenue Interchange Project

On December 6, 2012, the California Department of Transportation (Caltrans) submitted to the Federal Highway Administration (FHWA) a request for a project-level conformity determination for the I-10/Cedar Avenue Interchange Project in San Bernardino County, pursuant to 23 U.S.C. 327(a)(2)(B)(ii)(1). The project is in an area that is designated nonattainment for ozone, coarse particulate matter (PM₁₀), fine particle particular matter (PM_{2.5}) and maintenance for carbon monoxide (CO).

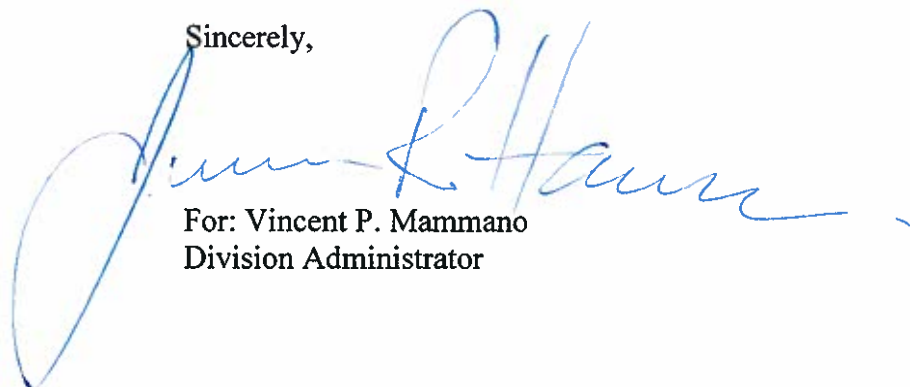
The project-level conformity analysis submitted by Caltrans indicates that the project-level transportation conformity requirements of 40 C.F.R. Part 93 have been met. The project is included in the Southern California Association of Government's (SCAG) currently conforming *2012 Regional Transportation Plan (RTP)*, and the *2013 Federal Transportation Improvement Program (FTIP)*. The latest conformity determination for the 2012 RTP and the 2013 FTIP was approved by FHWA and the Federal Transit Administration (FTA) on December 14, 2012. The design concept and scope of the preferred alternative have not changed significantly from those assumed in the regional emissions analysis.

As required by 40 C.F.R. 93.116 and 93.123, the localized CO and PM analyses are included in the documentation. The CO hotspot analysis was performed with the Caltrans' *Transportation Project-Level Carbon Monoxide Protocol*. The analyses demonstrate that the project will not create any new violation of the standards or increase the severity or number of existing violations.

Based on the information provided, FHWA finds that the I-10/Cedar Avenue Interchange Project in San Bernardino County conforms to the State Implementation Plan (SIP) in accordance with 40 C.F.R. Part 93.

If you have any questions pertaining to this conformity finding, please contact Stew Sonnenberg, FHWA Air Quality Specialist, at (916) 498-5889 or by email at Stew.Sonnenberg@dot.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "Vincent P. Mammano". The signature is fluid and cursive, with a large loop at the beginning and a long horizontal stroke at the end.

For: Vincent P. Mammano
Division Administrator

cc: (email)

M. Brady, CT HQ

R. Panganiban, CT D-8

J. Hannon, FHWA

S. Sonnenberg, FHWA

2013 Federal Transportation Improvement Program

San Bernardino County
State Highway
Including Amendment 1-3 and 5
(In \$000's)

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	System	Conformity Category	Amendment	
1830	San Bernardino	SCAB		1830	CAXT3	10	17.8	19.3	S	NON-EXEMPT	1	
Description:							PTC	54,120	Agency	VARIOUS AGENCIES		

I-10 AT CEDAR AVE. BETWEEN SLOVER AND VALLEY- RECONSTRUCT I/C-WIDEN FROM 4-6 LANES WITH LEFT AND RIGHT TURN LANES. ADD AUX LANE ON E/B ON AND OFF RAMPS

Fund	ENG	R/W	CON	Total	Prior	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	Total
CITY FUNDS		1,140		1,140			1,140					1,140
COUNTY	2,360	2,490		4,850	2,360		2,490					4,850
DEVELOPER FEES			11,027	11,027				11,027				11,027
SBD CO MEASURE I	2,900	8,471	25,732	37,103	2,900		8,471	25,732				37,103
1830 Total	5,260	12,101	36,759	54,120	5,260		12,101	36,759				54,120

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	System	Conformity Category	Amendment	
20130102	San Bernardino	SCAB		SBD41339	CARH3	10	20.1	22	S	NON-EXEMPT	1	
Description:							PTC	7,712	Agency	SAN BERNARDINO COUNTY		

PEPPER AVENUE BRIDGE STRUCTURE OVER I-10 WIDEN FROM 3-5 LANES TO PROVIDE FOR ONE ADDITIONAL THROUGH LANE, ONE ADDITIONAL SOUTHBOUND TURN LANE AND CONSTRUCT MINOR RAMP IMPROVEMENTS, MINOR ARTERIAL STREET IMPROVEMENTS, AND ANCILLARY IMPROVEMENTS. (TOLL CREDITS TO BE USED: ROW FY13/14 \$325K, CON FY14/15 \$1,105K)

Fund	ENG	R/W	CON	Total	Prior	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	Total
DEMO - TEA 21		722	5,470	6,192			722	5,470				6,192
INTERSTATE MAINTENANCE DISCRETIONARY		904		904			904					904
DEVELOPER FEES	190		19	209		190		19				209
SBD CO MEASURE I	370		37	407		370		37				407
20130102 Total	560	1,626	5,526	7,712		560	1,626	5,526				7,712

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	System	Conformity Category	Amendment	
44811	San Bernardino	SCAB		44810	CARH3	10	25.3	26.3	S	NON-EXEMPT	5	
Description:							PTC	19,561	Agency	SANBAG		

I-10 TIPPECANOE INTERCHANGE ADD EASTBOUND OFF-RAMP AUXILIARY LN FROM WATERMAN ON-RAMP TO TIPPECANOE OFF-RAMP AND WIDEN BRIDGE (NON-CAPACITY)(FORMERLY PART OF RTP ID 44810)

Fund	ENG	R/W	CON	Total	Prior	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	Total
STP LOCAL			2,660	2,660		2,660						2,660
CITY FUNDS			3,052	3,052	3,052							3,052
LOCAL ADVANCE CONSTRUCTION					2,660	-2,660						
SBD CO MEASURE I	3,849			3,849	3,849							3,849
CORRIDOR MOBILITY PROGRAM			10,000	10,000	10,000							10,000
44811 Total	3,849		15,712	19,561	19,561							19,561

Financially-Constrained RTP Projects									
County	RTP ID	System	Route #	Route Name	From	To	Description	Project Completion By*	Project Cost (\$1,000's)
SAN BERNARDINO	4120197	STATE HIGHWAY	10	I-10 @ ALABAMA			INTERCHANGE RECONFIGURATION/NEW INTERCHANGE	2030	\$37,821
SAN BERNARDINO	4120200	STATE HIGHWAY	10	I-10 @ ALDER			NEW INTERCHANGE I-10 @ ALDER	2030	\$138,676
SAN BERNARDINO	4M01027	STATE HIGHWAY	10	I-10 @ CALIFORNIA			INTERCHANGE RECONFIGURATION/NEW INTERCHANGE	2030	\$63,035
SAN BERNARDINO	4M07001	STATE HIGHWAY	10	I-10 @ EUCLID	EUCLID AV		IN ONTARIO ON I-10 AT EUCLID AVENUE – WIDEN THE EXIT RAMP FROM 2-3 LANES	2030	\$12,607
SAN BERNARDINO	4120196	STATE HIGHWAY	10	I-10 @ MONTE VISTA			RECONSTRUCT INTERCHANGE I-10 @ MONTE VISTA	2030	\$35,019
SAN BERNARDINO	4120198	STATE HIGHWAY	10	I-10 @ MT. VERNON			INTERCHANGE RECONFIGURATION/NEW INTERCHANGE	2030	\$44,825
SAN BERNARDINO	4120199	STATE HIGHWAY	10	I-10 @ MTN. VIEW			INTERCHANGE RECONFIGURATION/NEW INTERCHANGE	2030	\$71,439
SAN BERNARDINO	4M07003	STATE HIGHWAY	10	I-10 @ UNIVERSITY			INTERCHANGE RECONFIGURATION/NEW INTERCHANGE	2030	\$8,405
SAN BERNARDINO	4M04033	STATE HIGHWAY	10	I-10 @ WILDWOOD			INTERCHANGE RECONFIGURATION/NEW INTERCHANGE	2030	\$49,027
SAN BERNARDINO	SBD41147	STATE HIGHWAY	10				AIRPORT GROUND ACCESS -I-10 AT ARCHIBALD AVE – INSTALL IRRIGATION SYSTEM AND LANDSCAPE PLANTING	2011	\$3,085
SAN BERNARDINO	200432	STATE HIGHWAY	10				AT I-10 AND FORD ST. ON RAMP TO THE FREEWAY – SIGNAL AND INTERSECTIONS IMPROVEMENTS	2014	\$700
SAN BERNARDINO	1830	STATE HIGHWAY	10				I-10 AT CEDAR AVE. BETWEEN SLOVER AND VALLEY- RECONSTRUCT I/C-WIDEN FROM 4-6 LANES WITH LEFT AND RIGHT TURN LANES. ADD AUX LANE ON E/B ON AND OFF RAMPS	2018	\$56,948
SAN BERNARDINO	2002160	STATE HIGHWAY	10				I-10 AT GROVE INTERCHANGE AND GROVE AVE. CORRIDOR – RELOCATE I/10 & 4TH ST. I/C TO GROVE AVE. AND WIDEN GROVE AVE BETWEEN I-10 TO HOLT (WIDEN 4-6 LANES)	2018	\$156,000

*For modeled projects, represents the Plan network year for which the project was analyzed for the RTP modeling and regional emissions analysis

