VISUAL IMPACT ASSESSMENT

Interstate 10 Corridor Project

San Bernardino and Los Angeles Counties

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Caltrans

STATE OF CALIFORNIA
Department of Transportation

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Prepared by

PARSONS

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Executive Summary

The California Department of Transportation (Caltrans), in cooperation with the San Bernardino Associated Governments (SANBAG), proposes to add freeway lanes through all or a portion of the 33-mile segment of Interstate 10 (I-10) in San Bernardino County from the Los Angeles/San Bernardino (LA/SB) county line to Ford Street in Redlands. The project limits, including transition areas, extend from approximately 0.4 mile west of White Avenue in Pomona at Post Mile (PM) 44.9 to Live Oak Canyon Road in Yucaipa at PM 37.0. This report summarizes the anticipated effects to the visual environment from the project's two build alternatives compared to a No Build Alternative.

Alternatives

This report examines two different build alternatives and a No Build Alternative.

- Alternative 1 (No Build) would maintain the existing lane configuration of the I-10 corridor with no additional mainline lanes or associated improvements to be provided.
- Alternative 2 (High-Occupancy Vehicle Lane Alternative) proposes to extend the existing high-occupancy vehicle (HOV) lane in each direction of I-10 from the current HOV terminus near Haven Avenue in Ontario to Ford Street in Redlands, a distance of approximately 25 miles.
- Alternative 3 (Express Lanes Alternative) proposes to provide two Express Lanes in each direction of I-10 from the LA/SB county line to California Street in Redlands and one Express Lane in each direction from California Street to Ford Street in Redlands, a total of 33 miles. The Express Lanes would be priced managed lanes in which vehicles not meeting the minimum occupancy requirement would pay a toll. West of Haven Avenue, a single new lane would be constructed and combined with the existing HOV lane to provide two Express Lanes in each direction.

Regulatory Setting

This report was prepared following the guidelines established by the Federal Highway Administration's (FHWA) Visual Impact Assessment for Highway Projects (USDOT, 1981). The existing visual quality is analyzed based on three criteria: vividness, intactness, and unity. For this report, Key Views were developed based on eight landscape units: Los Angeles County, County Gateway, Residential,

Commercial-Warehouse, Industrial, Rail Yard, Commercial-Agricultural, and Redlands.

The corridor passes through nine municipalities – Pomona, Montclair, Ontario, Fontana, Rialto, Colton, San Bernardino, Loma Linda, and Redlands – and unincorporated areas of San Bernardino County, including Etiwanda, Bloomington, and Bryn Mawr. Each entity has established requirements and regulations regarding development within its boundaries; however, because the project is within Caltrans' right-of-way (ROW), these requirements do not apply to the freeway corridor. Caltrans, in cooperation with the various entities in the corridor and other local agencies, has developed a Corridor Master Plan for the I-10 Corridor to address the corridor aesthetics and landscape approach for all improvements within the corridor.

Project Setting

The regional landscape of the project corridor is characterized by two identifying elements: the flat appearance of the foreground landscape and the steep San Bernardino and San Gabriel Mountains, which form a dramatic backdrop. Along the existing corridor in many locations are rows of mature eucalyptus *(Eucalyptus camadulensis)* trees that provide a signature visual element to the existing corridor. One additional element to be considered in the regional landscape is the haze that frequently develops in the area that obscures the views of the mountains and influences the overall appearance of the regional landscape.

Alternative 2 Findings

Over the 25-mile length of the project corridor, Alternative 2 is expected to result in moderate changes to the visual environment. It would replace 4 existing bridges, including the Slover Mountain Railroad Bridge, and would widen another 13 bridges, including other railroad bridges, within the project corridor. The new bridges would be longer than the existing and may be wider, depending on the local requirements for the street, such as adding a lane to an existing arterial crossing. In addition to the bridge construction, approximately 51,000 linear feet of retaining wall, and 54,500 linear feet of sound wall would be constructed along the corridor under this alternative.

Throughout the project area, Alternative 2 is expected to require the removal of approximately 374 trees from the rows of eucalyptus trees within the corridor. Another approximately 253 trees could be impacted, depending on the final alignment of the roadway and the proximity of retaining walls that would be required to protect

the trees. In some locations, the proposed retaining walls might have to be placed too close to the trees, and removing too many roots would kill the trees. In addition to the rows of eucalyptus, existing plantings within interchanges would be affected by the proposed alternative. Vegetation along the mainline, which occurs mostly in the eastern half of the corridor, east of the Santa Ana River, would also be affected by the wider paving required by the alternative. Most of this disturbance would be where walls (retaining or sound) and bridge construction would occur.

The effects of Alternative 2 on the existing visual environment of the corridor are anticipated to be moderate, overall, with viewer sensitivity to the changes also being overall moderate. In some cases, the new highway elements provide an opportunity to improve the aesthetics of the corridor by implementing the Caltrans' Corridor Master Plan, which helps to offset some of the increased hard surfaces and vegetation removal associated with the alternative.

Alternative 3 Findings

Alternative 3 extends from approximately Towne Avenue in Pomona to Ford Street in Redlands, a distance of 36 miles (although the Express Lanes only cover 33 miles from the Los Angeles county line to Ford Street). Alternative 3 would replace 13 bridges, including 1 railroad bridge and 1 bridge on the La Cadena Drive eastbound (EB) ramp, within the corridor. Nine of these replacement bridges fall within the County Gateway and Residential Landscape Units and are associated with local street crossings over I-10. In addition, 31 undercrossings in the corridor would be widened, including 14 associated with local streets, 15 associated with either railroads or creek/drainage crossings, and 2 associated with existing ramp configurations.

Approximately 180,000 linear feet of retaining walls would be constructed as part of Alternative 3. These walls would be constructed throughout the project corridor, along the mainline as well as along interchange ramps. The walls within the westernmost and easternmost units would generally face outward to the community. Areas in between the two ends generally have retaining walls that face into the corridor and are associated with interchanges.

Sound walls totaling 119,300 linear feet would be constructed as part of this alternative. These would represent replacement walls, particularly in the western portions of the corridor, new walls, and extensions of existing walls (particularly in the eastern sections of the corridor. The typical anticipated wall height is between 12 to 16 feet, but can range from 8 to 20 feet.

Because the cross section is generally wider for Alternative 3, there is a substantial amount of existing vegetation along I-10 that would be potentially disturbed by the project. This includes areas within the interchanges, such as at Euclid Avenue, Vineyard Avenue, and Richardson Avenue, where bridges are being replaced and ramps realigned, areas along mainline areas, such as between Mountain Avenue and 4th Street, where the freeway is being widened, and areas along ramps and the mainline where retaining walls are to be constructed. The rows of eucalyptus, which generally fall between the Interstate 15 (I-15) interchange and the Santa Ana River, would also have greater impacts than with Alternative 2. A total of 1,148 of the trees are potentially impacted by the project, while another 295 are anticipated to remain.

Alternative 3 is anticipated to moderately affect the existing visual quality of the corridor, and viewer sensitivity is overall anticipated to be moderate. While this is similar to the findings for Alternative 2, Alternative 3 is a much longer corridor; therefore, it would potentially affect more individuals.

Mitigation

Twenty-seven (27) mitigation measures have been identified to remove or reduce the project's visual impacts. The proposed mitigation measures address the following overarching considerations:

- Incorporate elements from Caltrans' *Interstate 10 Corridor Master Plan, San Bernardino County*;
- Design context-sensitive solutions (through the incorporation of the Aesthetics and Landscape Master Plan);
- Design structural aesthetics;
- Replace landscape plantings.

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List of Acronyms and Abbreviations

BNSF	Burlington Northern Santa Fe
Caltrans	California Department of Transportation
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CHP	California Highway Patrol
CSS	Context-Sensitive Solutions
EB	eastbound
FHWA	Federal Highway Administration
GP	general purpose
HOV	high-occupancy vehicle
I-10	Interstate 10
I-15	Interstate 15
I-215	Interstate 215
IC	Interchange
I/E	ingress/egress
LA/SB	Los Angeles/San Bernardino
NB	northbound
NEPA	National Environmental Policy Act
OC	overcrossing
PDPM	Project Development Procedures Manual

PM	Post Mile
PSR	Project Study Report
ROW	right-of-way
SANBAG	San Bernardino Associated Governments
SB	southbound
SCAG	Southern California Association of Governments
SER	Standard Environmental Reference
SR	State Route
UC	undercrossing
U.S.C.	United States Code
USDOT	United States Department of Transportation
v/c	volume to capacity
WB	westbound

Chapter 1 Project Description and Alternatives

1.1 Purpose of Study

This study assesses the visual impacts and anticipated changes to the visual environment that may be associated with the Interstate 10 (I-10) Corridor Project. This study also proposes measures to mitigate adverse impacts associated with the project on the adjacent communities. Methodologies for the evaluations described in this report follow those outlined by the Federal Highway Administration's (FHWA) Visual Impact Assessment for Highway Projects (USDOT, 1981), which is described in more detail in this report.

1.2 Project Description

The California Department of Transportation (Caltrans), in cooperation with the San Bernardino Associated Governments (SANBAG), proposes to add freeway lanes through all or a portion of the 33-mile segment of I-10 in San Bernardino County from the Los Angeles/San Bernardino (LA/SB) county line to Ford Street in Redlands. The project limits, including transition areas, extend from approximately 0.4 mile west of White Avenue in Pomona at Post Mile (PM) 44.9 to Live Oak Canyon Road in Yucaipa at PM 37.0. Figure 1-1 shows the project location map.

A No Build Alternative and two build alternatives are being considered for this project, as described below:

Alternative 1 (No Build) would maintain the existing lane configuration of the I-10 corridor with no additional mainline lanes or associated improvements to be provided.

Alternative 2 (High-Occupancy Vehicle Lane Alternative) proposes to extend the existing high-occupancy vehicle (HOV) lane in each direction of I-10 from the current HOV terminus near Haven Avenue in Ontario to Ford Street in Redlands, a distance of approximately 25 miles.

Alternative 3 (Express Lanes Alternative) proposes to provide two Express Lanes in each direction of I-10 from the LA/SB county line to California Street in Redlands and one Express Lane in each direction from California Street to Ford Street in Redlands, a total of 33 miles. The Express Lanes would be priced managed lanes in which vehicles not meeting the minimum occupancy requirement would pay a toll.

West of Haven Avenue, a single new lane would be constructed and combined with the existing HOV lane to provide two Express Lanes in each direction. Alternative 3 traverses nine cities (Pomona, Montclair, Ontario, Fontana, Rialto, Colton, San Bernardino, Loma Linda, and Redlands) and unincorporated areas of San Bernardino County, including Etiwanda, Bloomington, and Bryn Mawr.

The proposed improvements are generally within San Bernardino County, with some improvements in Los Angeles County to facilitate transitioning between the existing HOV cross section in Los Angeles and the proposed Express Lane cross section in San Bernardino in Alternative 3. The I-10 Corridor Project is classified as a Category 4A project according to the Caltrans Project Development Procedures Manual (PDPM) because the project would require additional right-of-way (ROW).

1.3 Purpose and Need

The purpose of the project is to improve traffic operations on I-10 in San Bernardino County to reduce congestion, increase throughput, and enhance trip reliability for the planning design year of 2045.

The objectives of the project are to:

- Reduce volume-to-capacity (v/c) ratios along the corridor;
- Improve travel times within the corridor;
- Provide a facility that is compatible with transit and other modal options;
- Provide consistency with the Southern California Association of Governments (SCAG) Regional Transportation Plan;
- Provide a cost-effective project solution; and
- Minimize environmental impacts and ROW acquisition.

The project is needed to address the deficiencies of I-10 within the project limits, which are summarized below:

- Substantial portions of the I-10 mainline general purpose (GP) lanes peak-period traffic demand currently exceeds capacity;
- Nearly all of the I-10 mainline GP lanes are projected to exceed capacity in future years; and
- The I-10 existing mainline HOV lanes operation is degraded during peak periods.