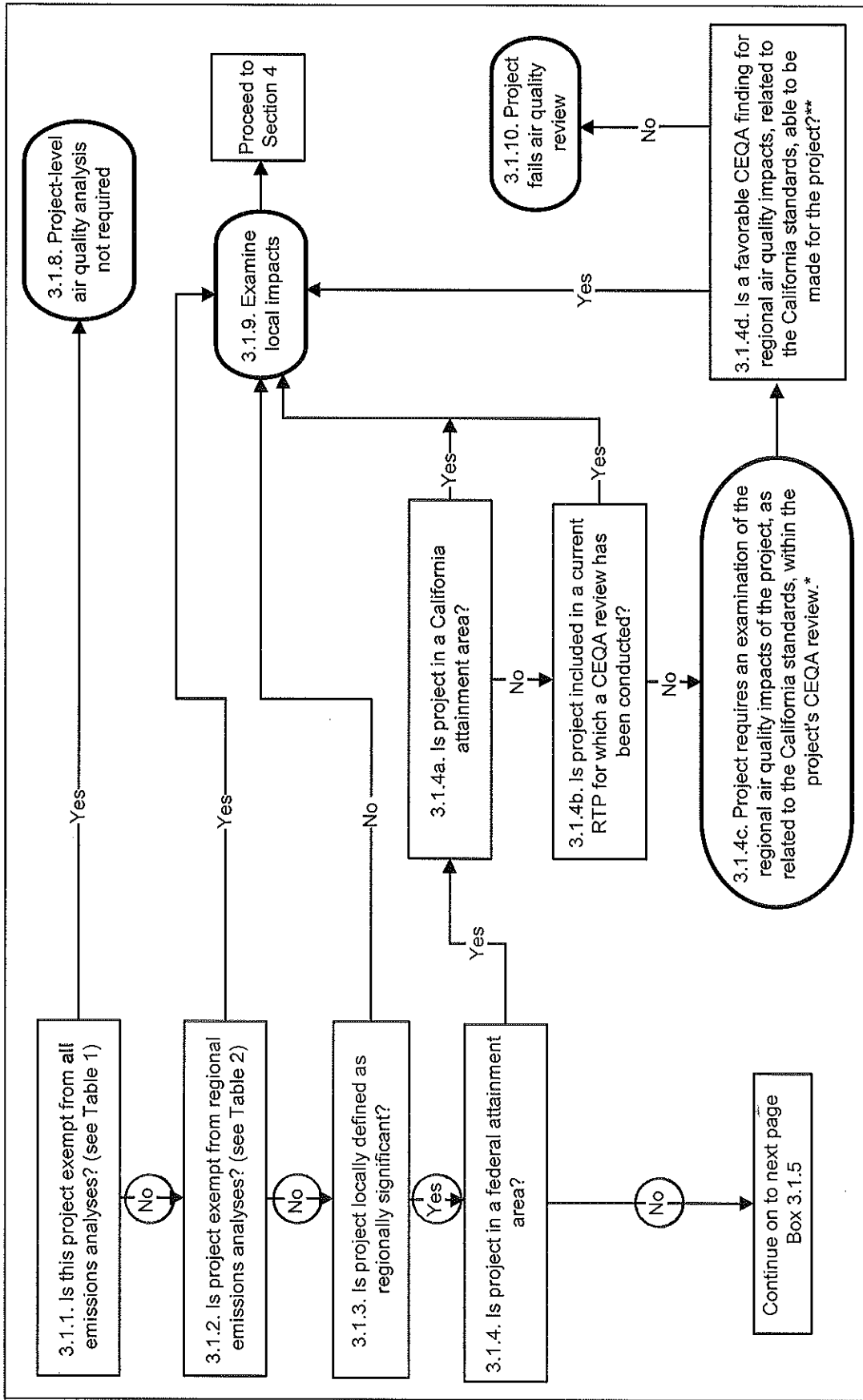
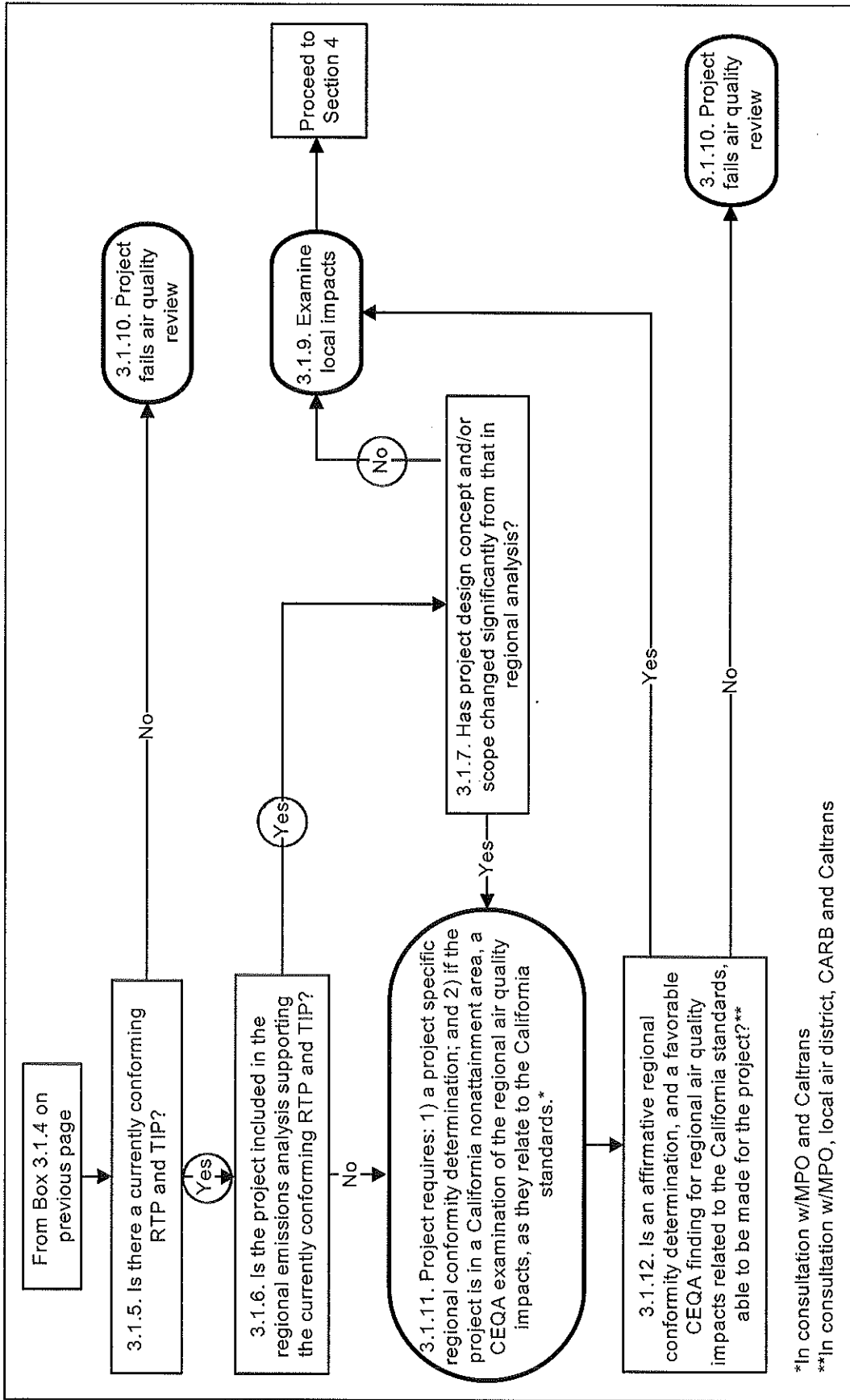