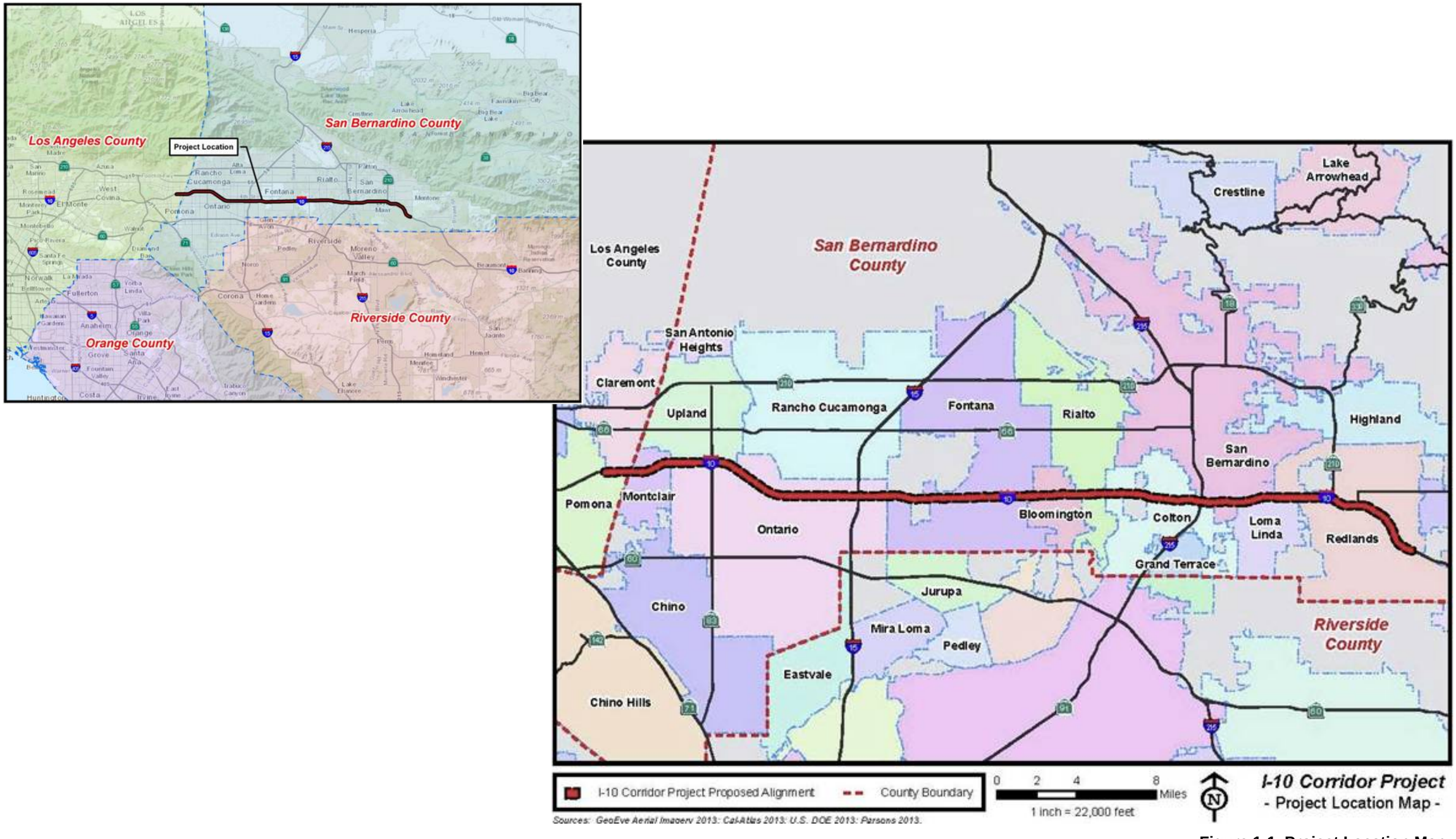

Figure 1-1. Project Location Map

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1.4 Alternatives

Three alternatives were developed for this project. Alternative 1 is a No-Build Alternative, Alternative 2 is an HOV Lane Alternative, and Alternative 3 is an Express Lanes Alternative. Alternatives 2 and 3 propose to modify the mainline, ramps, and median, and reconstruct bridges and culverts to accommodate the roadway widening. All of the proposed roadway and bridge construction is expected to be performed within existing State and/or city ROWs except for several temporary construction easements that may be required for construction of some proposed retaining walls.

Specifics for each alternative are discussed below. In addition to the I-10 Corridor Project, several ongoing or proposed interchange and corridor projects must be coordinated with the proposed I-10 Corridor Project improvements. Table 1-1 shows the current projects and the status of each project.

1.4.1 Alternative 1 – No Build

The No Build Alternative would maintain the existing configuration of the I-10 corridor with no additional freeway lanes to be provided. Without additional freeway lanes, additional traffic congestion resulting from regional growth will further degrade traffic conditions along the corridor and worsen operational deficiencies, resulting in reduced travel speeds and longer commute times. Additionally, the No Build Alternative is inconsistent with the regional programs for transportation improvements and the Caltrans' goal of providing an efficient and effective interregional mobility system. Because there are no improvements anticipated within the project limits, there are no construction or ROW costs associated with this alternative; however, it can be assumed that existing projects either already under construction or moving under a separate environmental clearance process would be completed under the No Build Alternative. A list of these projects can be seen in Table 1-1.

Table 1-1. Related Projects

Project Name, Type, Status, and ID Number (Refer to Figures 2-1 through 2-5)	Project Description
I-15 Corridor Improvement Project • Transportation Project • Located in the cities of Jurupa Valley, Eastvale, Norco, Corona, and Riverside • Riverside County Transportation Commission (RCTC) and Caltrans project (This project is south of the I-10 Corridor Project and is not shown in the Related Projects map.)	RCTC, in partnership with Caltrans District 8, is proposing the addition of one to two Tolled Express Lanes in each direction from Cajalco Road where it crosses I-15 in Corona to just south of the I-15 and SR 60 interchange at Riverside Drive. The resizing of this project has an estimated construction cost of $415 million.
State Route 210 Foothill Freeway Planned Construction Activity – ID Number 1 (Sheet 4) • Transportation Project • Located in the cities of La Verne, Claremont, Upland, Rancho Cucamonga, Fontana, Rialto, and San Bernardino • SANBAG and Caltrans Project • Future planned project; timeline is uncertain • Construction/approval dates range for the varying activities; see Project Description column	Future work on SR-210 would include: • Freeway landscaping is planned for the final 8 miles (Segment 11) of SR 210 ending at the I-10 interchange. Landscaping construction contract awarded to Kasa Construction in June 2013. • Seismic retrofit of the UPRR bridge in San Bernardino. • Construction of an interchange at Pepper Avenue in Rialto. SANBAG built a bridge at this location. Once the City of Rialto extends Pepper Avenue north to SR 210, SANBAG will build on-ramps and off-ramps at this location. Preliminary engineering and preparation of the environmental document are underway now through the City's consultants. • SR 210 to I-215 high-speed connectors.
Redlands Passenger Rail Project – ID Number 2 (Sheet 4) • Transportation Project • Located in the cities of San Bernardino, Loma Linda, Redlands, and unincorporated areas of San Bernardino County. • Federal Transit Administration (FTA), SANBAG, Omnitrans, Metrolink, and the City of San Bernardino Project • Project construction is expected to begin in late 2015	The Redlands Passenger Rail Project is proposed to run along existing railroad ROW from E Street just before Stoddard Avenue in San Bernardino to Rialto Avenue in Redlands, roughly a 9-mile extension of passenger rail service. The project is proposing to build five new stations. The project will incorporate track improvements, including redesign of the existing track alignment, track ballast, and subgrade foundation. Additional project components include the replacement or strengthening of five bridges; additional traffic and rail signals; utility replacement and relocation; and culvert replacements, extensions, and relocations.

Table 1-1. Related Projects

Project Name, Type, Status, and ID Number (Refer to Figures 2-1 through 2-5)	Project Description
Metro Gold Line Foothill Extension Construction Activity: **Azusa to Montclair – ID Number 3 (Sheet 1)** • Transportation Project • Located in the cities of Glendora, San Dimas, La Verne, Pomona, Claremont, and Montclair • Metro Project • Starting in early 2014, the project will begin advanced conceptual engineering	The Metro Gold Line light-rail transit (LRT) system extension is proceeding in two phases. Construction of the first phase from the Pasadena Sierra Madre Villa Madre Station, located at Raymond Avenue and Del Mar, to the Azusa-Citrus Station, located between Palm Drive and Citrus Avenue, began in late 2011, and construction is anticipated to be completed in late 2015. The Foothill extension from Vermont Avenue in Azusa to just east of Monte Vista Avenue and north of Arrow Highway in Montclair will extend the Metro Gold Line 12.3 miles and add six stations in the cities of Glendora, San Dimas, La Verne, Pomona, Claremont, and Montclair.
Metro Gold Line Foothill Extension Construction Activity: **Ontario Airport Extension – ID Number 4 (Sheets 1 and 2)** • Transportation Project • Located in the cities of Montclair, Upland, and Ontario • Metro Project • Funding for the Ontario Airport Extension has not been identified; project timeline is uncertain • The Alternatives Analysis process will begin in 2014	The Ontario Airport Extension will extend the Gold Line approximately 8 miles – from the TransCenter in Montclair, located just east of Monte Vista Avenue and north of Arrow Highway, to Ontario – and terminate the line at the Los Angeles/Ontario International Airport. Although not formally part of the Foothill Extension Project, the Construction Authority completed a study to understand the feasibility of extending the line from Montclair to the airport in 2008. The initial study concluded that extending the line was feasible and provided many potential route options.
The Paseos – ID Number 5 (Sheet 1) • Land Development Project • Located in the city of Montclair • GLJ Partners and Alliance Project • Specific Plan approved in 2010	The proposed project would construct a 385-unit multi-family residential development at the northeast corner of Monte Vista Avenue and Moreno Street.
Arrow Station – ID Number 6 (Sheet 1) • Land Development Project • Located in the city of Montclair • Hutton Companies Project • The project is expected to commence construction in late 2014	The Specific Plan proposes a 129-unit residential development consisting of 99 urban-style multi-family units and 30 single-family detached homes, which was approved by the City Council in December 2010. Arrow Station is to be located on the north side of Arrow Highway just east of Monte Vista Avenue.
Park View Specific Plan – ID Number 7 (Sheet 1) • Land Development Project • Located in the city of Upland • City of Upland Housing Element – Specific Plan • To be implemented between 2013 and 2021	The Park View Specific Plan is envisioned as a mixed-use village that will be located in between east Baseline Road, SR 210, and Cajon Road. The plan calls for the development of up to 100,000 square feet of commercial/ retail space, 32 acres of residential land, and 57 acres of open space for a city park, flood control facilities, and spreading grounds. When built to capacity, the Specific Plan will add 400 housing units to Upland, most of which will be single-family housing.

Table 1-1. Related Projects

Project Name, Type, Status, and ID Number (Refer to Figures 2-1 through 2-5)	Project Description
Upland Crossing Specific Plan – ID Number 8 (Sheet 1) • Land Development Project • Located in the city of Upland • City of Upland Housing Element – Specific Plan • To be implemented between 2013 and 2021	This Specific Plan area is composed of a residential development with a small commercial-retail component. The Specific Plan proposes a high-quality development of detached single-family units, condominiums, and mixed-use multi-family units. The area is bounded by Foothill Boulevard, Monte Vista Avenue, and west Arrow Route, just below Central Avenue.
College Park Specific Plan – ID Number 9 (Sheet 1) • Land Development Project • Located in the city of Upland • City of Upland Housing Element – Specific Plan • To be implemented between 2013 and 2021	In 2004, the City adopted the College Park Specific Plan to encourage mixed-use development in southwest Upland and provide housing opportunities for the Claremont Colleges. The planning area includes 25 acres of residential land that can accommodate approximately 500 housing units. A total of 450 apartment units have been built. An additional 92 small-lot, detached single-family units are planned at a density of 10 units per acre.
Meredith International Center Specific Plan – ID Number 10 (Sheets 1 and 2) • Land Development Project • Located in the city of Ontario • City of Ontario Specific Plan • An Initial Study was prepared for the project in 2014.	The Meredith International Centre Specific Plan Amendment Project proposes a mix of industrial, commercial, and residential land uses on approximately 257 acres located in the southeast portion of Ontario within San Bernardino County. The site, which is generally located north of I-10, between Vineyard Avenue on the west, and Archibald Avenue and Cucamonga Creek Channel, is formed by 4th Street. The project area is located in between the Southern Pacific Trail and west Arrow Route.
Ontario Center Specific Plan – ID Number 11 (Sheet 2) • Land Development Project • Located in the city of Ontario • City of Ontario Specific Plan • An amendment to the Ontario Specific Plan was approved in 2006.	The Ontario Center site consists of approximately 88 acres of vacant land located at the northerly boundary of the eastern portion of Ontario, south of Fourth Street, between Haven Avenue and Milliken Avenue, and less than 0.25 mile north of I-10. The Ontario Center will include urban commercial, urban residential, garden commercial, and open space elements.
Ontario Festival Specific Plan – ID Number 12 (Sheet 2) • Land Development Project • Located in the city of Ontario • City of Ontario Specific Plan • Approved in 2012.	The Ontario Festival Specific Plan is a comprehensive plan for the development of a planned residential site that could accommodate up to 472 dwelling units on approximately 37.6 acres. This project will be located along Inland Empire Boulevard between Archibald Avenue and Turner Avenue, just below Guasti Regional Park.

Table 1-1. Related Projects

Project Name, Type, Status, and ID Number (Refer to Figures 2-1 through 2-5)	Project Description
Wagner Properties Specific Plan – ID Number 13 (Sheet 2) • Land Development Project • Located in the city of Ontario • City of Ontario Specific Plan • Approved in 2010	The Specific Plan addresses the development of 11 parcels, totaling 54.57 acres located in eastern Ontario.
Southwest Industrial Park – ID Number 14 (Sheets 2 and 3) • Land Development Project • Located in the city of Fontana • City of Fontana Specific Plan • Latest Specific Plan amendment approved in 2009	The Southwest Industrial Park (SWIP) Specific Plan is expected to promote economic development and provide opportunities for existing property owners and new businesses. A total of 1,101 acres have been included in the plan since its adoption in 1977. The project area spans both sides of I-10 and is roughly between Etiwanda Avenue and Citrus Avenue.
Alliance California Gateway South Building 3 – ID Number 15 (Sheet 4) • Land Development Project • Located in the city of San Bernardino • City of San Bernardino Project • Approved September 2013	The proposed project involves construction and operation of an industrial warehouse building consisting of 1,199,360 square feet of interior floor space and 215 loading bays on a 49.65-acre portion of a 62.65-acre property located south of and adjacent to East Orange Show Road and approximately 450 feet east of South Waterman Avenue in the south-central portion of San Bernardino.
Downtown Redlands Specific Plan (Amendment No. 15) – ID Number 16 (Sheets 4 and 5) • Land Development Project • Located in the city of Redlands • City of Redlands Project • Plan approved in 2011	The Specific Plan area extends from Texas Street in the west to North Church Street in the east, and from the south side of I-10 in the north to San Gorgonio Drive, Brookside Avenue, West Vine Street, South 6th Street, East Olive Avenue, and East Citrus Avenue in the south. Rail tracks cut through the site, just south of Stuart Avenue.
West of Devers Project – ID Number 17 (Sheet 4) • Public Infrastructure Project • Located within incorporated and unincorporated areas of Riverside and San Bernardino counties, cities of Banning, Beaumont, Calimesa, Colton, Grand Terrace, Loma Linda, and Redlands • Southern California Edison (SCE) Project • Project construction scheduled to begin in 2016	This project will consist of removing and replacing approximately 48 miles of existing 220-kilovolt (kV) transmission lines with new double-circuit 220-kV transmission lines, between the existing Devers Substation (near Palm Springs), Vista Substation (in Grand Terrace), and San Bernardino Substation. This project will consist of removing and replacing approximately 48 miles of existing 220-kV transmission lines with new double-circuit 220-kV transmission lines, between the existing Devers Substation (located on 10th Avenue and Diablo Road, near Palm Springs), Vista Substation (in Grand Terrace), and San Bernardino Substation (located on San Bernardino Avenue in between Mountain View Avenue and California Street).