Figure 1. Requirements for New Projects



*In consultation w/MPO and Caltrans

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

Figure 1 (cont.). Requirements for New Projects

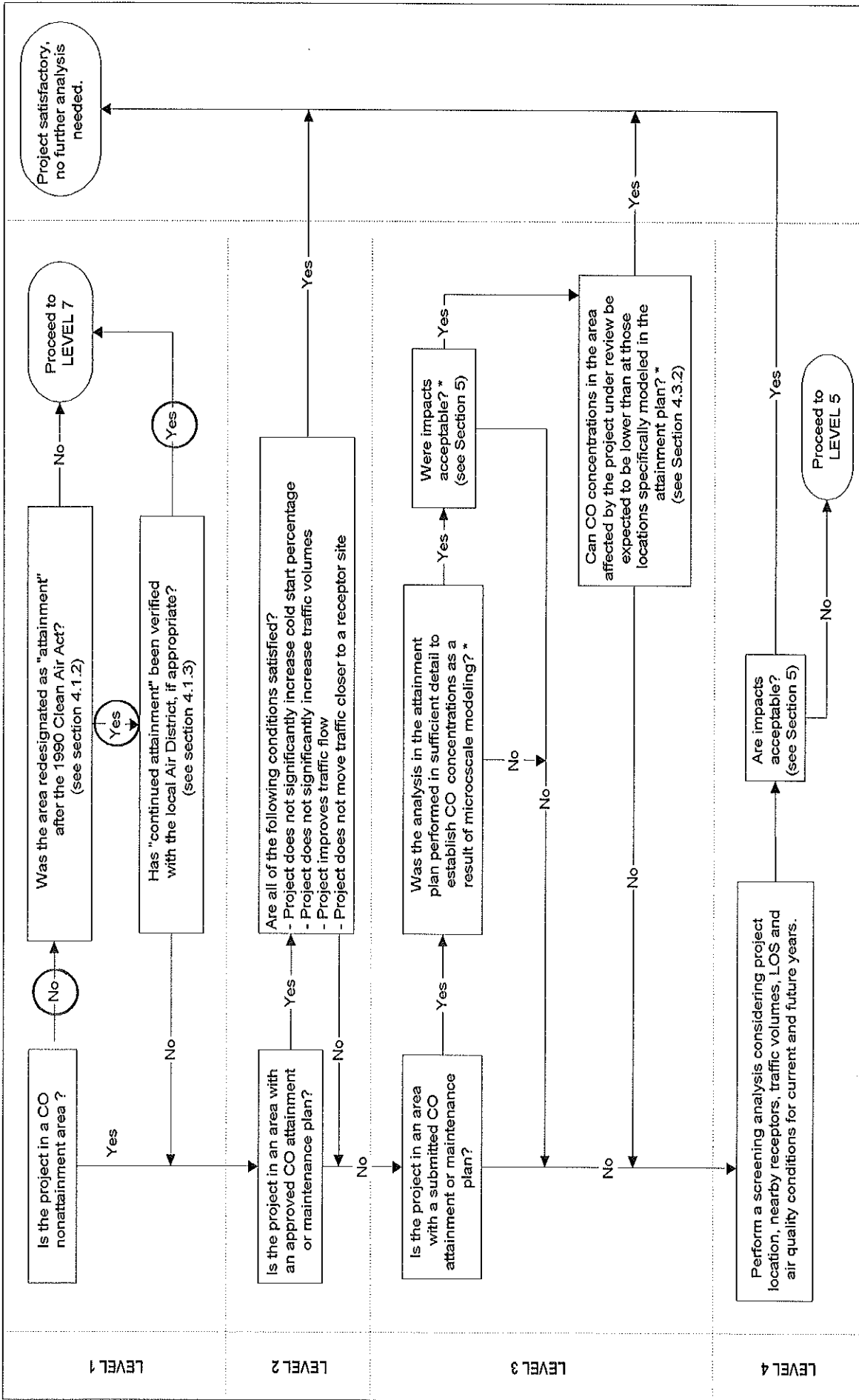


Figure 3. Local CO Analysis
4-10

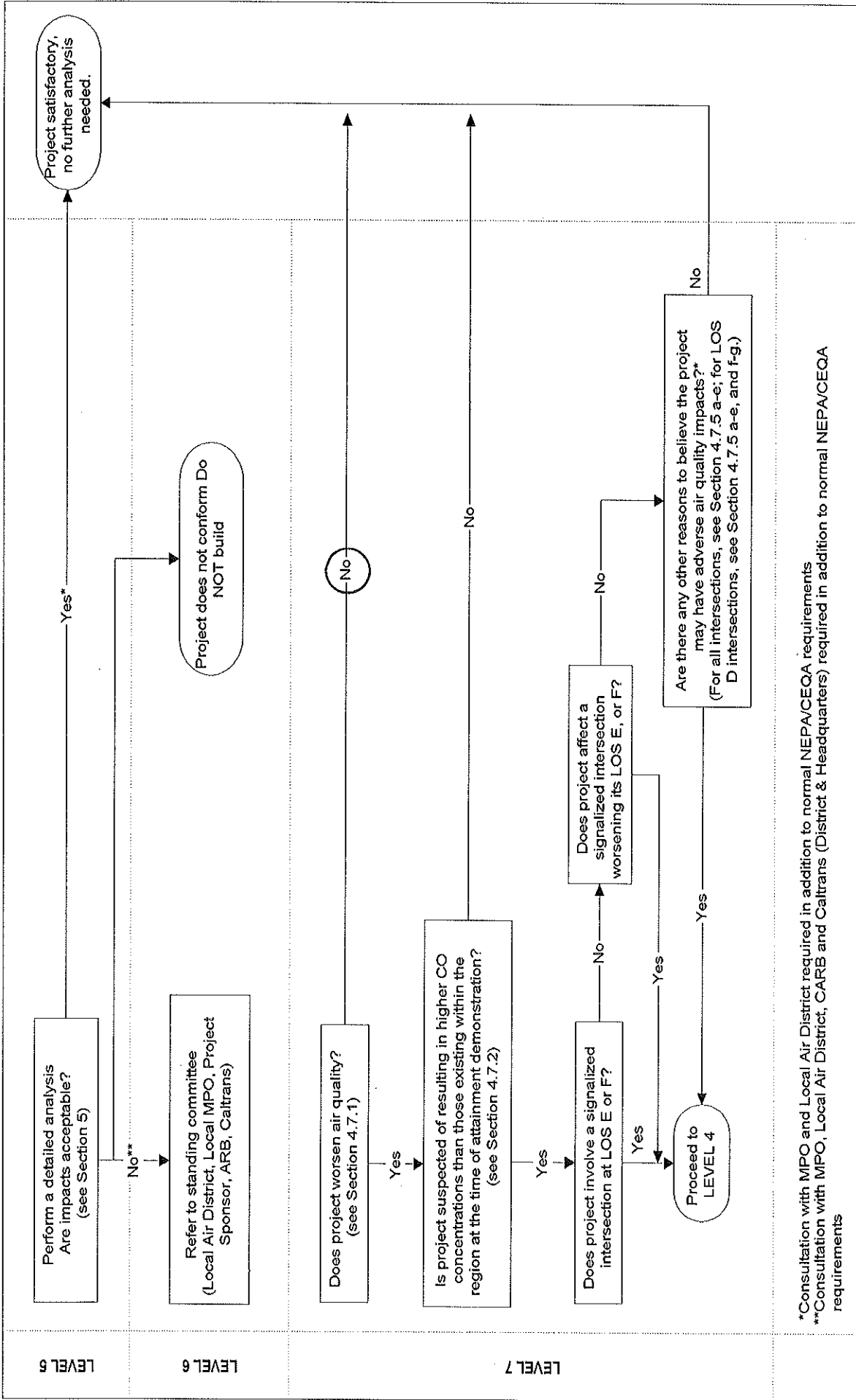


Figure 3 (cont.). Local CO Analysis

Resolving Regional Challenges

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**TCWG Project-Level
PM Hot Spot Analysis Project Lists**

Review of PM Hot Spot Interagency Review Forms

July 2006	Determination
RIV45661	Not a POAQC - hot spot analysis not required
RIV020907_a RIV020907_b	Not a POAQC - hot spot analysis not required
SBd20620_a SBd20620_b	Not a POAQC - hot spot analysis not required
SBd200434_a SBd200434_b.xls	Not a POAQC - hot spot analysis not required
RIV041052_a RIV041052_b RIV041052_c	Not a POAQC - hot spot analysis not required
SBd031290	Not a POAQC - hot spot analysis not required
SBd200021	Exempt - hot spot analysis is not required
RIV990703a RIV990703_b	Exempt - hot spot analysis is not required
ORA000195_a ORA000195_b	Not a POAQC - hot spot analysis not required
RIV32300	Not a POAQC - hot spot analysis not required
RIV62034_a RIV62034_b	Not a POAQC - hot spot analysis not required
 SBd1830	Not a POAQC - hot spot analysis not required

	required
<u>SBD20020812</u>	POAQC - requires qualitative hotspot analysis
<u>RIV62031_a RIV62031_b</u>	Not a POAQC - hot spot analysis not required

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Appendix I Concept Plans

Appendix I contains the following:

- Conceptual design plan for Alternative 2A (one sheet)
- Typical cross-sections for Alternative 2A (one sheet)

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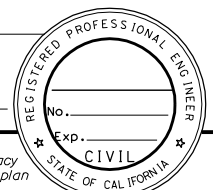
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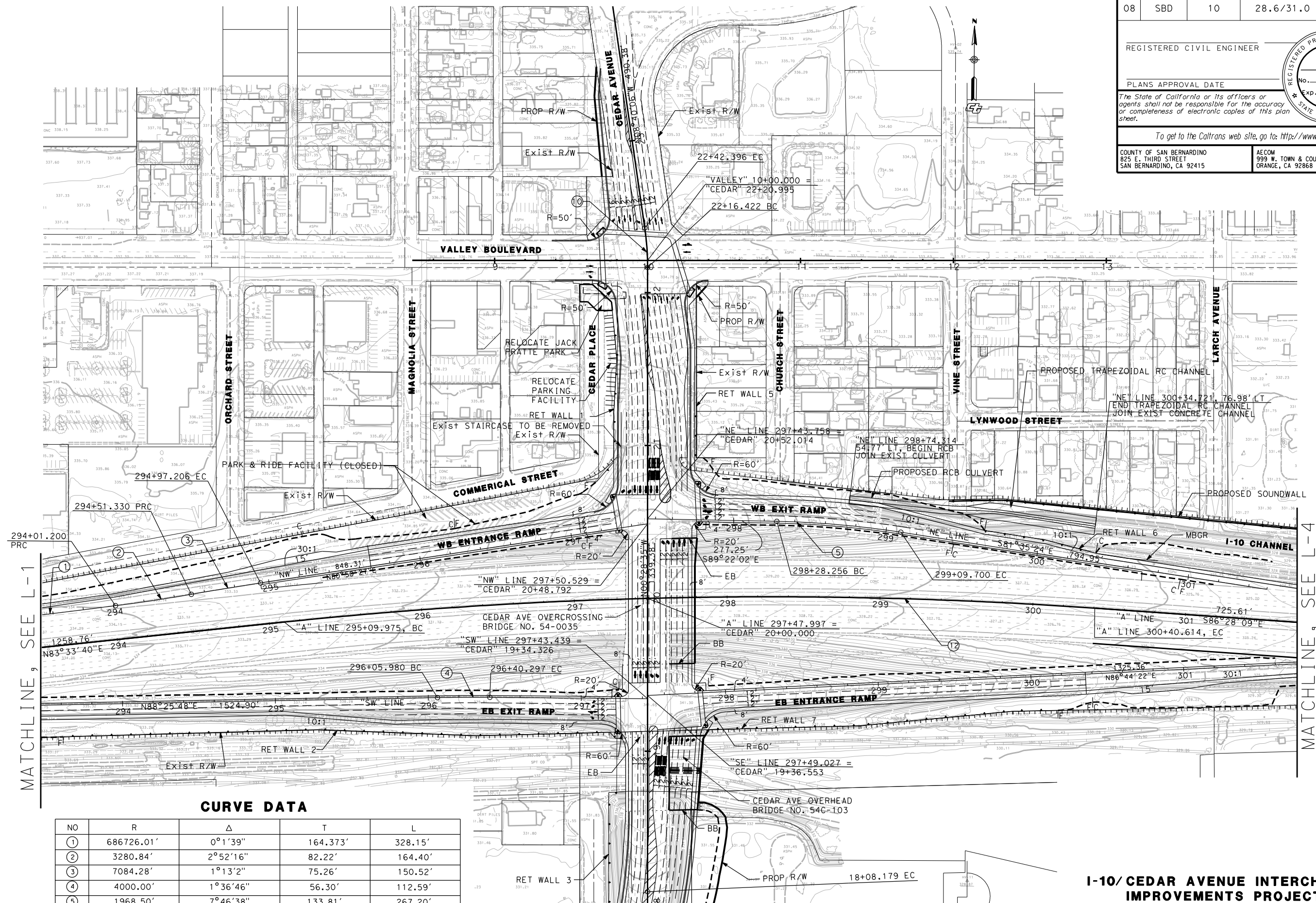
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MATCHLINE, SEE L-1

MATCHLINE, SEE L-4

MATCHLINE, SEE L-3

CURVE DATA

NO	R	Δ	T	L
①	686726.01'	0°1'39"	164.373'	328.15'
②	3280.84'	2°52'16"	82.22'	164.40'
③	7084.28'	1°13'2"	75.26'	150.52'
④	4000.00'	1°36'46"	56.30'	112.59'
⑤	1968.50'	7°46'38"	133.81'	267.20'
⑩	600.00'	8°6'49"	42.55'	84.96'
⑫	10005.15'	9°58'11"	872.67'	1740.94'

I-10/ CEDAR AVENUE INTERCHANGE IMPROVEMENTS PROJECT ALTERNATIVE 2A (LOCALLY PREFERRED ALTERNATIVE) LAYOUT L-2

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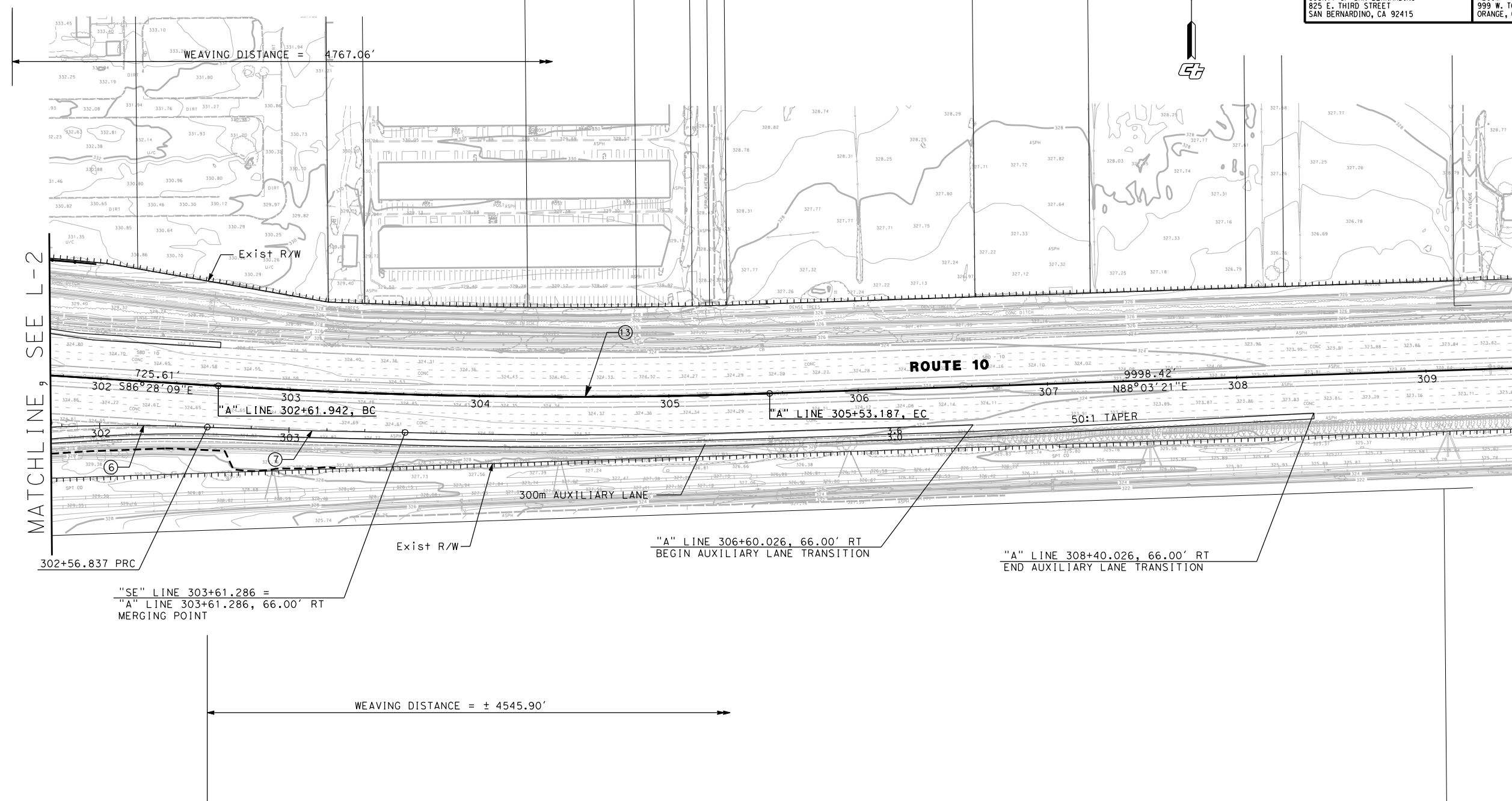
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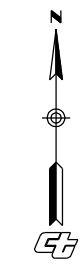
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MATCHLINE, SEE L-2