Table 1-1. Related Projects

Project Name, Type, Status, and ID Number (Refer to Figures 2-1 through 2-5)	Project Description
Freeway Corridor Specific Plan – ID Number 18 (Sheet 5) • Land Development Project • Located in the city of Yucaipa • City of Yucaipa Project • Plan approved in 2007	The Specific Plan site encompasses 1,234.3 acres and is located in the southwestern corner of Yucaipa within San Bernardino County. The Specific Plan site is bisected by I-10 and abuts the Riverside county line to the south. The proposed Specific Plan is composed of three distinct neighborhoods. Each neighborhood includes residential, commercial, business park, public facilities, and open space land uses. Local access to the location is provided by Live Oak Canyon Road, County Line Road, Oak Glen Road, Wildwood Canyon Road, and Calimesa Boulevard.
Oak Hills Marketplace Specific Plan – ID Number 19 (Sheet 5) • Land Development Project • Located in the city of Yucaipa • City of Yucaipa Project • Plan approved in 2007	The Oak Hills Marketplace (OHM) property occupies approximately 63.66 acres located in southern Yucaipa. The site is located adjacent to eastbound I-10, immediately east of Live Oak Canyon Road. Wildwood Creek traverses the project site, and several unnamed hills are located along the southern border of the property. The proposed project aims to provide a regional shopping destination, including dining and shopping opportunities, and approximately 1,000 new jobs to area residents.
Robinson Ranch Planned Development – ID Number 20 (Sheet 5) • Land Development Project • Located in the city of Yucaipa • City of Yucaipa Project • Plan approved in 2011	The Planned Development area covers 522 acres in the southwest portion of Yucaipa. The planned development area is divided into the following three primary planning areas: Robinson Ranch North, West Oak Center, and Wildwood Ranch. In total, the planned development envisions 4,159 multi- and single-family attached and detached dwelling units distributed throughout 385 acres, 109 acres of general commercial uses, and 28 acres of business park uses. Approximately 119 acres of improved open space and 49 acres of natural open space areas would be included within these land uses. I-10 separates the Robinson Ranch North Planning Area on the north side of the freeway and the Wildwood Ranch and Wildwood Center planning areas to the south of the freeway.

Note: Information was collected from each project's Website in 2014.

1.4.2 Alternative 2 (HOV Lane Alternative)

Alternative 2 would extend the existing HOV lane in each direction of I-10 from the current HOV terminus near Haven Avenue to Ford Street, a distance of approximately 25 miles. This extension would consist of the addition of a single HOV lane in each direction. In addition, this alternative would re-establish existing auxiliary lanes along the corridor and construct a new westbound (WB) auxiliary lane between Rancho Avenue and La Cadena Drive. Figure 1-2 shows a typical cross section for Alternative 2. The proposed improvements under Alternative 2 would involve construction work within the following routes and post miles:

- 08-SBd-10 PM 4.7/R37.0
- 08-SBd-15 PM 0.7/4.0
- 08-SBd-38 PM 0.0/0.3
- 08-SBd-83 PM 10.7/11.5
- 08-SBd-210 PM R33.0/R31.5
- 08-SBd-215 PM 2.1/5.7

In addition to the mainline widening, the project includes reconstruction and/or modification of interchange ramps, local arterials, and structures that are necessary to accommodate the proposed freeway widening, including new or reconstruction of retaining walls and soundwalls where appropriate. Existing concrete barrier, temporary railings, metal beam guardrails, and thrie-beam barriers in the median of I-10 would be replaced with concrete barrier Type 60G, and median lighting would be provided where required. Existing auxiliary lanes would be re-established in kind and additional auxiliary lanes added where warranted.

The base condition for Alternative 2 assumes the completion of improvements along the project corridor currently in planning or being implemented as listed in Table 1-1.

Overall, the project under Alternative 2 can be divided into several project elements, as described below:

- **Vegetation Removal:** The existing corridor has a row of mature eucalyptus *(Eucalyptus camadulensis)* trees that line the freeway in locations west of the Santa Ana River. Approximately 374 of these trees would be removed for the project; and an additional 253 trees could be impacted, depending on the final configuration of the roadway and the requirements for barrier protection. Construction of the roadway and roadside barrier and/or retaining wall might damage the root systems of the

trees to such an extent that they would have to be removed. Finally, approximately 965 trees are expected to remain in place. Appendix A of this report shows the anticipated impacts to the existing eucalyptus rows for Alternative 2. West of Waterman Avenue, a row of olive trees *(Olea europaea)* stands in the median of the freeway. These trees would be removed by the project. In addition, some existing vegetation in the interchange areas is expected to be removed to construct project elements, including retaining walls and the modification of gore points.

- **Interchanges:** The configuration of existing interchanges, including on- and off-ramps, would be similar to the existing configurations. Some ramps and gore areas are expected to change from their current locations in some interchanges, depending on the roadway design. Table 1-2 shows the anticipated changes to the ramps, by interchange, within the corridor.
- **Local Streets:** In general, local street improvements are expected to be minor and are associated with the ramp/local street interface. The exception to this is at Richardson Street, which would need to be replaced with a longer span structure to accommodate the widened freeway.
- **OCs/Bridges:** The addition of the HOV lanes to the corridor would require widening or replacing many existing bridges and OC structures in the corridor. Table B-1 in Appendix B shows the modifications proposed for the existing bridges and OCs within the project corridor for Alternatives 2 and 3. For Alternative 2, the Slover Mountain Railroad Bridge and the Mt. Vernon, Tennessee, and Richardson Avenue bridges would be replaced. Another 13 bridges would be widened, and the Citrus, Cypress, and Highland Avenue bridges, along with the 6th Street Bridge, would be reconstructed in the median area only.
- **Retaining Walls:** Retaining walls are anticipated for the project; most of the retaining walls are proposed within interchange areas. Table B-2 in Appendix B shows the anticipated retaining walls, their approximate locations, and the average wall height for Alternative 2. Overall, Alternative 2 would require the construction of 88 retaining walls along the corridor. The length of these walls is more than 51,000 lineal feet of retaining walls, with average heights falling in the 8 to 12 foot range. The tallest of these walls, at 26 feet, is along I-10 near the La Cadena Drive/9th Street interchange.
- **Soundwalls:** Soundwalls found to be feasible and reasonable would be required in locations throughout the corridor and are generally associated with residences adjacent to or near the freeway. Proposed soundwall locations and anticipated heights are shown in Table B-4 in Appendix B. Approximately 51,350 lineal feet of new or relocated soundwall are proposed as part of

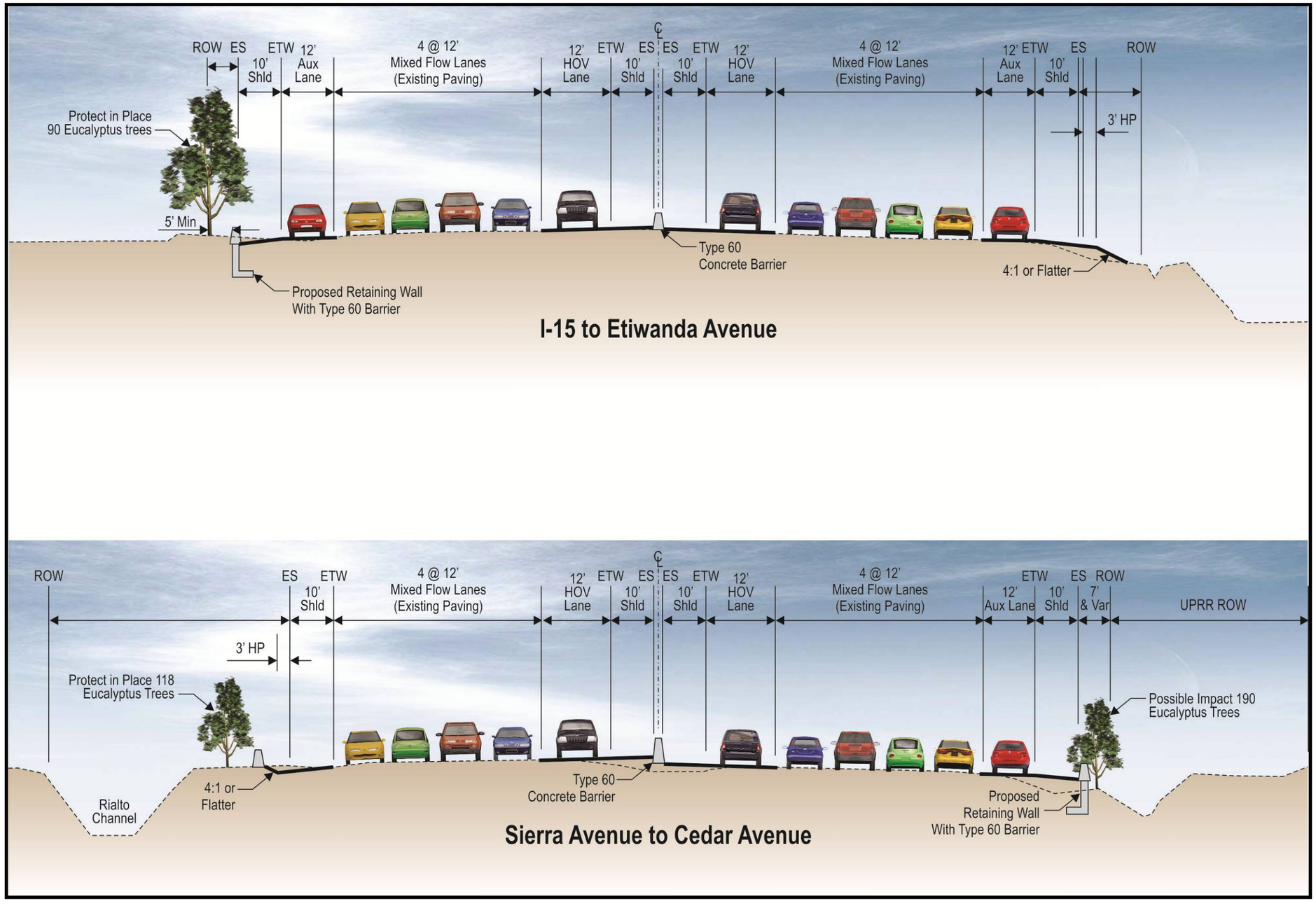

Figure 1-2. Typical Cross Sections, Alternative 2

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Table 1-2. Anticipated Changes to Ramp Alignments per Interchange

Interchange	Alternative 2				Alternative 3			
	Reconstruction Level				Reconstruction Level			
	None	Gore	Part	Full	None	Gore	Part	Full
Indian Hill Boulevard					X			
Monte Vista Avenue							X	X
Central Avenue							X	X
Mountain Avenue								X
Euclid Avenue								X
4th Street							X	X
Vineyard Avenue								X
Archibald Avenue							X	
Haven Avenue	X						X	X
Milliken Avenue		X		X			X	
Interstate 15			X				X	
Etiwanda Avenue		X	X				X	
Cherry Avenue		X				X	X	
Citrus Avenue		X	X				X	
Sierra Avenue		X	X			X	X	
Cedar Avenue		X	X				X	
Riverside Avenue		X	X			X	X	
Pepper Avenue			X	X			X	X
Rancho Avenue				X				X
La Cadena Drive/9th Street			X	X				X
Mt. Vernon Avenue			X				X	X
Interstate 215		X	X				X	
Waterman Avenue			X	X			X	
Tippecanoe Avenue			X				X	X
Mountain View Avenue			X					X
California Street			X					X
Alabama Street			X				X	
Tennessee Street			X	X			X	X
Eureka Street/Orange Avenue/ 6th Street	X				X			
University Street/Cypress Avenue	X				X			
Ford Street				X				X

1. Areas shaded in grey are not included in Alternative 2.

2. None = no changes to any ramps anticipated, Gore = changes to some gore areas, Part = partial reconstruction to some ramps in the interchange including possible to gore areas, Full = full reconstruction of some ramps in the interchange.

Alternative 2. The walls range in height from 8 to 16 feet, with the majority of these walls being 14 feet tall. In addition, three additional walls at the eastern edge of the project corridor near Ford Street, totaling 3,150 linear feet, are currently under study for inclusion in this alternative. For the purpose of this analysis, it is assumed that these walls will be built, bringing the total length of sound wall under this alternative to 54,500 linear feet of wall.

1.4.3 Alternative 3 (Express Lanes)

Alternative 3 would provide two Express Lanes in each direction of I-10 from the LA/SB county line to California Street and one Express Lane from California Street to Ford Street. Between the LA/SB county line and Haven Avenue, the existing HOV lane in each direction of I-10 would be combined with an additional lane to provide two Express Lanes in each direction.

The project traverses nine cities (Pomona, Montclair, Ontario, Fontana, Rialto, Colton, San Bernardino, Loma Linda, and Redlands) and unincorporated areas of San Bernardino County, including Etiwanda, Bloomington, and Bryn Mawr. The proposed improvements under Alternative 3 would involve construction work within the following routes and post miles:

- 07-LA-10 PM 44.9/48.3
- 08-SBd-10 PM 0.0/R37.0
- 08-SBd-15 PM 0.7/4.0
- 08-SBd-38 PM 0.0/0.3
- 08-SBd-83 PM 10.7/11.5
- 08-SBd-210 PM R33.0/R31.5
- 08-SBd-215 PM 2.1/5.7

Most of the improvements required in Los Angeles County are primarily associated with signing and striping to construct the Express Lane terminus and transition into the existing HOV cross section; however, one bridge widening is required at the Indian Hill Boulevard Undercrossing (UC).

In addition to the mainline widening, the project includes reconstruction and/or modification of interchange ramps, local arterials, and structures that are necessary to accommodate the proposed freeway widening, including new or reconstruction of retaining walls and soundwalls where appropriate. Existing concrete barrier, temporary railings, metal beam guardrails, and thrie-beam barriers in the median of

I-10 would be replaced with concrete barrier Type 60G, and median lighting would be provided. Existing auxiliary lanes would be re-established in kind and additional lanes added where warranted. California Highway Patrol (CHP) enforcement areas would be provided in the I-10 median at selected locations.

The base condition for Alternative 3 assumes the completion of improvements along the project corridor currently in planning or being implemented as listed under the No Build Alternative discussion.

Alternative 3 Mainline Improvements

- Add one Express Lane in each direction from the LA/SB county line to Haven Avenue to operate jointly with existing HOV lanes as two Express Lanes in each direction
- Add two Express Lanes in each direction from Haven Avenue to California Street
- Add one Express Lane in each direction from California Street to Ford Street
- Re-establish existing auxiliary lanes along the corridor
- Construct new eastbound (EB) auxiliary lane between Mountain Avenue and Euclid Avenue
- Modify existing WB auxiliary lane at Haven Avenue WB on-ramp to begin at Haven Avenue WB loop on-ramp
- Modify existing EB auxiliary lane at Haven Avenue EB on-ramp to begin at Haven Avenue EB loop on-ramp
- Extend WB auxiliary lane preceding the Riverside Avenue off-ramp to Pepper Avenue
- Construct new WB auxiliary lane between Rancho Avenue and La Cadena Drive
- Provide 10 ingress/egress (I/E) access points, 9 with additional weave lane and 1 as weave zone

Ingress/Egress Access Points

Ten at-grade I/E access points are proposed along the project corridor. All of the access points, except the easternmost point at Orange Avenue, are proposed with a weave or speed change lane. The Orange Avenue I/E is proposed as a weave zone. The California Street I/E is a transition point from 2 to 1 Express Lane, where the No. 1 EB Express Lane continues through the access area and the No. 2 Express Lane

becomes a GP lane. The No. 2 Express Lane in the access area essentially operates as a weave lane. I/E access points are proposed at the following locations:

- Mountain Avenue
- 6th Street
- Haven Avenue
- Etiwanda Avenue
- Citrus Avenue
- Cedar Avenue
- Pepper Avenue
- Tippecanoe Avenue
- California Street (transition from 2 to 1 Express Lane)
- Orange Avenue (weave zone)

Alternative 3 Interchange Improvements

Alternative 3 encompasses 3 system interchanges (I-10/Interstate 15 [I-15] interchange, I-10/Interstate 215 [I-215] interchange, and I-10/State route [SR] 210 interchange) and 29 local street interchanges, including 1 interchange (Indian Hill Boulevard) in Los Angeles County. Alternative 3 would require reconstruction of several interchange ramps to accommodate the I-10 widening. Table 1-2 summarizes the proposed ramp improvements along the project corridor.

Overall, the project under Alternative 3 can be divided into several project elements as described below:

- **Vegetation Removal:** As in Alternative 2, landscape areas associated with the interchanges are likely to be impacted under Alternative 3; however, because the Alternative 3 corridor is longer, more of the existing landscape along I-10 would be disturbed than under Alternative 2. Due to its wider cross section, Alternative 3 would cause more impacts to the existing rows of eucalyptus trees between the Etiwanda Avenue interchange and the Santa Ana River than in Alternative 2. The total number of these trees anticipated to be impacted is 1,084, with another 359 trees that are likely to remain in place. The existing median olive trees west of Waterman Avenue would be removed by this alternative, as discussed under Alternative 2.
- **Local Streets:** Similar to Alternative 2, local street improvements are expected to be minor and are associated with the ramp/local street interface; however, there are many additional locations in Alternative 3 where local

streets cross over I-10 where the bridges would need to be replaced. These include Monte Vista Avenue, San Antonio Avenue, Euclid Avenue, Sultana Avenue, Campus Avenue, 6th Avenue, 4th Avenue, Grove Avenue, Vineyard Avenue, and Richardson Avenue.

- **Interchanges:** The configuration of existing interchanges, including on- and off-ramps, would be similar to the existing configurations. Some ramps and gore areas are expected to change from their current locations in some interchanges, depending on the roadway design. Table 1-2 shows the anticipated changes to the ramps, by interchange, within the corridor.
- **Bridges:** As shown in Table B-3 in Appendix B, the number of bridges affected by this alternative is larger than the number affected by Alternative 2. A total of 13 bridges would be replaced under this alternative and another 32 bridges would be widened. Similar to the previous alternative, the Citrus, Cypress, and Highland Avenue bridges, along with the 6th Street Bridge, would be reconstructed in the median area only.
- **Retaining Walls:** Retaining walls are anticipated to be needed throughout the project area under Alternative 3. Table B-3 in Appendix B shows the anticipated retaining walls, their approximate locations, and the average wall height for Alternative 3. Overall, this alternative would require the construction of 203 retaining walls along the corridor. The length of these walls is approximately 180,000 lineal feet of retaining walls, with average heights falling in the 8 to 14 foot range. The tallest of these walls, at 30 feet, is along I-10 at the Monte Vista Avenue and Indian Hill Boulevard interchanges. In addition, there are 32 walls proposed with a maximum height over 20 feet.
- **Soundwalls:** Under Alternative 3, soundwalls found to be feasible and reasonable would be required in locations throughout the corridor and are generally associated with residences adjacent to or near I-10. Where the two alternatives overlap, the number and locations for soundwalls under this alternative would be similar to those proposed for Alternative 2. Beginning and end points for the walls may differ slightly, but not substantially, from those proposed for Alternative 2. But because Alternative 3 is a much longer corridor, the total linear feet of sound wall for this alternative totals 109,950 L.F. Proposed wall heights range from 8 feet to 20 feet, with the typical wall height being 14 feet.

  In addition, six sound walls, three within the Railyard Landscape Unit and three at the eastern edge of the project, near Ford Street, are currently under

study and may be constructed as part of the alternative. These walls total 9,350 linear feet and are in addition to the 109,950 feet (for a total of 119,300 linear feet for the alternative). For the purpose of this analysis these walls are assumed to be part of the alternative.

Chapter 2 Assessment Methods

The National Environmental Policy Act (NEPA) of 1969 and Council on Environmental Quality (CEQ) regulations to implement NEPA discuss visual impacts under the heading of aesthetics. These regulations identify aesthetics as one of the elements or factors in the human environment that must be considered in determining the effects of a project. Further, Title 23, United States Code (U.S.C.) 109(h) cites "aesthetic values" as a matter that must be fully considered in developing a project. In addition to the federal guidelines and requirements, the State of California, through the California Environmental Quality Act (CEQA), establishes that it is the policy of the State to take actions to provide the people of the state "with…enjoyment of aesthetic, natural, scenic, and historic environmental qualities.[1] To address CEQA requirements, Caltrans has developed the Standard Environmental Reference (SER), which provides information on the approach Caltrans uses to identify visual and aesthetic issues that may result from transportation projects.

This visual assessment was prepared consistent with the methodologies established by FHWA's publication entitled *Visual Impact Assessment for Highway Projects* (USDOT, 1981). This methodology divides the views into landscape or character units that have distinct, but not necessarily homogenous, visual character. Typical views, called key viewpoints, are selected for each unit to represent the views to/from the project. The view of the motorist is also considered as a separate character unit.

Existing visual quality from the viewpoints is judged by three criteria: vividness, intactness, and unity. Descriptions for the three criteria are:

- Vividness: The memorability of the landscape components as they combine to form striking or distinctive patterns.
- Intactness: The integrity of visual order in the view and its freedom from visual encroachment.
- Unity: The visual coherence and composition of the landscape viewed to form a harmonious visual pattern.

These criteria provide a method for describing the form, line, color, and texture of the components found within a view. As in all things aesthetic, "beauty is in the eye of the beholder;" therefore, there is a subjective component to this or any visual analysis

[1] California Public Resources Code Section 21001(b). 2003. http://ceres.ca.gov/topic/env_law/ceqa/stat2/index.html

evaluation. However, as outlined in the FHWA methods, the use of these descriptors allows a basis for understanding the evaluator's rationale behind a visual quality determination.

To address the requirements identified in the FHWA methodology, the following seven steps were performed to assess the visual impacts of the proposed project:

- Define the project setting and viewshed
- Identify the regulatory setting of the project area
- Identify key viewpoints for visual assessment
- Analyze existing visual resources and viewer response
- Depict the visual appearance of project alternatives
- Assess the visual impacts of the project alternatives
- Propose methods to minimize or avoid adverse visual impacts

It is important to note that visual character terms are descriptive and nonevaluative, meaning that they are based on defined attributes that are neither good nor bad by themselves. Changes in visual character cannot be described as having good or bad attributes until compared with viewer responses to the change.

2.1 Project Site Visits and Information Gathering

Interpretation of existing visual character and land use was based on field visits conducted during spring and summer 2008, spring 2009, spring 2013, and summer 2014. Aerial photography provided base information for the existing roadways. In addition, research on the regulatory setting was conducted via online searches of the city, county, and Caltrans Web sites.

Chapter 3 Existing Visual Environment

3.1 Project Setting

A regional landscape defines those elements of the natural and built environment that together form a unique visual identity of a place or corridor. This regional landscape establishes the general visual environment of the project, but the specific visual environment upon which this assessment is focused is determined by defining the landscape units and project viewshed, which are discussed below in greater depth.

The regional landscape of the project corridor is characterized by two identifying elements: the flat appearance of the foreground landscape and the steep San Bernardino and San Gabriel Mountains, which form a dramatic backdrop. Along the existing corridor in many locations are rows of mature eucalyptus trees that provide a signature visual element to the existing corridor. One additional element to be considered in the regional landscape is the haze that frequently develops in the area, obscuring the views to the mountains and influencing the overall appearance of the regional landscape.

3.2 Project Viewshed

A viewshed is the area normally visible from an observer's viewpoint of location and is limited by the screening/obstruction effects of any vegetation or structures. A viewshed can include views from within the project outward or from outside of the area into the project corridor. While viewpoints represent specific locations within the project area, a viewshed describes what is seen from that viewpoint, including the limits of what can be seen. When these individual points are strung together, the viewsheds create an overall project viewshed that can be used to describe the project area. The viewshed includes the locations of viewers within the project area that are likely to be affected by visual changes brought about by the project features.

For the I-10 Corridor Project, views into the corridor are associated with the cross streets and are generally located near (approximately 0.25 mile) the corridor due to the relatively flat nature of the project area. Areas in which high-rise buildings are located may have views farther out from the corridor. From within the corridor, views out are also generally limited to a short distance due to the flat groundplane and the proximity of buildings. In addition, the rows of eucalyptus also help to screen views into and out of the corridor.

The Redlands portion of the corridor is different in that it was recently widened and reconstructed. The proposed construction will add many soundwalls to this portion of the corridor, which would limit the views and the associated viewshed into and out from the corridor

3.3 Regulatory Setting

In addition to the federal and State environmental regulations, local agencies may also have requirements or recommendations regarding developments within their boundaries. The project corridor falls within many municipalities, including Colton, Fontana, Loma Linda, Ontario, Redlands, Rialto, and San Bernardino. In addition, the corridor crosses several sections of unincorporated San Bernardino County. In general, city and county regulations do not apply within Caltrans ROW; however, these regulations may influence areas in which ramps interact with the local cross streets. The discussion below identifies the regulatory setting of the project area regarding these jurisdictions.

3.3.1 Caltrans

Interstate 10 Corridor Master Plan, San Bernardino County: The Caltrans District 8 office recently completed a master plan for the corridor aesthetic and landscape requirements (*Interstate 10 Corridor Master Plan, San Bernardino County*) by working with local communities. This Master Plan describes the proposed approach to the aesthetic treatments of retaining walls, soundwalls, and bridges for the corridor area, as well as the approach to the landscape plantings within the corridor.

Context-Sensitive Solutions: Context-sensitive solutions (CSS) is a policy established by Caltrans as an “approach to plan, design, construct, maintain, and operate its transportation system” so that it places preservation of historic, aesthetic, scenic, natural environment, and other community values on an equal basis with transportation safety, mobility, economics, and maintenance. The intended result of employing CSS design on projects is to create transportation projects that are in harmony with a community’s values and objectives by allowing community input into the design process.

Scenic Routes: No scenic routes or potentially listed scenic routes have been identified within or adjacent to the project area.

Caltrans Landscape Regulations: Caltrans has established a plant selection and setback guide for all new landscape plantings. In most instances, these guidelines are more limiting than previous requirements. The primary concern of the requirements is the safety of maintenance workers and travelers on the roadway. Under the revised guidelines, new plantings may be restricted in their locations, and it cannot be assumed that new plantings will be in-kind and in-place of the existing plantings. In addition, an increase in disease and insect vectors has limited the species that can be replanted.

Another potential limitation to new landscaping is the new water quality requirements that must be implemented as a result of additional paving in the corridor. Some of the methods typically employed to improve the quality of the water running off the adjacent project pavement include detention ponds that allow pollutants to settle out and bioswales (i.e., grassed ditches) that use plantings along the swale to filter out the impurities. In both treatments, woody landscape plantings, including shrubs and groundcovers, are not allowed because the pond must be cleaned out to remove sediment, and grass is needed to act as the filter for the bioswale; therefore, the placement of these elements within a corridor can greatly restrict landscape plantings at any one particular location.