CURVE DATA

NO	R	Δ	T	L
⑥	3280.84'	5°39'8"	161.96'	323.66'
⑦	11535.66'	1°42'7"	171.35'	342.68'
⑬	10000'	5°28'30"	478.13'	955.53'

**I-10/ CEDAR AVENUE INTERCHANGE IMPROVEMENTS PROJECT
 ALTERNATIVE 2A
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 LAYOUT L-4**

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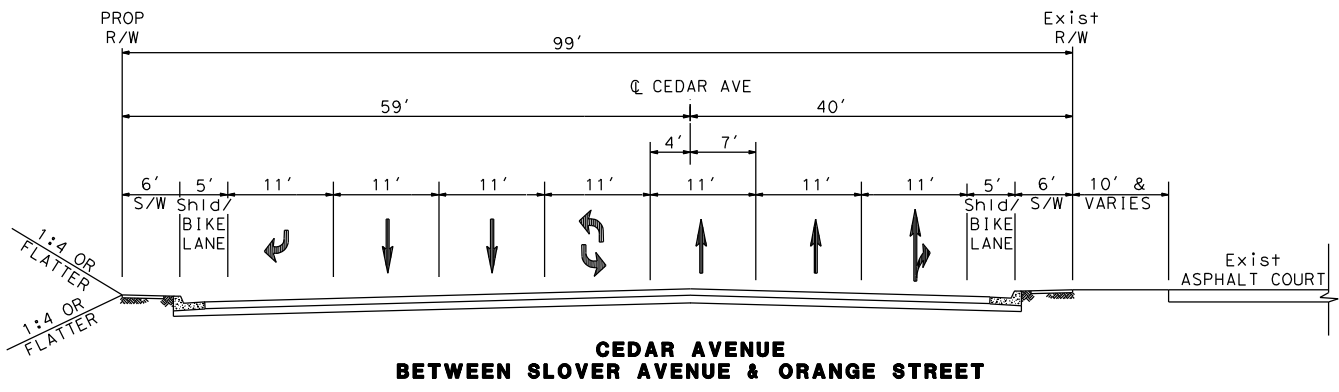
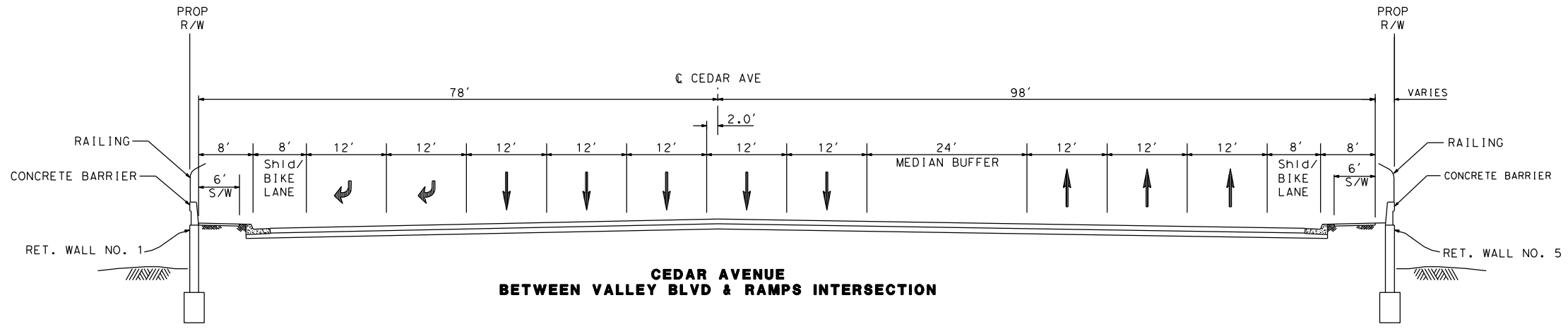
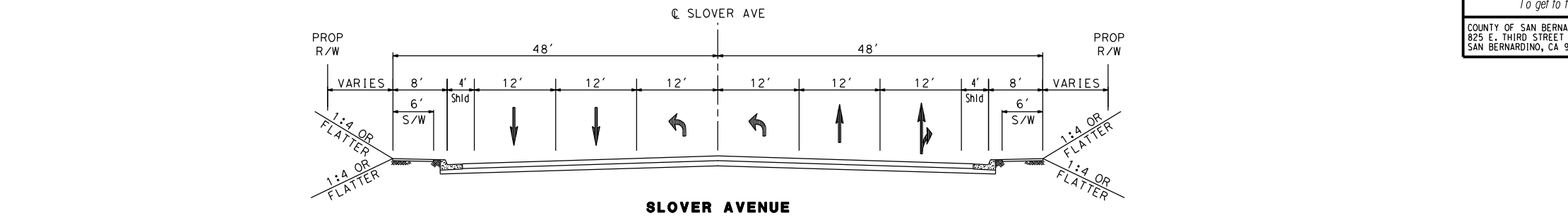
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08	SBD	10	28.6/31.0			

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 2014 ADT = 45,515
 2030 ADT = 50,085
 DHV = 8,204
 D = 57.1%
 V = 45 MPH
 T = 8.6%

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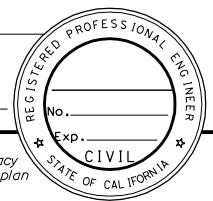
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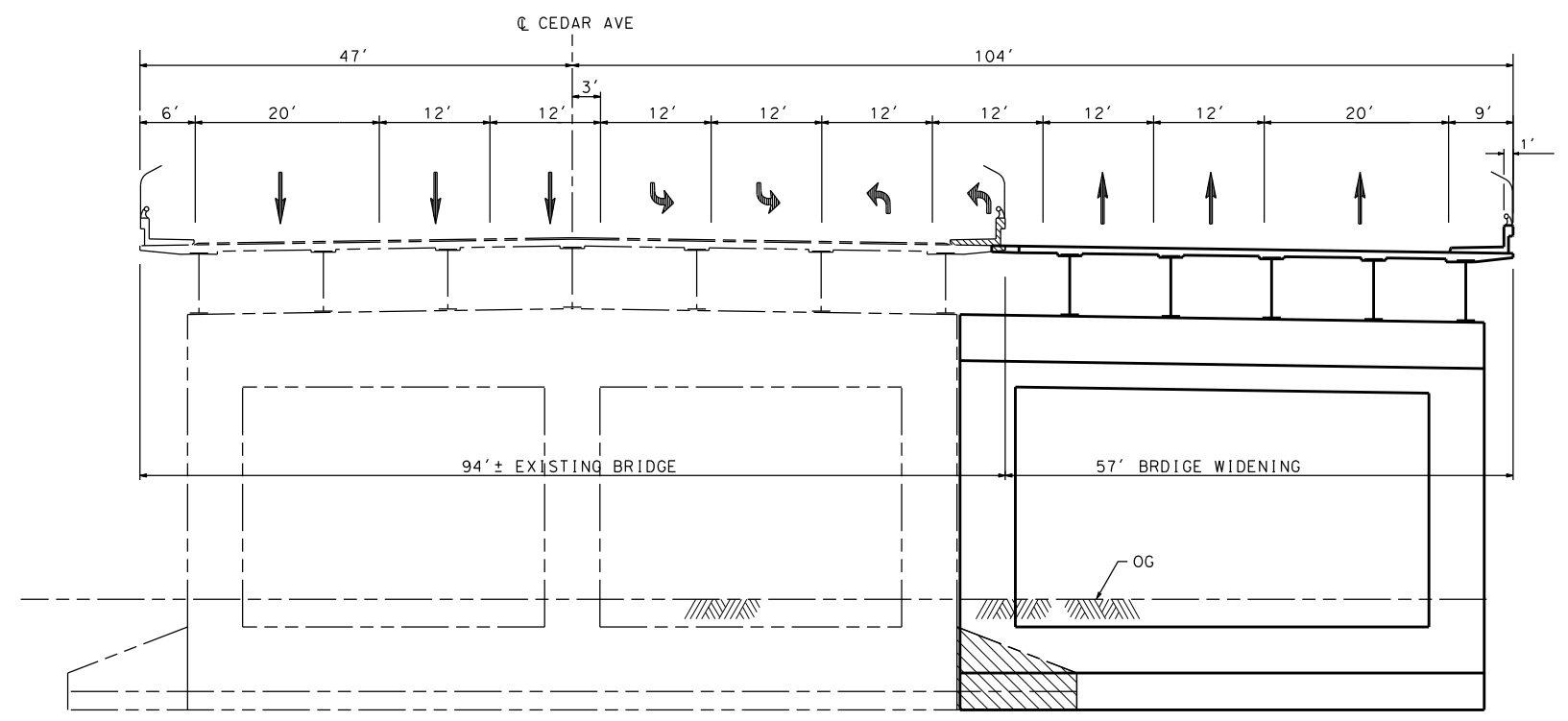
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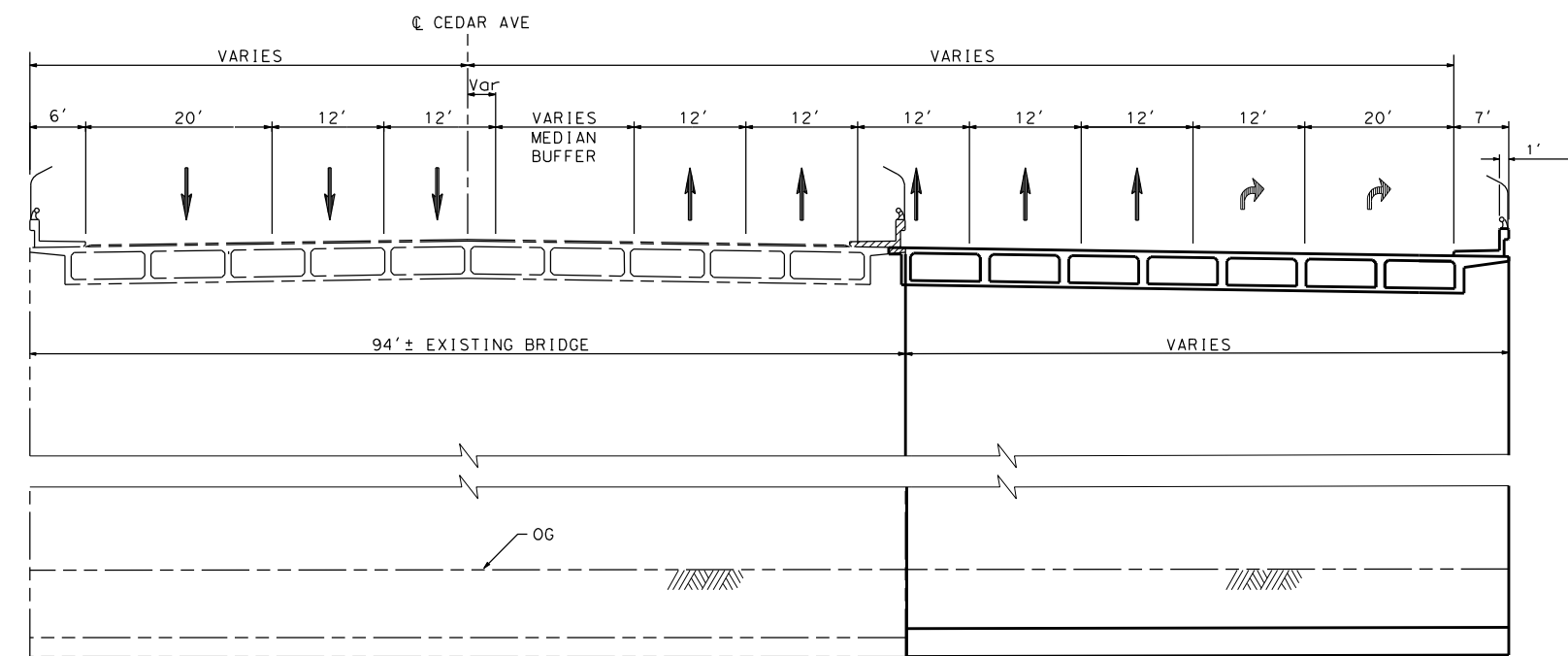


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FREEWAY OC BRIDGE WIDENING



RAILROAD OH BRIDGE WIDENING

NO SCALE

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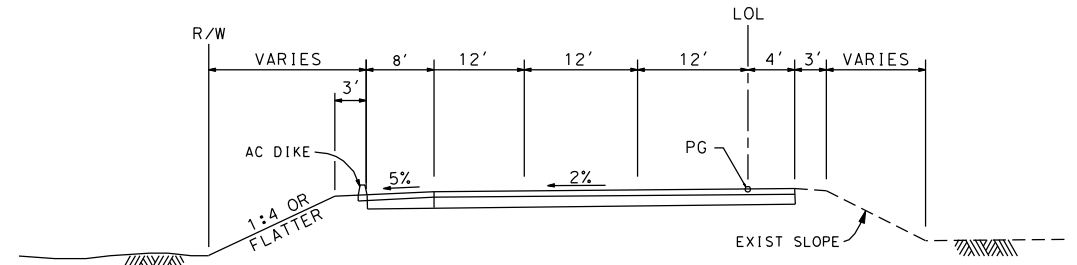
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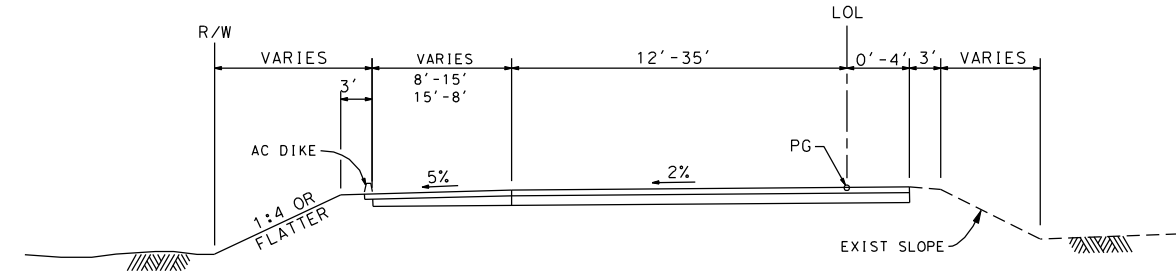
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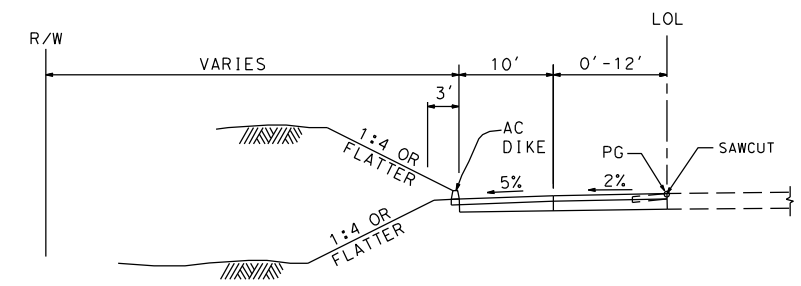
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WB ENTRANCE RAMP
 "NW" LINE STA 295+68.584 TO STA 297+17.156