3.3.2 San Bernardino County

In August 2007, the Board of Supervisors launched Green County San Bernardino to spur the use of “green” technologies and building practices among residents, business owners, and developers in the county. In addition, the County has established a set of development standards for business and developments that are adjacent to freeway corridors within unincorporated county area. These standards include landscaping and sign regulations.

3.3.3 City of Claremont

The City of Claremont’s General Plan identifies many relevant areas that express the community’s views towards aesthetics and visual quality of the community, including:

- Claremont Sustainability Plan: Which establishes a framework in which the Claremont community can achieve its vision in becoming a sustainable city
- Vision: Valuing our natural resources and the open spaces that define Claremont.

- Maintain unique and diverse open space resources throughout Claremont for purposes of resource and habitat protection.
- Strive to acquire or otherwise protect open space areas that provide key wildlife corridors and provide connectivity between habitat areas.
- Protect areas containing rare or endangered species of plants or animals.
- Encourage new development to preserve, where possible, onsite natural elements that contribute to the community's aesthetic character.
- Develop a tree planting policy that strives to accomplish 50 percent shading of constructed paved and concrete surfaces within 5 years of construction.
- Provide adequate funding to manage and maintain the city's urban forest, including sufficient funds for tree planting, pest control, scheduled pruning, and removal and replacement of dead trees.
- Continue to manage and care for all trees located on City property or within City ROW.
- Enhance the street corridor and existing spaces between buildings by incorporating small green areas, extensive landscaping, and street trees.

3.3.4 City of Colton

The City of Colton General Plan outlines many aesthetic and landscape principles and standards for the community:

- The use of natural and drought-tolerant vegetation shall be encouraged for landscaping in order that maintenance and water consumption are minimized.
- The urban environment is primarily residential neighborhoods with scattered commercial districts and a large heavy industrial section in the southwest. The heavy industrial section is dominated by the California Portland cement plant on unincorporated land within the Sphere of Influence.
- Downtown Colton (roughly bordered by I-10 to the south, the Burlington Northern Santa Fe [BNSF] rail line to the west, 10th Street to the east, and D Street to the north) forms the historic core of the city characterized by small-lot residential development with Victorian houses intermixed with classic California bungalows.
- The planning area does not have any officially designated Scenic Highways or any highways that are considered eligible for Scenic Highway status.
- Views of the San Bernardino and San Gabriel mountains form a scenic backdrop for the northern portion of the planning area.

- The Santa Ana River and its surrounding natural areas constitute a scenic resource within the Planning Area.
- Visual Character
  - La Cadena Drive: Historic homes and small office buildings along La Cadena Drive contribute to its unique character…serves as a primary entry point at the northern and southern entries to the city.
- The City of Colton's Municipal Code identifies provisions to protect street trees. The City Parks and Recreation Commission also has developed an official street tree plan for the City. This plan does not include the Caltrans ROW in its discussion.

3.3.5 City of Fontana

Through its General Plan, the City of Fontana has developed a Community Design Element to help guide the City in its future development. Among the items discussed in the report, the City describes its vision for the design of the community:

- An aesthetically attractive city unified by selected design features;
- Clearly marked formal entries at key points that identify community gateways, edges, and boundaries;
- Vibrant downtown and Civic Center areas that are the heart of the city and provide a mix of activities, services, and entertainment destination;
- Enhanced views of the city from freeway corridors that are attractive, diverse, and appealing;
- Unimpeded views of the San Gabriel and San Bernardino mountains and the Jurupa Hills;
- Development project standards based on quality, as well as creativity and flexibility of design; and
- Development in the sphere of influence that is consistent with this vision and City policies for achieving this vision so that eventual integration into the city is a seamless process.

In addition, the City has established a xeriscape ordinance for the design of plantings within the city and an ordinance to protect significant and heritage trees within the city. Xeriscape is defined as creating landscapes for water and energy efficiency and lower maintenance. The seven xeriscape principles are (1) good planning and design, (2) practical lawn areas, (3) efficient irrigation, (4) soil improvement, (5) use of

mulches, (6) low-water-demand plants, and (7) good maintenance. The term "xeriscape" was trademarked by the Denver Water Board in 1981.

3.3.6 City of Loma Linda

The City of Loma Linda's General Plan discusses its Community Design Element. Within this chapter of the plan, the City identifies how development and redevelopment should take place within the city and provides guidelines for how to achieve this. The Community Design Element chapter does not specifically address the interface with the freeway at interchanges, although it does discuss the need to provide city identification monuments.

- Community Design Element
  - Create an image and sense of place that reflects the community's present, past, and future.
- City Entry Signs
  - The appearance of the entry signs should be made more attractive by adding landscaping. Plant materials are needed to "soften" the hard surfaces created by the asphalt pavement, stamped concrete islands, and hard-edged stucco sign.
- Landscaping
  - Plant materials that are well suited to the Loma Linda climate are preferable and help create a character that is reflective of the community and its natural environment. Landscaping can also reflect and help preserve the City's heritage by including plants typically grown for agricultural purposes, such as orange trees, within landscaped medians, parkways, and development whenever feasible.
- Public Art
  - The theme and style of public artwork, which includes murals among other art forms, should be meaningful to the community and related to themes such as health, the citrus industry, religion, and family.
  - Encourage and promote public art that embodies physical health and well being and that reflects the community's past, including its historic roots, culture, and agricultural base.
- Natural and Visual Open Space Resources
  - The southerly one-third of the city consists of the rugged, hilly terrain known as the South Hills. This area provides a dramatic backdrop for the

southerly edge of the city. Because of its natural state, this area represents a significant open space resource for city residents.

3.3.7 City of Montclair

The purpose of the City of Montclair's Tree Policy is to provide guidelines for the protection and preservation of trees planted within the City of Montclair's ROWs and at City facilities. There are approximately 6,000 trees planted within the City ROWs, as well as more than 850 trees planted in City parks and public facilities. Their goal is to gain the maximum benefits from a healthy urban forest at a minimal cost.

The City's General Plan includes a Community Design Element, the purpose of which is "to coordinate the physical elements of the City into an attractive and functional relationship in order to establish a community which preserves and enhances the City's setting and identity." The General Plan demonstrates an importance to the City's urban design from the viewer's perspective of the community as a motorist, as a fixed rail or bus passenger, and as a pedestrian. The City views it as important to provide urban elements of the appropriate scale and proportion, as well as to be sensitive to the building and landscape architectural aesthetics. They also identify that landscaping can provide direction, identification, and beauty of the built environment.

3.3.8 City of Ontario

The City of Ontario has established guidelines and requirements for development within the community through its Municipal Code and the City of Ontario Development Code. These codes reinforce the need for landscaping and other aesthetic treatments to roadways within the city. These codes do not discuss the interface between the City roads and I-10.

- Design Quality
  - Rich blend of architectural styles, including the historic downtown, residential neighborhoods, equestrian properties, commercial centers, and industrial and office complexes.
  - Encourage durable landscaping materials and designs that enhance the aesthetics of structures, create and define public and private spaces, and provide shade and environmental benefits.
  - Encourage the inclusion of amenities, signage, and landscaping at the entry to neighborhoods, commercial centers, mixed-use areas, industrial

developments, and public places that reinforce them as uniquely identifiable places.

- Pedestrian and Transit Environments
  - Require that pedestrian, vehicular, bicycle, and equestrian circulation on both public and private property be coordinated and designed to maximize safety, comfort, and aesthetics.
  - Utilize landscaping to enhance the aesthetics, functionality, and sustainability of streetscapes, outdoor spaces, and buildings.
- City Identity
  - For many, the primary image of Ontario is shaped by what is seen from these transportation systems. Enhancing these transportation corridors to provide aesthetically pleasing visual experiences will make people want to experience more of what Ontario has to offer.

3.3.9 City of Pomona

The City of Pomona's General Plan emphasizes a renewed downtown and redefined corridors, proposes focus areas and activity centers to help shape and distribute new development, promotes protecting the character of existing residential neighborhoods, and outlines the future role and form of Pomona's public realm. Among the proposed elements from the General Plan are:

- Neighborhood Edges
  - Streetscape features, such as median landscaping, ample sidewalks, and street trees, will provide a cohesive character for the commercial, mixed-use, and residential segments.
  - Parks, green spaces, and improved sidewalk environments are part of the plan for creating "human-scaled" environments along the Mission and Holt corridors.
- Streetscape Improvements
  - Street trees, planted medians, pedestrian amenities, lighting, and signage will be accentuated along major corridors and at key gateways into the city and downtown.
  - A tree-lined central median to mitigate the perceived width of the corridors.
  - More consistent landscape and street tree schemes that are visually attractive, complement new development, and identify major city gateways.

  - Garey Avenue: Street trees that vary in height and canopy coverage by segment, street furniture and ornamental lighting fixtures, central medians, signage, and landscape planting.
- Gateways, Landmarks, Wayfinding, and Public Art
  - The General Plan seeks to further the growth of cultural and artistic awareness in the city by emphasizing public art along major transportation corridors and entryways into the city, as well as within downtown and neighborhood centers. The enhancement of City streets, gateways, and parks with public art is coupled with support of the Arts Colony, as well as public murals and art installations throughout the city. These installations could include sculpture, murals, signage, banners, lighting, and even special paving or landscaping.

3.3.10 City of Redlands

Among the items discussed in its General Plan, the City of Redlands discusses a proactive approach to freeway improvements within the city. It recognizes that the freeways are at, or will soon exceed, current capacity and will therefore require widening. The General Management Plan guiding policies for freeway improvements include:

- Working with Caltrans to achieve timely construction of the freeways and interchange improvements.
- Developing improvement plans for the I-10 freeway interchanges at Alabama Street, California Street, and Mountain View Avenue to ensure adequate capacity to meet future needs associated with the East Valley Corridor Specific Plan (it also recognizes the need for more detailed studies at these interchanges).
- Seeking funding for interchange improvements as needed to accommodate traffic growth in the East Valley Corridor.
- Seeking funding for the I-10/Wabash Avenue interchange improvements.

The City's General Plan also includes a discussion of city design and preservation elements and the needs of the various communities/neighborhoods within the city. The City of Redlands, together with its citizens, is working to envision the future of Redlands and how best to implement any changes. As these changes are developed, they are expected to be incorporated into a revised General Plan for the city.

In addition to the General Plan, the City has developed a series of Specific Plans for the various neighborhoods/communities within the city. Among these is the Specific Plan for the East Valley Corridor. This is an area in the eastern San Bernardino Valley within the cities of Redlands, Loma Linda, and San Bernardino, as well as areas of San Bernardino County that fall within the cities of Redlands and Loma Linda's spheres of influence. The Specific Plan was established to guide future development for the area's agricultural fields that are being redeveloped. The Specific Plan addresses elements such as urban design, streetscapes, plantings, and city identity, among other elements.

3.3.11 City of Rialto

The City of Rialto's Municipal Code identifies provisions to protect street trees. The City has also developed an official street tree plan. This plan does not include Caltrans ROW in its discussion.

- Community Design
  - The compact downtown served by the railroads and the vast citrus groves that covered the area have shaped the city's suburban form and continue to influence design and development. Today's downtown celebrates the citrus industry, and the grid street pattern reflects the historical ownership patterns. The design and character of some of the buildings along Foothill Boulevard create a feel reminiscent of historic U.S. Route 66.
- Corridors/Streetscapes
  - Accommodate distinctive gateways at the city's boundaries. Buildings along these corridors should also complement the streetscape and provide an atmosphere that accommodates both pedestrians and automobiles.
  - Corridors and streetscapes are important for Rialto because they help promote the City's commitment to improve public spaces and corridors such as Riverside Avenue, Base Line Road, and Foothill Boulevard.
- Scenic Vistas
  - In order to protect scenic vistas, the City should take great care in ensuring that building heights and scale of projects do not hinder or impede scenic view.

3.3.12 City of San Bernardino

The City of San Bernardino's Municipal Code provides the regulations for street trees within the city, including locations, care, and removal of these trees. In addition, the

City includes within its Development Standards a section on Landscape Standards that provides direction on landscaping for new development within the city.

- Policies
  - Hillside development and development adjacent to natural areas shall be designed and landscaped to preserve natural features and habitat and protect structures from the threats from natural disasters, such as wildfires and floods. (LU-1)
  - Establish and maintain an ongoing liaison with Caltrans, the railroads, and other agencies to help minimize impacts and improve aesthetics of their facilities and operations, including possible noise walls, berms, limitation on hours and types of operations, landscaped setbacks, and decorative walls along its periphery.
- Distinct Character and Identity
  - Difficult to determine when you have entered or left the city, which is partly due to confusing jurisdictional boundaries and unincorporated islands, as well as the lack of a unifying theme.
- Policies
  - Entries into the city and distinct neighborhoods should be well defined or highlighted to help define boundaries and act as landmarks. (CD-1 and CD-3)
  - Develop a cohesive theme for the entire City, as well as subthemes for neighborhoods, to provide identity, help create a sense of community, and add to the city's personality. (CD-1 and CD-3)
  - Improvements shall be made to transportation corridors that promote physical connectivity and reflect consistently high aesthetic values. (CD-1)

3.3.13 City of Upland

The City of Upland's General Plan includes many relevant goals and objectives pertaining to the visual environment of the community:

- General Objectives:
  - To include trails, bicycle routes, equestrian facilities, and rest stops where appropriate.
  - Develop corridor improvement programs to enhance scenic qualities.
  - Encourage the design of road and street improvements that will enhance vehicular and pedestrian safety.

  - Explore the possibilities of developing a local scenic highway program for Euclid Avenue as a joint program among the cities of Upland, Ontario, and Chino.
- Open Space/Conservation Goals and Objectives:
  - Provide a sufficient range of recreation opportunities to meet the needs of all individuals (all ages), families, and groups who reside in the city of Upland.
  - Protect and maintain the natural resources in the city with emphasis on those scarce resources that require special control and management.
  - To translate recreation needs into space requirements in order to determine optimum standards for park development.

3.4 Landscape Units

Landscape units are defined as that portion of the regional landscape that can be thought of as containing a distinct visual character. Another way to look at a landscape unit would be to consider it an outdoor room. A landscape unit will often correspond to a place or district that is commonly known among the community.

The I-10 Corridor Project area was divided into eight landscape units; five that cover the area for Alternative 2 and an additional three that cover additional areas included in Alternative 3. These units are distinct, but not necessarily homogenous, in character. The landscape units are described in detail below, along with each unit's existing visual character and existing visual quality.

Visual Quality, as used in FHWA's (1981) Visual Impact Assessment for Highway Projects methodology, is based on the concepts of the science of aesthetics[2] and is analogous to the Bureau of Land Management's scenery quality rating and the U.S. Forest Service's variety classes. The methods outlined in the FHWA report describe many factors that can contribute to a landscape's visual quality, but these factors can ultimately be grouped under three headings: vividness, intactness, and unity, as defined under the Assessment Methods in Section 1.5.

[2] "Aesthetics is defined as the science or philosophy concerned with the quality or sensory experience…It is also viewed as a body of knowledge about those characteristics of objects that make them pleasing or displeasing to the senses, and those characteristics of human perception that affect sensation. The quality of being esthetic is not the opposite of the qualities of 'practicality' or 'reality,' but rather another aspect or way of experiencing the same real world phenomena. Thus, blue skies, uncontaminated water, and uncluttered urban landscapes all have aesthetic value, because they imply health, pleasure, and security." USDOT, 1981. United States Department of Transportation, Federal Highway Administration, Office of Environmental Policy, *Visual Impact Assessment for Highway Projects*, U.S. Department of Transportation, Washington D.C. March., page 117.

For the discussion of visual quality associated with each landscape unit described below, it is important to remember that these are general evaluations for the unit as a whole. Specific locations within the unit may have higher or lower visual quality than the average. In Section 3.5, Key Views, visual quality is assessed for specific views, and these may differ from the average, or general, visual quality rating assigned below because that rating only considers a specific location within the landscape unit. Also note that in the typical view figures for each landscape unit, the starred views represent key viewpoints, which are discussed further in Section 3.5.

3.4.1 Los Angeles County Landscape Unit

As the name implies, this landscape unit covers the portions of the corridor within Los Angeles County, at the very west end of the study area, and covers the area from Town Avenue to the county line at Mills Avenue. The area falls within the cities of Claremont and Pomona. Typical views for this portion of the corridor can be seen in Figure 3-1.

Existing Visual Character: Development in this landscape unit consists of primarily residential development, including single-family and multi-family units. Commercial properties are also found within the unit, especially near Indian Hill Boulevard. The I-10 corridor within this unit is very confined and frequently includes a soundwall right at the edge of the shoulder. Landscaping within the I-10 corridor is limited to the interchange areas only.

Existing Visual Quality: The overall visual quality for the unit is moderate, with moderate vividness, intactness, and unity. Corridor areas, by in large, have a moderately low visual quality due to the confined views found in the corridor and the lack of elements, such as landscaping, that might soften the appearance of the highway.

3.4.2 County Gateway Landscape Unit

This landscape unit extends from the county line at Mills Avenue to the eastern edge of the Mountain Avenue interchange. It covers portions of the cities of Montclair, Upland, and Ontario. Typical views for the County Gateway Landscape Unit can be seen in Figure 3-2.

Existing Visual Character: The landscape unit appears evenly divided between residential and commercial properties within the study area. Significant commercial properties (including Montclair Plaza) exist on both sides of I-10 between Monte

Vista Avenue and Central Avenue, and along the north side of I-10 through Mountain Avenue. Residential properties are generally found along the south side of I-10 in the unit.

Existing Visual Quality: As with the previous landscape unit, the corridor is tight, and soundwalls can be found along the edge of the shoulder along long stretches of the EB lanes, limiting the views out from the corridor. The general existing visual quality is moderately low.

3.4.3 Residential Landscape Unit

The Residential Landscape Unit extends from the eastern end of the Mountain Avenue interchange to just east of Vineyard Avenue. Portions of the cities of Upland (north of I-10) and Ontario are covered in the unit. Typical views for the Residential Landscape Unit can be seen in Figure 3-3.

Existing Visual Character: Unlike the previous two units, this landscape unit is primarily residential in character, although commercial areas are sprinkled within the unit, particularly at Grove Avenue and in the Guasti area from Vineyard Avenue east. Due to its residential nature, there are many soundwalls within the landscape unit. In addition, portions of the western side of the unit sit below the surrounding neighborhoods with retaining walls adjacent to the highway; however, unlike the previous two units, landscaping is located above the retaining walls and the soundwalls sit at the ROW line, so the views from the corridor are less constrained than previously noted. Another key feature of this landscape unit is the North Euclid Avenue Historic Corridor that crosses the I-10 corridor. See Section 4.4 for a discussion.

Existing Visual Quality: The existing visual quality of the landscape unit is moderate with moderately high vividness and moderate intactness and unity. The visual quality of the corridor is helped by the views available to travelers – the existing landscaping along the corridor, which softens the highway elements.

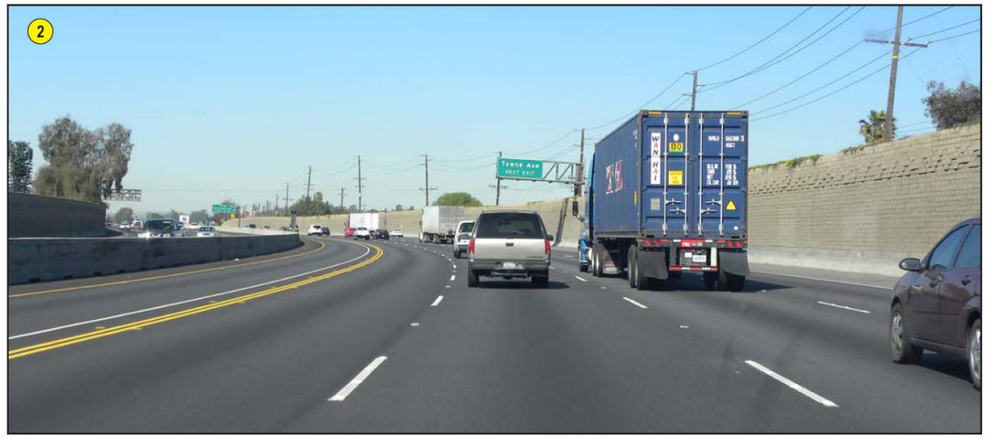

Figure 3-1. Los Angeles County Landscape Unit

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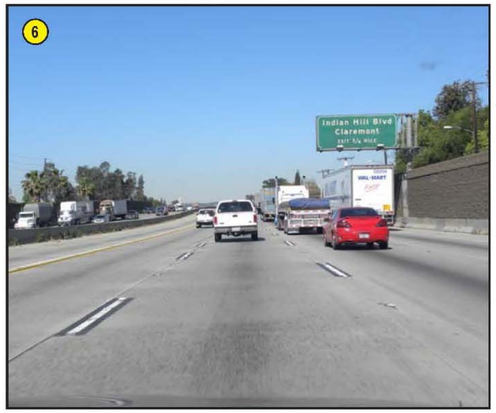

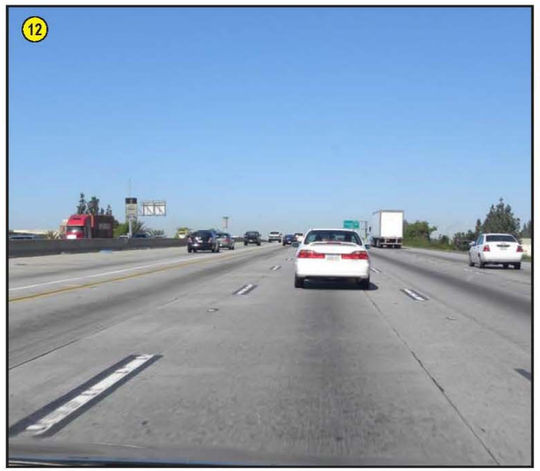

Figure 3-2. County Gateway Landscape Unit

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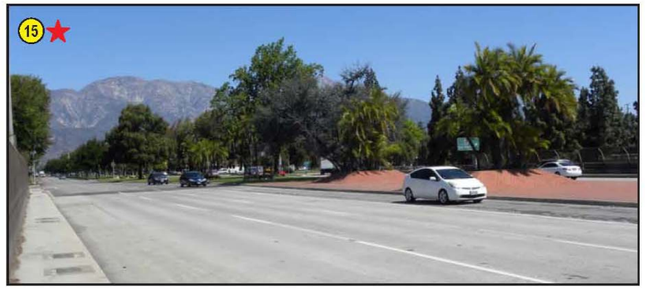

Figure 3-3. Residential Landscape Unit

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3.4.4 Commercial-Warehouse Landscape Unit

The Commercial-Warehouse Landscape Unit is the westernmost of the landscape units and centers on the I-15/I-10 interchange. It is located in the cities of Ontario and Fontana. The landscape unit was identified by Ontario Mills Mall in the northwest quadrant of the I-15/I-10 interchange and by the large warehouses of newer construction found along this portion of I-10. Typical views for this landscape unit can be seen in Figure 3-4.

Existing Visual Character: The development of this portion of the corridor is relatively new, compared to other portions, and includes Ontario Mills Mall, big box retail stores, and office buildings west of the I-15/I-10 interchange. West of the interchange, the development is in large, newer warehouse buildings. Within the I-10 corridor, there is limited landscaping, mostly associated with the interchanges. In addition, a row of mature eucalyptus trees stands west of the Etiwanda Avenue interchange along the north side of I-10.

Existing Visual Quality: The overall visual quality of the project corridor in the Commercial-Warehouse Landscape Unit is moderate, with moderate vividness, intactness, and unity. Areas west of the I-15 interchange tend to have a higher visual quality, while the areas east, around Etiwanda Avenue, tend to have a lower visual quality.

3.4.5 Industrial Landscape Unit

The Industrial Landscape Unit is immediately east of the Commercial-Warehouse Landscape Unit, beginning at Mulberry Avenue and ending at Sierra Avenue to the east. It is located almost entirely within Fontana, although the corridor does pass through portions of unincorporated San Bernardino County. This unit was identified based on the older industrial nature of the surrounding land uses and that the railroad, which is offset from the I-10 corridor in the previous landscape unit, is situated immediately south of I-10, beginning at Mulberry Avenue and continuing through this landscape unit. Typical views within the Industrial Landscape Unit are shown in Figure 3-5.

Existing Visual Character: The development that borders on the north of the freeway corridor within this unit, and to the south of the railroad tracks that parallel the freeway's south side, consists primarily of small industrial sites that are intermixed with commercial and residential land uses. These industrial sites are

oriented towards truck and semitrailer traffic. Residential areas consist of smaller homes and trailer parks. A large commercial development has been constructed at the Sierra Avenue interchange, including large retail stores and an office complex for Kaiser Hospitals.

Within the I-10 corridor, the two most visually prominent elements are the rows of eucalyptus trees and numerous billboards. These can be found on the north and south sides of I-10. At approximately the midpoint of this landscape unit, near Elm Avenue, is an old Caltrans Rest Area site that has been taken out of service; however, the trees associated with this site provide a large landscape presence in the otherwise narrow corridor. Paralleling the I-10 corridor to the south are the railroad tracks. These tracks have a large presence in the landscape, particularly from the land uses south of the tracks. The railroad tracks generally sit slightly higher in the landscape than the land uses to the south.

Existing Visual Quality: The overall existing visual quality of the Industrial Landscape Unit is low, with low vividness, intactness, and unity. The older, industrial nature of the surrounding land uses combine with the railroad corridor, billboards, and freeway paving to lower the overall visual quality; the rows of mature eucalyptus trees work to increase the visual quality.

3.4.6 Rail Yard Landscape Unit

The visual environment of the Rail Yard Landscape Unit is dominated by two elements: the large rail yard between Cedar and Pepper avenues and the Colton Cement Works Quarry between Pepper and Rancho avenues. This landscape unit begins at Sierra Avenue, extends to the east to the Santa Ana River crossing, and falls within Rialto and Colton, with a significant portion falling within unincorporated San Bernardino County. Typical views within the Rail Yard Landscape Unit are shown in Figures 3-6 and 3-7.

Existing Visual Character: Much of the development that surrounds the I-10 corridor within the Rail Yard Landscape Unit is similar in character to the development in the Industrial Landscape Unit (i.e., older industrial development associated with truck/semitrailer traffic interspersed with residential and commercial developments). This is particularly true of the areas west of Rancho Avenue. East of Rancho Avenue, the development becomes more residential. A large retail/ commercial development is situated on the north and south sides of I-10 at the Sierra Avenue interchange.