WB ENTRANCE RAMP
 "NW" LINE STA 293+01.200 TO STA 295+68.584



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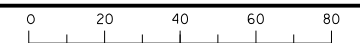
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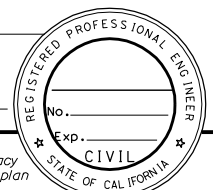
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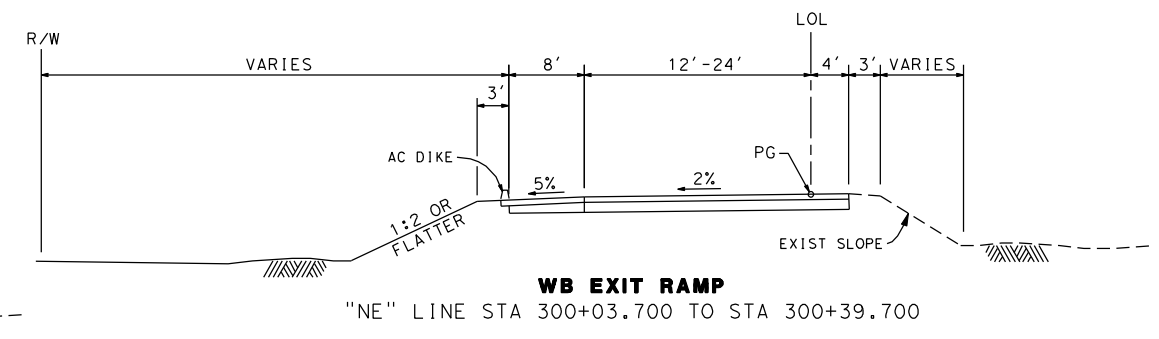
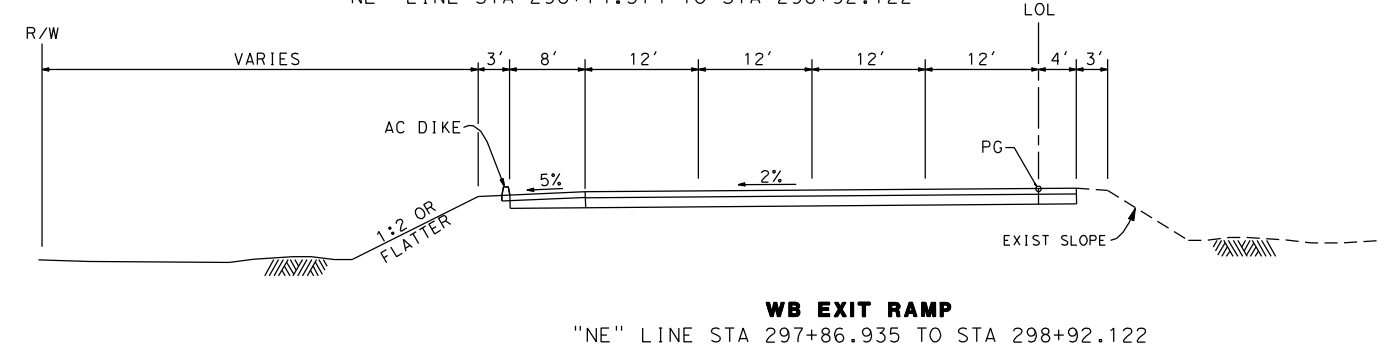
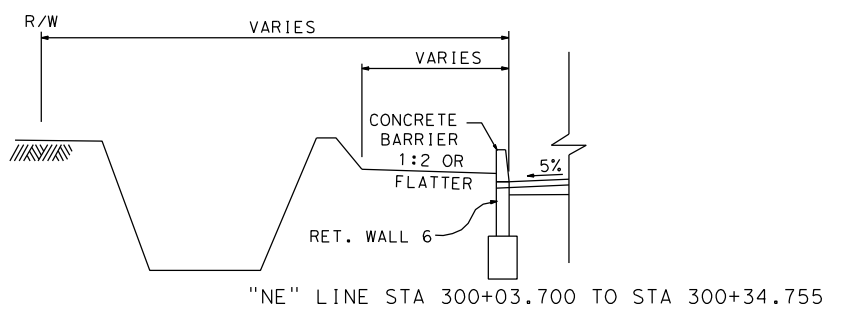
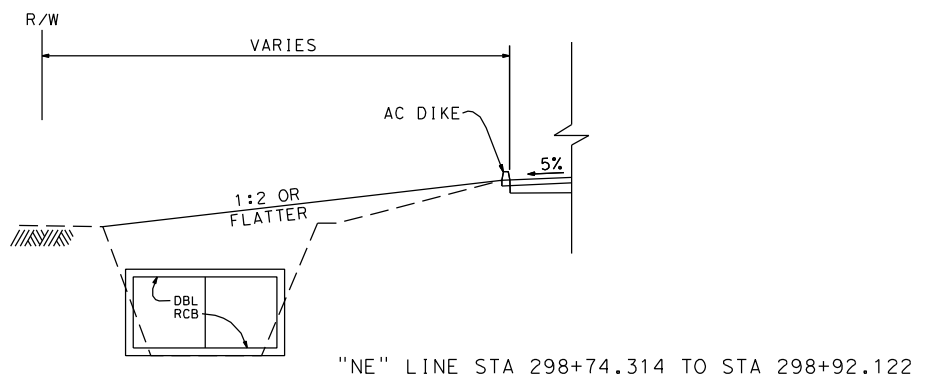
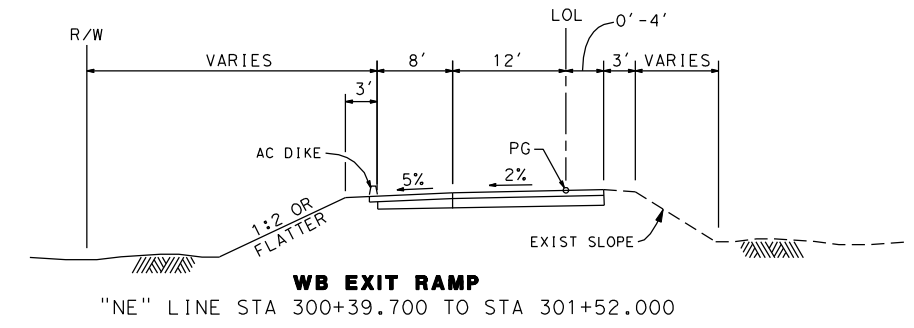
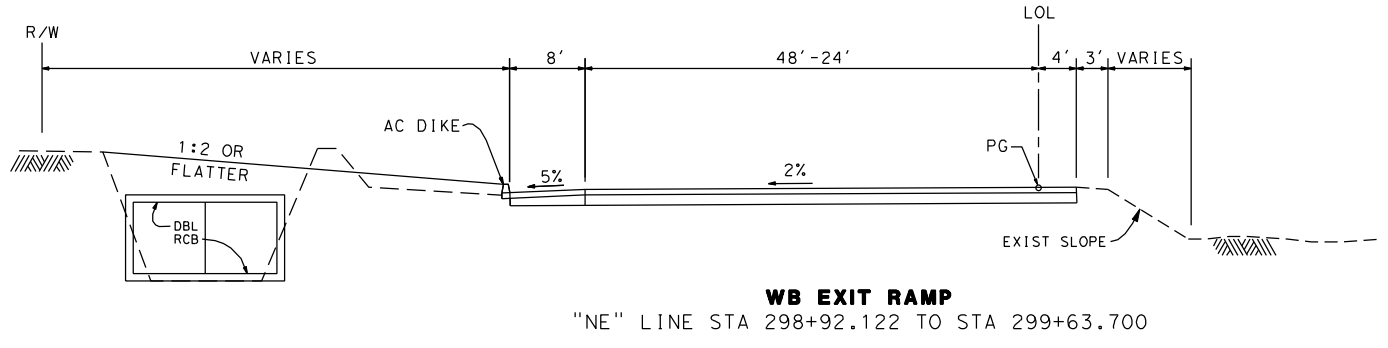
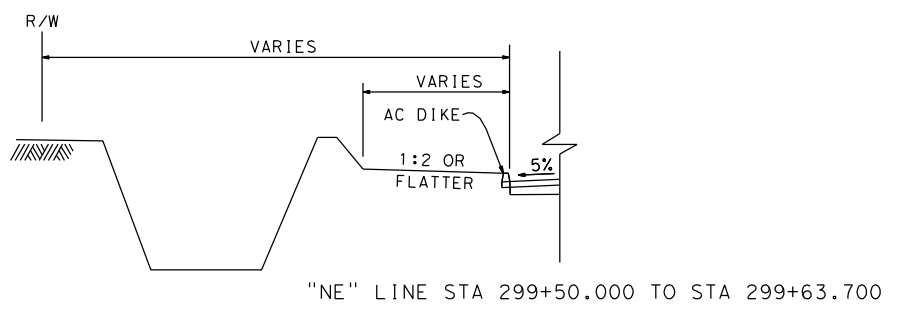
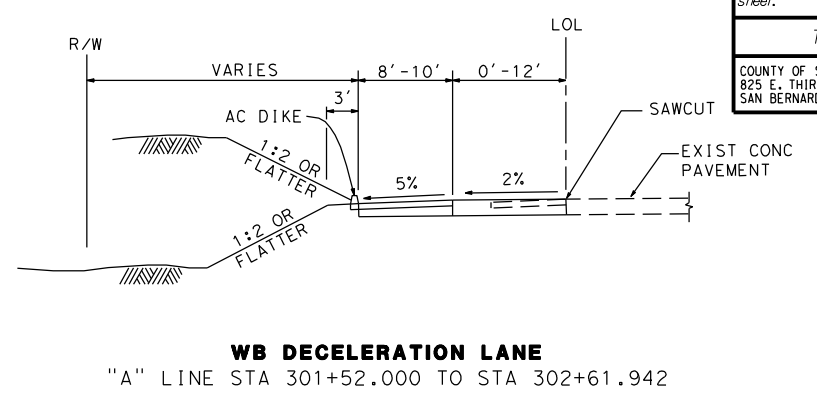
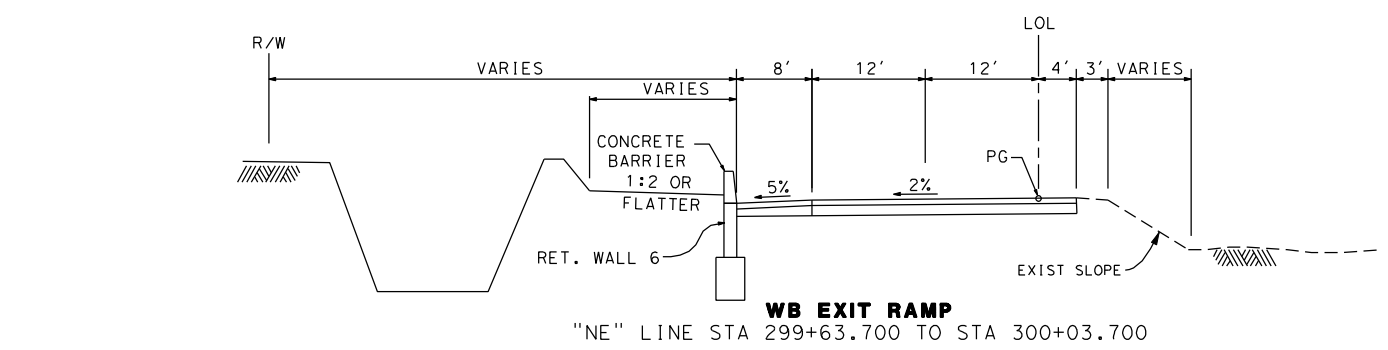
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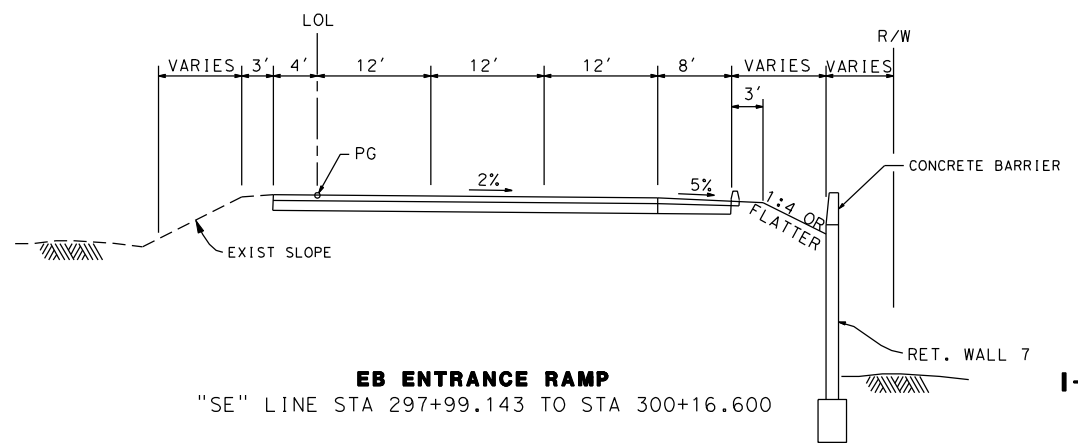
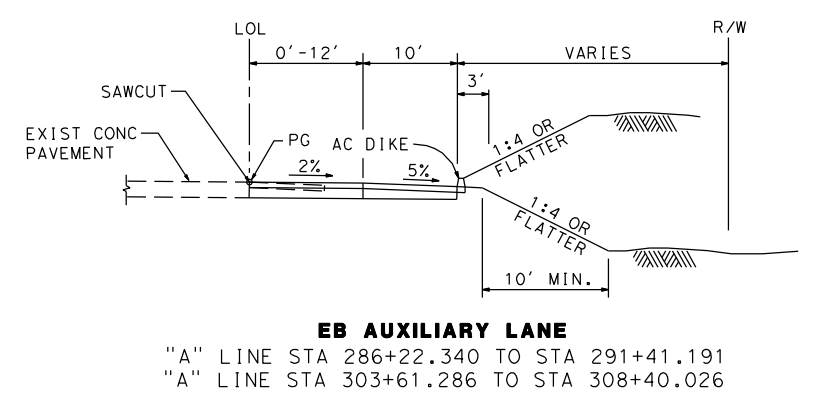
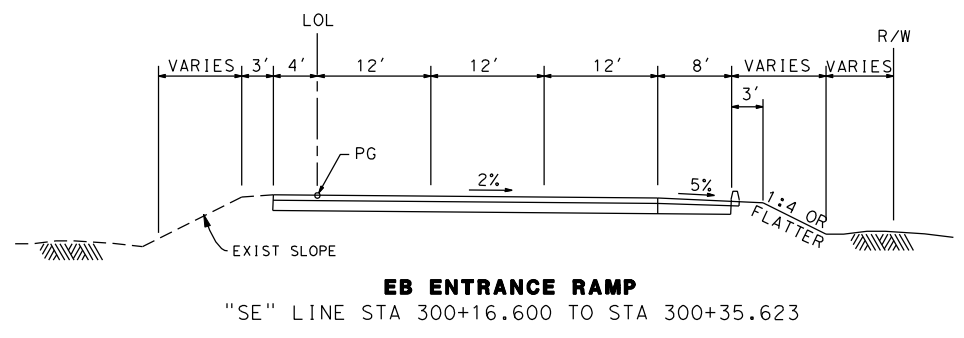
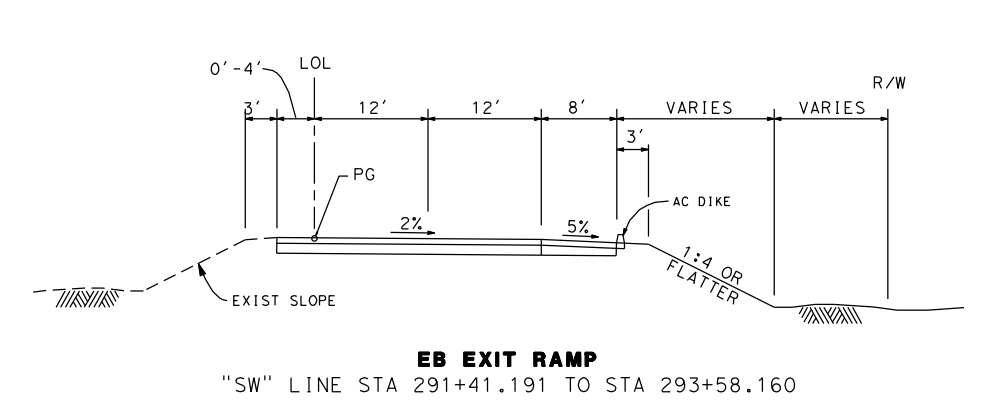
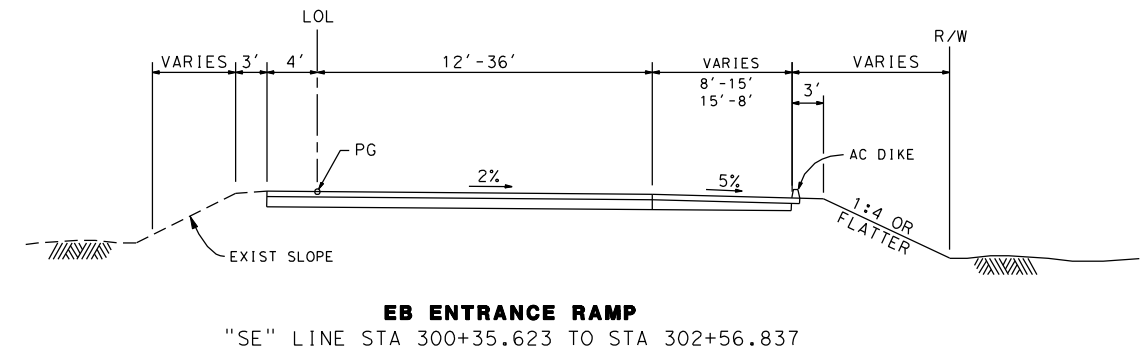
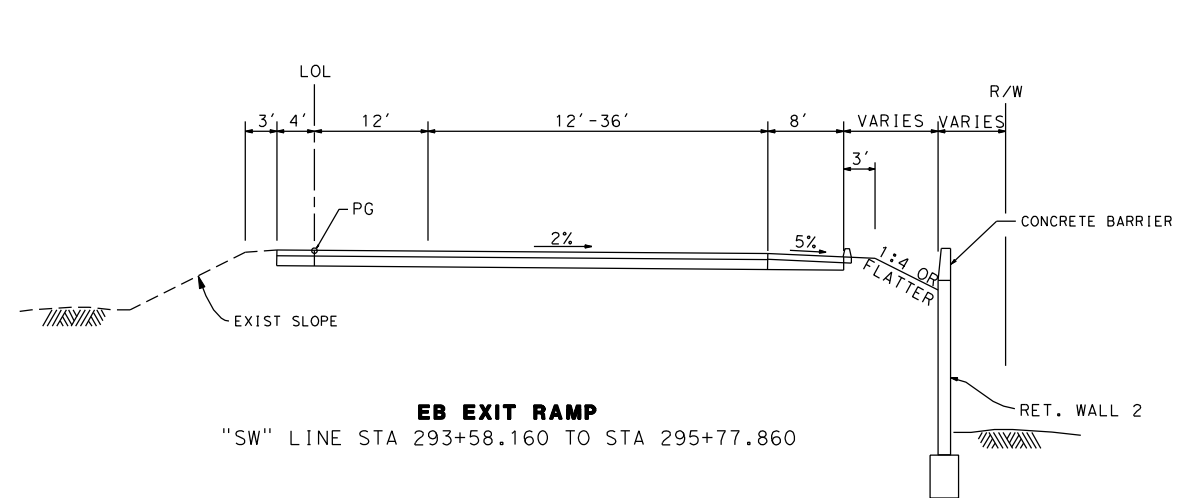
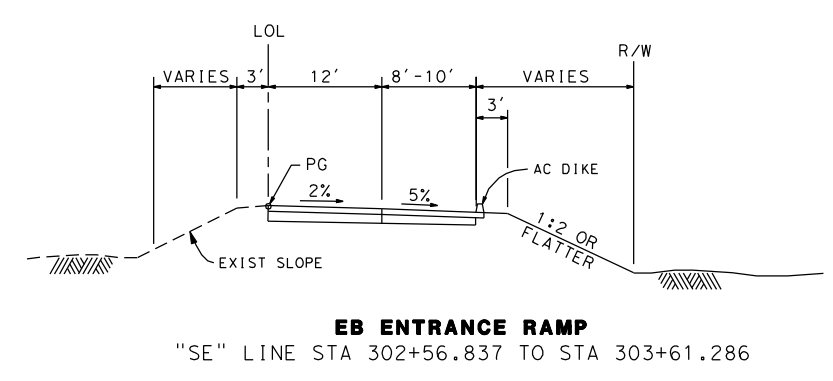
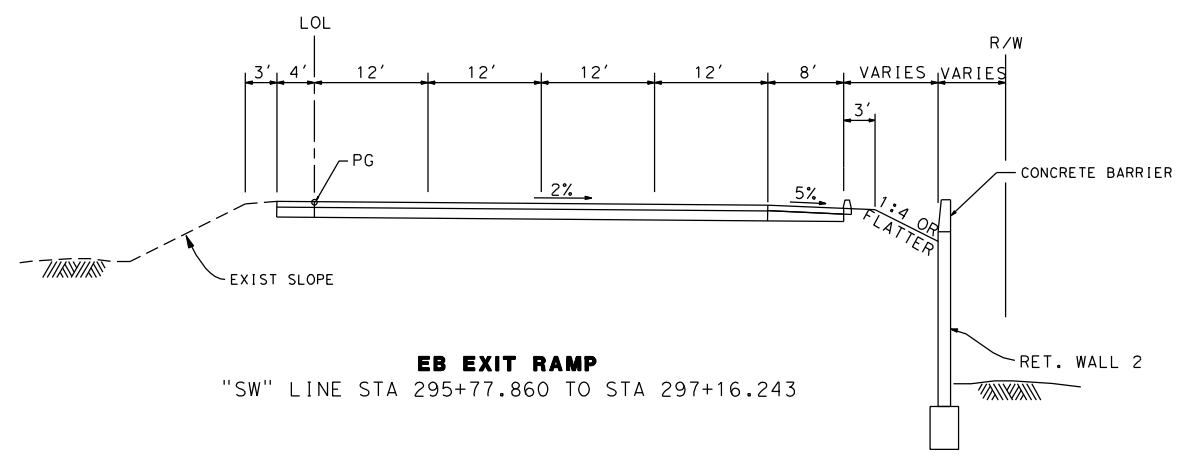
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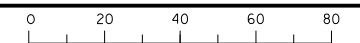
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UNIT 0000