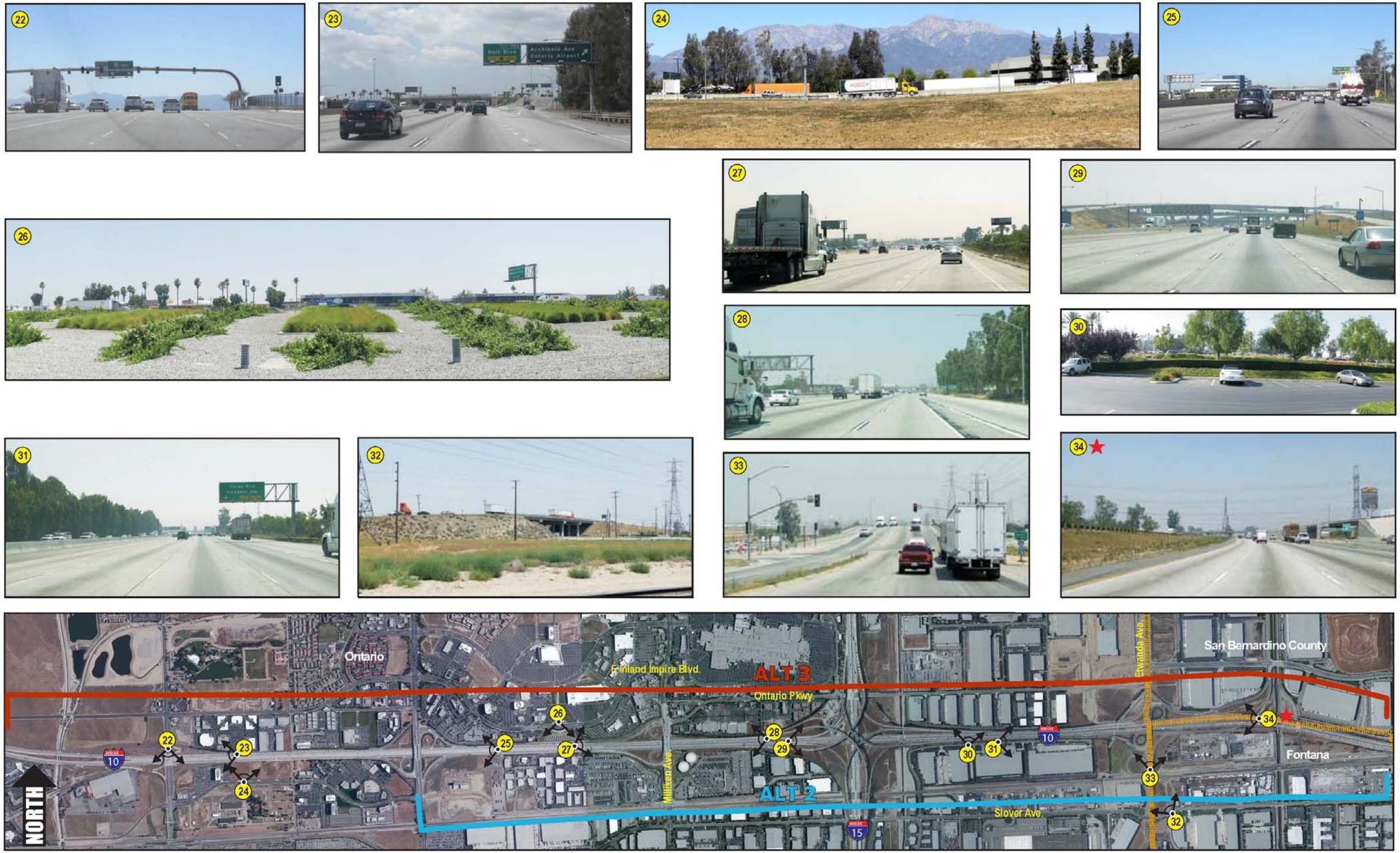

Figure 3-4. Commercial-Warehouse Landscape Unit

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Figure 3-5. Industrial Landscape Unit

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Figure 3-6. Rail Yard Landscape Unit (page 1 of 2)

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Figure 3-7. Rail Yard Landscape Unit (page 2 of 2)

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As in the Industrial Landscape Unit, many stands of mature eucalyptus trees line the I-10 corridor. Additional landscaping is found at several of the interchanges within the corridor, including Riverside and Rancho avenues. Many are also found on the north and south sides of I-10, but most of them are on the south side along the railroad tracks.

Existing Visual Quality: The overall visual quality of this landscape unit is low, with low vividness, intactness, and unity. As in the Industrial Landscape Unit, the older industrial developments in the area, combined with the rail corridor and billboards, lower the visual quality. The quarry also lowers the visual quality of this portion of the corridor. The primarily residential areas west of Rancho Avenue generally have a higher overall visual quality than the areas to the east. The mature trees within the corridor raise the visual quality.

3.4.7 Commercial-Agricultural Landscape Unit

The boundaries for the Commercial-Agricultural Landscape Unit are the Santa Ana River crossing to the west and Nevada Street to the east. This unit includes the I-215/ I-10 interchange and falls within the cities of Colton, San Bernardino, and Loma Linda. The development patterns surrounding the I-10 corridor include large commercial and office developments in the western half of the unit, with agricultural fields still present in the eastern half. Between these two are many residential neighborhoods. Typical views for the Commercial-Agricultural Landscape Unit are shown in Figure 3-8.

Existing Visual Character: The railroad corridor has a less visually prominent role within the Commercial-Agricultural Landscape Unit because the tracks move south, away from the I-10 corridor, beginning near the Santa Ana River. In addition, the corridor changes character by being elevated in the landscape with the cross streets crossing under I-10. Fewer billboards are located in this landscape unit.

The rows of eucalyptus trees in the previous landscape units are not present in this landscape unit; however, median plantings of olive trees are present near the Waterman Avenue interchange. The I-215/I-10 interchange has a substantial landscape within the ROW.

Existing Visual Quality: The overall existing visual quality of the Commercial-Agricultural Landscape Unit is moderate, with moderate vividness and intactness and moderately low unity. Overall, the removal of the railroad corridor as a visual

element in the landscape and the associated reduction of billboards combine with the additional landscaping found in the corridor and the agricultural fields to give this portion of the corridor its rating. Detracting or encroaching elements are generally much less in this landscape unit.

3.4.8 Redlands Landscape Unit

The Redlands Landscape Unit stretches from Nevada Street on the west through to the end of the project near Ford Street. This landscape unit is situated almost entirely within Redlands. It is identified by the elevated character of I-10 combined with the predominantly residential development of the adjacent land uses. Typical views within the Redlands Unit are shown in Figure 3-9.

Existing Visual Character: The two features that tend to dominate the visual character of this landscape unit are the SR-210/I-10 interchange on the western end of the landscape unit and the existing soundwalls on the eastern end. These soundwalls limit the views into and out of the corridor, leaving only skyline trees (mostly eucalyptus and fan palms) to be seen over the walls. The interchange area has been landscaped by Caltrans.

As in the previous landscape unit (Commercial-Agricultural), I-10 is elevated in the landscape, with the cross streets crossing under I-10. Some landscaping is associated with the slopes along I-10, which takes on a naturalistic appearance and may be volunteer plantings of eucalyptus and palm. Cross street interchanges within this unit are generally landscaped.

Existing Visual Quality: The existing visual quality of the Redlands Landscape Unit is moderate, with moderate to moderately high vividness and moderate intactness and unity. Because the existing soundwalls limit the views into or out of the corridor, they generally have lower visual quality. In some locations, vine plantings have been introduced, which help to soften the appearance of these walls.

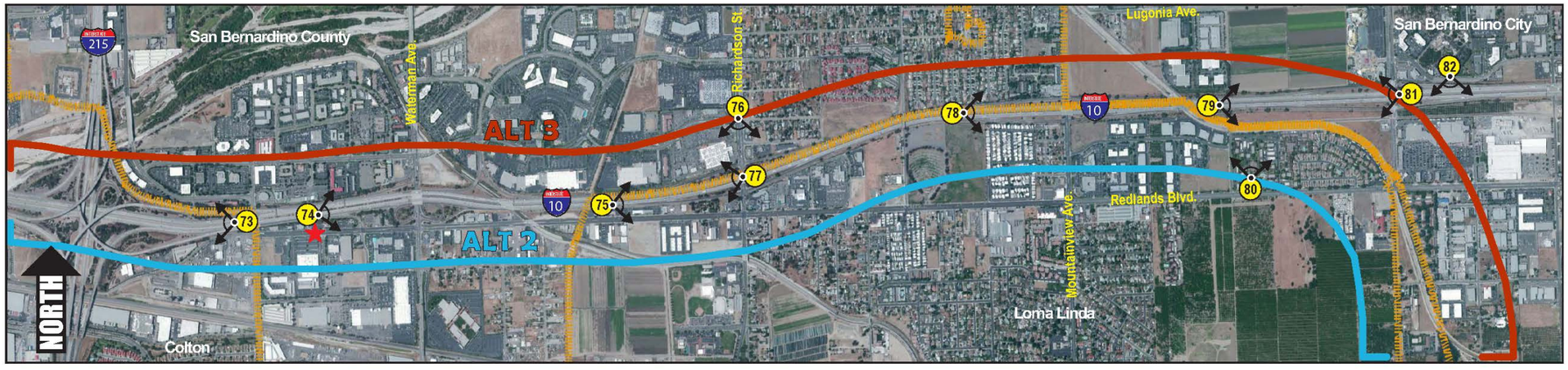

Figure 3-8. Commercial-Agricultural Landscape Unit

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Figure 3-9. Redlands Landscape Unit

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3.5 Predicting Viewer Response

Viewer response is based on two elements: viewer sensitivity and viewer exposure. These elements combine to form a method of predicting how the public might react to visual changes that result from the highway improvements.

Viewer sensitivity can be defined as the viewer's concern for scenic quality and his response to change in the visual environment that creates the view. Local values and goals may place greater significance on certain landscape components or locations that might appear unremarkable to an outside observer. Viewer exposure is typically assessed by considering the number of viewers exposed to the view, the type of viewer activity associated with the view, the duration of their view, the speed at which the viewer moves through the environment, and the position of the viewer.

3.6 Existing Viewer Sensitivity

To varying degrees, each city within the corridor has established guidelines, codes, and/or regulations that indicate the importance the city places on the aesthetics and landscape of developments. In general, the cities of Redlands and Fontana have expressed a high degree of interest in the interface between the local street network and the freeway. The residents of these communities are therefore likely to be very sensitive to changes in the visual environment and any impacts associated with the proposed improvements on I-10.

Working with the cities along the corridor, Caltrans is developing an Aesthetics and Landscape Master Plan. This Master Plan will identify the use of aesthetic treatments for the corridor structural elements, including bridges, soundwalls, and retaining walls. These treatments will include the use of forms and lines of the structures and the application of textures and colors to achieve a distinct but unique image along the corridor. The Master Plan will also identify landscape opportunities and plant palettes for the areas along I-10 suitable for landscaping. Finally, the Master Plan will likely discuss water quality, lighting, signage, hardscape treatments, maintenance, bike trails, transportation art, main street amenities, and gateway features.

The sum of these efforts indicates that the communities along the I-10 corridor place a high value on the aesthetics of the corridor. This increases the likelihood that residents and business owners in the area will have a higher sensitivity to changes in the visual environment. To the extent practicable, the effect of the project should reflect the stated community goals and objectives outlined in the Master Plan for the corridor.

3.7 Existing Viewer Groups, Exposure, and Awareness

Freeway Travelers: Along the I-10 corridor, thousands of travelers, including regular commuters, frequent travelers, occasional travelers, and tourists, traverse the project area in a typical day. Of these users, the daily commuter would have the greatest sensitivity to any changes in the visual environment due in large part to his daily exposure to the corridors. Other freeway users would have a decreasing exposure and knowledge of the previous visual environment; therefore, they would be expected to have a decreasing sensitivity to any changes. With congested traffic, the length of exposure increases; drivers have a longer time to focus their attention on the highway elements, and passengers tend to have more time and a wider range of views than do drivers.

Community Residents: Residents can be expected to have a high concern and high degree of sensitivity to changes in the visual environment with regard to the project and its effect on views from their homes and neighborhoods. In addition, residents can be expected to have a concern about the views from the highway into their communities. In areas of adjoining cities and communities, there is often a desire to differentiate one community from the next, particularly along freeways that often serve as the main entry points to a community.

Business Owners, Employees, and Customers: In general, this user group would be expected to have a low sensitivity to the changes in the visual environment. This group is more concerned with maintaining access to the businesses than with the change in the visual environment; however, business owners are often concerned with the aesthetics of the project corridor and how that might reflect on the community, as are community residents.

Local Street Users: Local street users, including drivers, bicyclists, and pedestrians, have generally short-duration views into the corridor every day, mostly from the many cross streets over and under the corridor. Because the speed of travel of these viewer groups is much slower than that of the highway traveler, they are expected to have a high to moderate sensitivity to changes in the visual environment, depending on their familiarity with the current views. Views into the project area can also be broken by vegetation, buildings, or fencing that limits some views or breaks up the panorama into intermittent views.

Chapter 4 Environmental Consequences

4.1 Assessing Project Impacts

The visual impact of project alternatives is determined by assessing the visual resource change resulting from the project and predicting viewer response to that change. Visual resource change is the total change in visual character and visual quality. The first step in determining visual resource change is to assess the compatibility of the proposed project with the existing visual character of the landscape. The second step is to compare the visual quality of the existing resources with the projected visual quality after the project is constructed. Next, viewer response to the changes is the sum of viewer exposure and viewer sensitivity to the project, as described in Chapter 2. The resulting level of visual impact is determined by combining the severity of resource change with the degree to which people are likely to oppose the change.

NEPA and CEQA require consideration of visual resource impacts of projects in preparation of environmental documents. The CEQA guidelines (1998) state that a project may have a significant impact on visual quality if it would:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including trees, rock outcroppings, and historic buildings within a state scenic highway;
- Substantially degrade the existing visual character or quality of the site and its surroundings; or
- Create a new source of substantial light or glare, which would adversely affect day- or nighttime views in the area.

For projects that do not create a significant impact on existing visual character or quality, a more nuanced approach categorizes impact levels as low, moderately low, moderate, moderately high, and high based on the following descriptions:

- Low: Low negative change to existing visual resources and low viewer response to that change. May or may not require mitigation.
- Moderately Low: Low negative change to the visual resource with a moderate viewer response or moderate negative change to the resource with a low viewer response. Impact can be mitigated using conventional methods.