PROJECT NUMBER & PHASE

080000579

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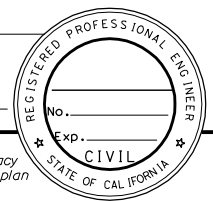
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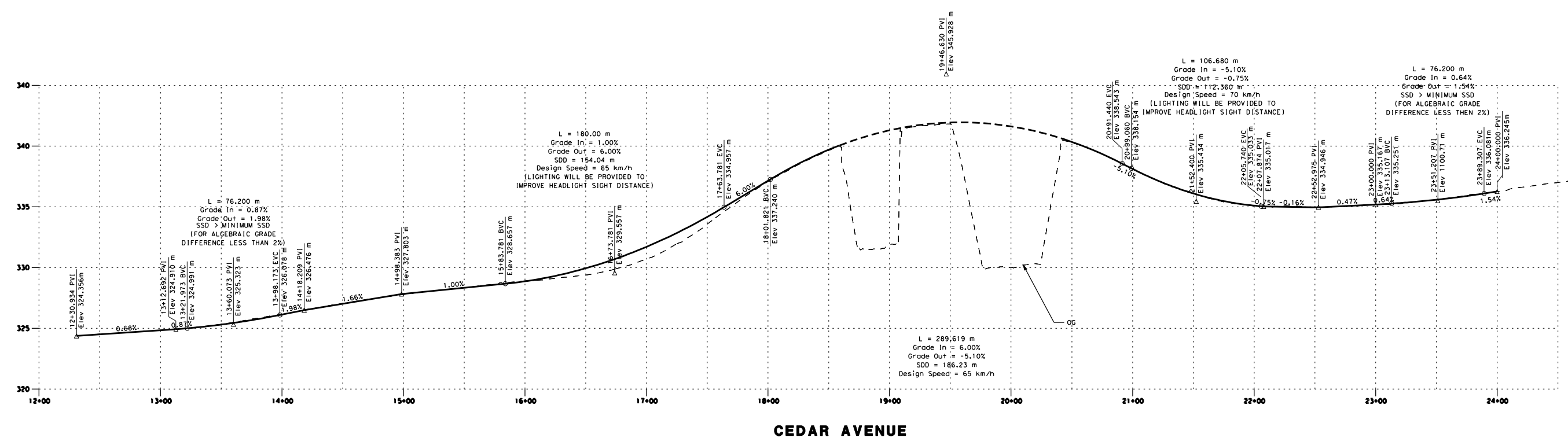
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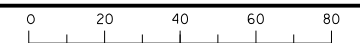
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CEDAR AVENUE

**I-10/ CEDAR AVENUE INTERCHANGE IMPROVEMENTS PROJECT
ALTERNATIVE 2A
(LOCALLY PREFERRED ALTERNATIVE)
PROFILE P-1**

SCALE HORIZ 1:1200
VERT 1:120



LAST REVISION DATE PLOTTED => 4/15/2011
00-00-00 TIME PLOTTED => 9:51:39 AM

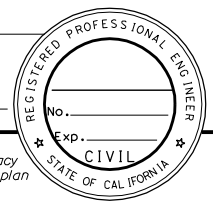
DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

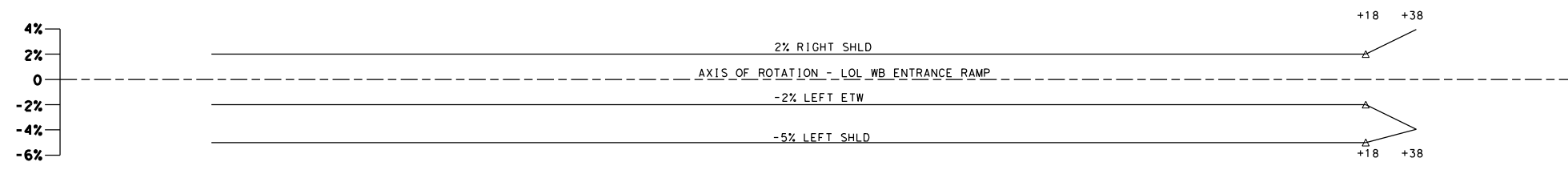
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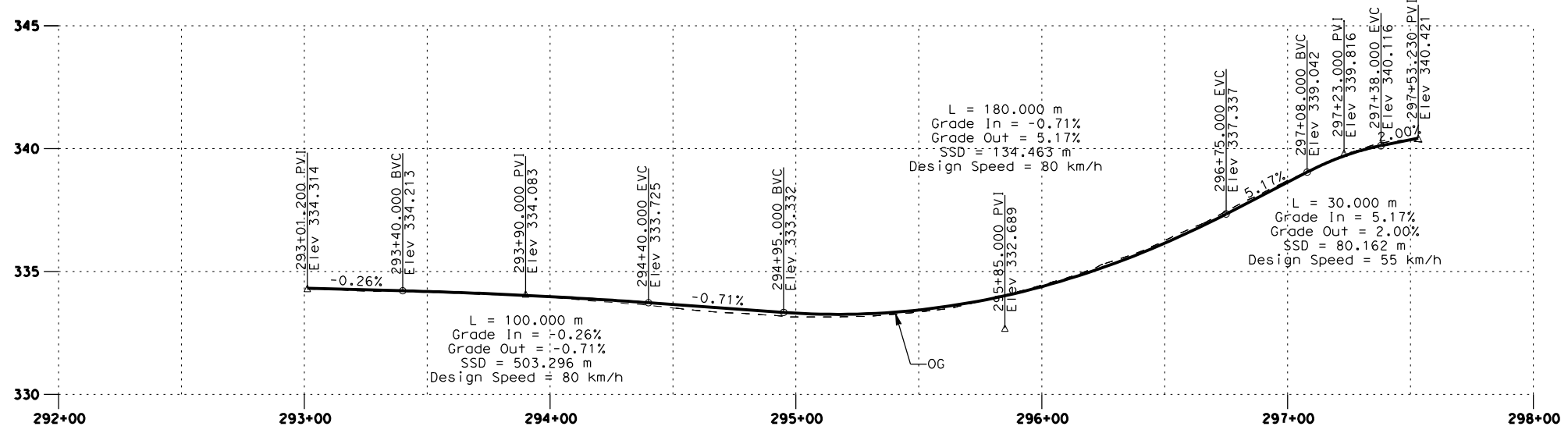


COUNTY OF SAN BERNARDINO
825 E. THIRD STREET
SAN BERNARDINO, CA 92415

AECOM
999 W. TOWN & COUNTRY Rd
ORANGE, CA 92868



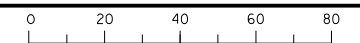
SUPERELEVATION DIAGRAM WB ENTRANCE RAMP



WESTBOUND ENTRANCE RAMP

**I-10/ CEDAR AVENUE INTERCHANGE
IMPROVEMENTS PROJECT
ALTERNATIVE 2A
(LOCALLY PREFERRED ALTERNATIVE)
PROFILE P-2**

SCALE HORIZ 1:1200
VERT 1:120



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Caltrans		CHECKED BY		

BORDER LAST REVISED 7/2/2010

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DGN FILE => T:\SBC00201 - I-10_Cedar\Exhibits\PR Exhibits\Cedar_Profile P-2.dgn

RELATIVE BORDER SCALE IS IN MILLIMETERS

UNIT 0000

PROJECT NUMBER & PHASE

0800000579

LAST REVISION DATE PLOTTED => 4/15/2011
00-00-00 TIME PLOTTED => 9:51:53 AM

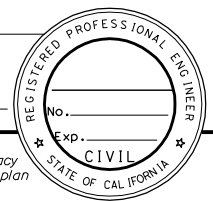
DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST SHEET No.	TOTAL SHEETS
08	SBD	10	28.6/31.0		

REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

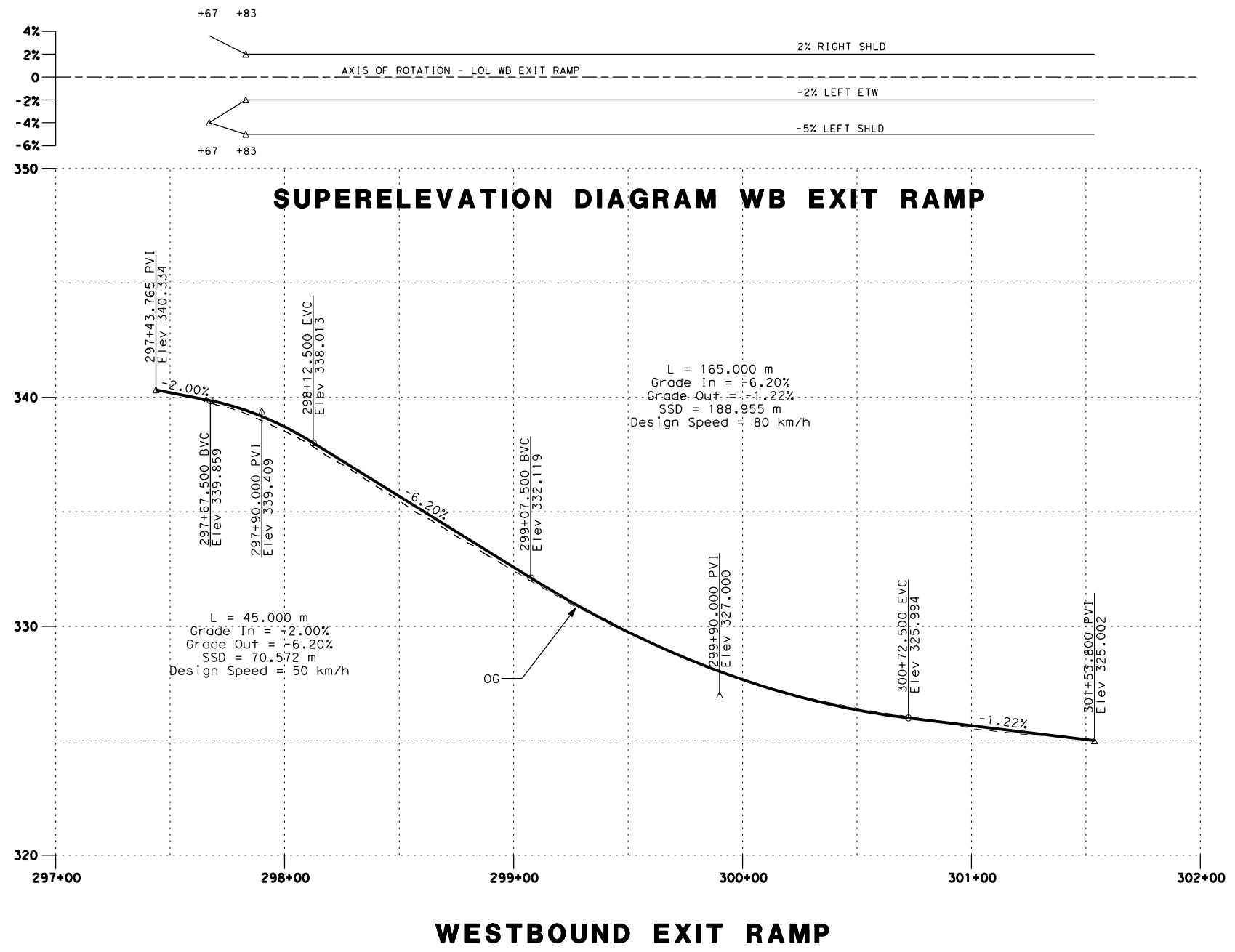
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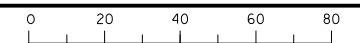
AECOM
999 W. TOWN & COUNTRY Rd
ORANGE, CA 92868



WESTBOUND EXIT RAMP

**I-10/ CEDAR AVENUE INTERCHANGE
IMPROVEMENTS PROJECT
ALTERNATIVE 2A
(LOCALLY PREFERRED ALTERNATIVE)
PROFILE P-3**

SCALE HORIZ 1:1200
VERT 1:120



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	REVISOR
St Caltrans		CHECKED BY	DATE REVISOR

BORDER LAST REVISED 7/2/2010

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RELATIVE BORDER SCALE IS IN MILLIMETERS

UNIT 0000

PROJECT NUMBER & PHASE

0800000579

LAST REVISION DATE PLOTTED => 4/15/2011
00-00-00 TIME PLOTTED => 9:52:10 AM

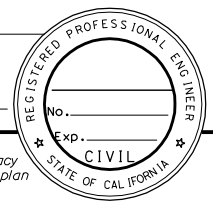
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08	SBD	10	28.6/31.0		

REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

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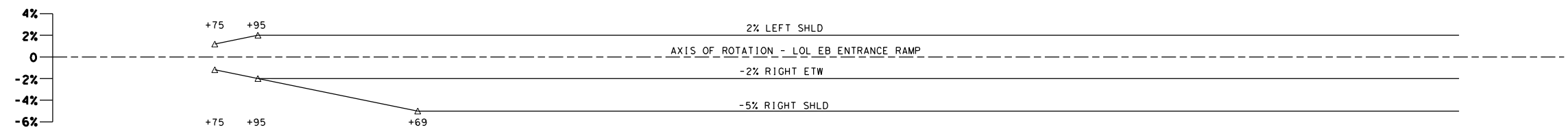
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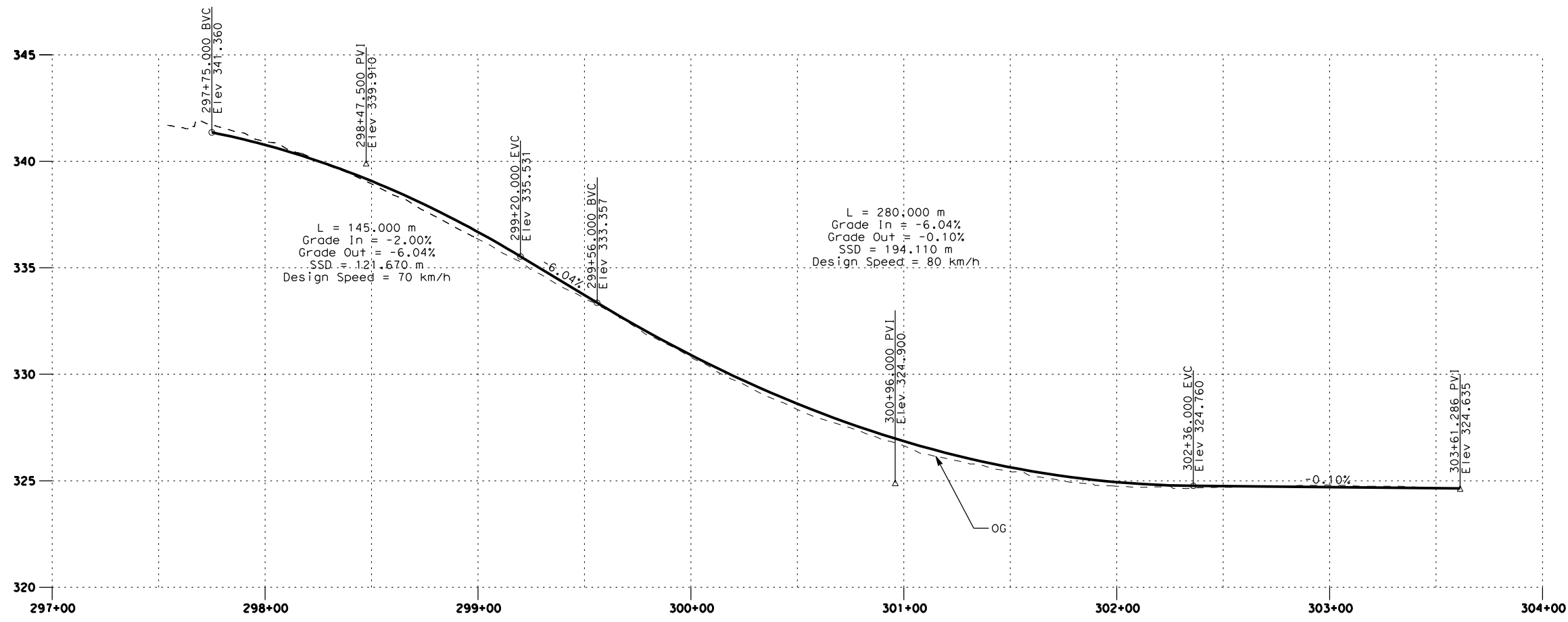
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SAN BERNARDINO, CA 92415

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ORANGE, CA 92868

EAST BOUND EXIT RAMP



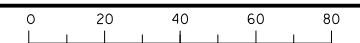
SUPERELEVATION DIAGRAM EB ENTRANCE RAMP



EASTBOUND ENTRANCE RAMP

**I-10/ CEDAR AVENUE INTERCHANGE IMPROVEMENTS PROJECT
ALTERNATIVE 2A
(LOCALLY PREFERRED ALTERNATIVE)
PROFILE P-4**

SCALE HORIZ 1:1200
VERT 1:120



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

BORDER LAST REVISED 7/2/2010

USERNAME => AECOM
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RELATIVE BORDER SCALE IS IN MILLIMETERS

UNIT 0000

PROJECT NUMBER & PHASE

0800000579

LAST REVISION DATE PLOTTED => 4/15/2011
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