- Moderate: Moderate negative change to the visual resource with moderate viewer response. Impact can be mitigated within 5 years using conventional practices.
- Moderately High: Moderate negative change in the visual resource with high viewer response or high negative change with a moderate viewer response. Extraordinary mitigation practices may be required. Landscape treatment required would generally take longer than 5 years to mitigate.
- High: High level of negative change in character or a high level of viewer response to the change such that extraordinary architectural design and landscape treatments may not mitigate impacts below a high level. An alternative project design may be required to avoid high negative impacts.

The following analysis first provides a description of any substantial impacts as defined by CEQA. Following this is an analysis of impacts associated with each alternative, followed by an analysis of the key viewpoints identified within the corridor. This analysis of key viewpoints provides a simulation showing the anticipated visual environment, as well as a summary that quantifies the anticipated effect of the changes on the key viewpoint.

4.2 Alternative 1 (No Build Alternative)

Activities that would occur under the No Build Alternative include routine maintenance of the project corridor area. The roadway would not be expanded for HOV lanes. The large number of projects already being developed in the project corridor exclusive of the I-10 Corridor Project indicates that the visual environment of the project corridor will, over time, change from the existing views. These changes include new bridges, retaining walls, and anticipated soundwalls, in addition to widened pavement sections, such as in the area of the auxiliary lanes.

4.3 Alternative 2 (HOV Alternative)

The analysis of Alternative 2 first provides an overview of the project for the existing corridor and for each landscape unit. Chapter 5 is a study of key viewpoints, with photosimulations depicting existing and anticipated post-construction views for Alternatives 2 and 3. Following the analysis of the two alternatives, is a series of tables that summarizes the anticipated visual elements for each alternative, along with a summary of the anticipated changes in the visual environment. The anticipated changes are shown in terms of the FHWA categories of vividness, intactness, and unity.

4.3.1 General Corridor Impact Analysis Overview

Over the 25-mile length of the project corridor, Alternative 2 is expected to result in moderate changes to the visual environment; however, specific areas, such as those associated with the rows of eucalyptus trees, would likely see greater impacts. Most of these changes would be visible from I-10 and the adjacent communities. Away from the immediate vicinity of the I-10 corridor, intervening vegetation and buildings would block views to the project corridor. Figure 4-1 provides an overview image of the proposed changes associated with Alternative 2.

(New lanes are shown in lighter paving to highlight location in corridor only)

Figure 4-1. Aerial View of Proposed Alternative 2 near Ranchero Road Looking West

The discussion below outlines the anticipated effects by category. This is followed by a discussion that outlines the effects by landscape unit. Note that this presentation covers the same material, but it is presented in two different ways to help facilitate an understanding of the potential effects of the project.

Vegetation Removal: Throughout the project area, Alternative 2 is expected to require the removal of approximately 374 eucalyptus trees within the corridor. Approximately 253 more trees could be impacted, depending on the final alignment of the roadway and the proximity of retaining walls that would be required to protect the trees. In some locations, the walls might have to be placed too close to the trees, and removing too many roots would kill the trees. Table 4-1 identifies the trees removed under Alternative 2, by landscape unit, and Appendix A illustrates the areas of eucalyptus trees that are potentially affected.

Table 4-1

Landscape Unit	Number of Eucalyptus Removed[1]	Number of Eucalyptus with Possible Impacts[1]	Number of Eucalyptus Protected In Place[1]
Commercial-Warehouse	25	90	60
Industrial	346	14	373
Rail Yard	3	149	383
Totals	374	253	816

[1] Tree removal numbers shown are a best estimate based on current mapping and other information currently available. Final numbers may change slightly based on specific tree locations within the corridor in relationship to the proposed project elements.

In addition to the rows of eucalyptus, existing plantings within interchanges would be affected by the proposed alternative. Vegetation along the mainline, which occurs mostly in the eastern half of the corridor, east of the Santa Ana River, would also be affected by the wider paving required by the alternative. Most of this disturbance would occur where walls (retaining or sound) and bridge construction would be scheduled to occur.

Locations for replacement plantings are available throughout the corridor. The areas in which the existing eucalyptus trees would be removed might not have sufficient ROW to allow for the trees to be replanted in the same locations. This is in part due to Caltrans' established setback requirements from structures and paving; however, other locations, including areas in the I-10/I-15 and the I-10/I-215 interchanges, as well as the local street interchanges along the project corridor, may include supplemental replacement tree plantings to account for the tree removals necessitated by the project. Additional plantings other than trees may be available throughout the corridor. Because the setback requirements for these types of plantings are less than those required for trees, plantings could include low shrubs and vine on soundwalls and retaining walls.

Freeway Paving: A new lane would be added in each direction within the current median of I-10. The addition of this lane would also require widening to the outside to accommodate a full 10-foot-wide shoulder in the median, as well as the 4-foot-wide HOV lane buffer. The result would be a wider pavement section throughout the corridor. The widened pavement would be a noticeable feature for drivers in the corridor; however, much of this area is already paved, and although the pavement type would change (from asphalt to concrete), it would not greatly alter the overall visual quality of the corridor.

Local Streets: The minor impacts associated with the local street interface (i.e., where ramp and local streets meet) are not expected to alter the existing visual quality along the streets. Three new overcrossings would be constructed as part of the project. In these locations, the local street would potentially see a wider section to the road. In addition, six undercrossings would be widened, extending the length of the local street that is in shadow under I-10. Other areas where the local streets might see effects from the project are associated with the ramps where they interface with the local street. Changes to the ramp configurations, such as widened sections and improved radiuses at the curb returns, may cause changes to the local street.

Bridges: Alternative 2 would replace 4 existing bridges, including the Slover Mountain Railroad Bridge, and would widen another 13 bridges, including other railroad bridges, within the project corridor. The new bridges would be longer than the existing and may be wider depending on the local requirements for the street, such as adding a lane to an existing arterial crossing. Given that the existing bridges were generally constructed without the design and aesthetic considerations usually applied to new projects, the new structures should be more aesthetically pleasing than the current bridge structures. The new bridges would likely maintain or increase the existing visual quality of the corridor.

Retaining Walls: Approximately 51,000 linear feet of retaining walls would be constructed along the corridor under this alternative. The retaining walls associated with Alternative 2 are primarily located within the interchange areas and are associated with the outside edge of the ramps; therefore, they would face outward from the corridor. In addition, some walls would be located along the mainline; some would be associated with interchanges and the reconfiguration of the ramp gore areas, while others would be located along the edge of the ROW. In general, those along the edge of the shoulder would face inward to the corridor and would be visible to

travelers on the freeway; those at the edge of the ROW would face outward and would be visible to the adjacent community.

Freeway users are likely to notice the addition of walls that face inward to the corridor, which are generally associated with interchanges, between the ramp, and the freeway mainline. These walls are generally associated with heights ranging from 4 to 12 feet. Their presence in the view, while generally associated with modern freeways, will nonetheless add to the urban appearance of the corridor with increased hard surfaces. Retaining walls along the edge of the ROW that faces out from the corridor are among the taller walls, up to 30 feet in height. These would be visible to adjacent communities where they face the corridor. The existing rail corridor that parallels much of the I-10 corridor, while unaesthetic, does create a distance between the freeway corridor and any viewers to the south of the freeway, which helps reduce the perceived height of some of these walls.

Soundwalls: Alternative 2 would construct or rebuild 56 sound walls within the I-10 Corridor, with a total linear footage of approximately 54,500 LF. The largest number of new sound walls are found in the eastern two landscape units (Commercial-Agricultural and Redlands Landscape Units), with additional walls located in the Railyard and Industrial landscape units. Under this alternative, there are no walls located in the Commercial-Warehouse unit. Wall heights range from 8 feet to 16 feet, with the typical wall being 14 feet in height. However, there is a proposed 20 foot wall along the edge of the I-10 right-of-way in the area of Willow Avenue and an 18 feet high wall along the edge of the right-of-way in the area of Acacia Avenue; both of these fall within the Railyard landscape unit. The proposed sound walls along the freeway and its right-of-way would limit views, both from the surrounding areas into the corridor and from the corridor out to the surrounding areas.

4.3.2 Commercial-Warehouse Landscape Unit

Within the Commercial-Warehouse Landscape Unit, Alternative 2 would require the removal of 25 eucalyptus trees along I-10, with the possible addition of 90 others, depending on final design configurations. With the protection of short retaining walls or roadway barriers, the remaining trees could be protected in place.

The widened roadway would cause a small increase in the perceived paving within the I-10 corridor; however, much of the existing area in which the lanes would be located is already paved. No soundwalls are anticipated within this landscape unit, but four retaining walls would be constructed. These have an average height in the range

of 4 to 9 feet, with a maximum height of 14 feet, for a wall located in the Milliken Avenue interchange.

While no bridges would be replaced within this unit, many existing crossings, primarily associated with the creeks/drainage or railroads, would be widened. The requirements for aesthetics for bridges and other structures outlined in the Corridor Aesthetics and Landscape Master Plan would be applied to any new bridge widening.

Given the large presence of warehouses and other businesses found within this unit, many without windows, it is anticipated that viewer sensitivity is expected to be moderately low. The potential effects of the proposed alternative, as described above, are anticipated to create a moderate degree of change within the corridor. Without mitigation, the overall visual quality within the landscape unit would likely decrease to moderately low, with moderately low vividness and intactness, and moderate unity. With mitigation, the existing overall visual quality of moderate would remain the same or increase slightly. With the addition of aesthetics and landscape elements currently not found in the corridor, the vividness would remain at moderate, with moderate intactness and unity.

4.3.3 Industrial Landscape Unit

The Industrial Landscape Unit has the largest number of existing eucalyptus trees that might be affected by the project. Approximately 345 trees, primarily along the northern edge of I-10, would be removed under Alternative 2. In addition, approximately 14 trees along the northern edge, paralleling the I-10 Channel, might have to be removed, depending on a final determination of the proximity of the protection elements versus the root zone required to maintain the health of the trees. Another 373 trees would be protected in place.

Sufficient ROW exists in portions of the corridor to allow new tree plantings in some locations within this landscape unit. In these cases, the new trees would be located along the north side of I-10 between the back edge of the I-10 Channel and the edge of ROW. Other replacement plantings could be located within the Cherry Avenue and Citrus Avenue interchanges. Many billboards are situated along I-10, particularly along its south side. Removing the trees would likely make these billboards even more prominent within the viewscape of the corridor.

As in the Commercial-Warehouse Landscape Unit, the additional paving associated with the alternative would likely cause a small increase in the perceived paving area,

particularly to the outside edge. Within this unit, no retaining walls are proposed, and no bridges would be replaced or widened by this alternative.

Four sound walls are proposed for this landscape unit, totaling 7,440 linear feet and with heights ranging between 12 to 16 feet. The average height is 14 feet. The walls are expected to block views into the corridor for residents adjacent to I-10 that currently have these views and to block views out of the corridor for freeway travelers. Plantings associated with the walls, such as vines, could help soften the presence of the wall in the corridor for both viewers.

Viewer sensitivity within this unit is anticipated to be moderate, given its mix of residential and industrial businesses. The effects created by Alternative 2 would likely also be moderate within the unit, primarily related to the removal of many eucalyptus trees and the addition of soundwalls along the corridor. Without mitigation, the low overall visual quality rating for the landscape unit would likely drop to very low, with very low vividness, intactness, and unity. Much of this drop is due to the removal of trees, combined with the older industrial and railroad areas that would become more visible after the trees are removed. With mitigation, the landscape unit could have an increased overall visual quality rating of moderately low, with moderately low vividness and intactness, and moderate unity.

4.3.4 Rail Yard Landscape Unit

Within the Rail Yard Landscape Unit, only 3 of the eucalyptus trees would be removed by the project, and another 149 are potentially in the path of the planned improvements and might require removal, depending on the final configuration of the roadway; however, as currently designed, it is anticipated that 383 of these trees would likely remain in place. In addition to the trees removed as part of the I-10 Corridor Project, the future planed improvements at the Cedar Avenue interchange would likely cause further removals.

As in the Industrial Landscape Unit, tree removal would likely make the existing billboards more visually prominent. Replacement plantings are possible within this landscape unit. Such plantings would be associated with the local street interchanges and in select locations between the interchanges where sufficient ROW exists between the edge of pavement and the edge of the ROW.

Within this unit, I-10 would add new lanes in the median area and would widen the outside edge of I-10 to accommodate the required shoulders, similar to the proposed

construction in the other units. Of the 43 retaining walls proposed within this landscape unit for Alternative 2, the walls associated with the 9th Avenue/La Cadena Drive interchange have one at a maximum height of 26 feet, which is the tallest wall in the alternative. This wall would face out from the corridor into the railroad corridor. Most of the proposed retaining walls have an average height of 8 to 10 feet, with maximum heights in the range of 12 to 16 feet.

The existing Slover Mountain Railroad Bridge, which is over I-10 east of Pepper Avenue, would be replaced, as would the Mt. Vernon Avenue OC. In addition, many existing bridges would be widened, including the bridge for the Colton Railroad line under I-10, the La Cadena Drive UC, the 9th Street UC, and the Pavillion Spur line under I-10, all of which would be widened to the outside of the existing bridge; and the Warm Creek and Santa Ana River crossings, which would be widened to the inside. With the incorporation of the aesthetic designs currently being developed as part of the Aesthetics and Landscape Master Plan, the design of the new bridges would likely place a greater emphasis on the aesthetics of the corridor than does the design of the current bridges. These aesthetic treatments would likely improve the overall aesthetics in the corridor.

For Alternative 2, eight sound walls would be constructed in several locations within this landscape unit. The total length of anticipated wall is 12,620 linear feet, with height generally between 12 and 16 feet. However 2 taller sound walls are proposed in this unit, one at 20 feet high along the westbound right-of-way near Willow Avenue and one that is proposed at 18 feet along the westbound right-of-way in the area of Acacia Avenue. As described for the Industrial Unit, these walls would be expected to block views for residents along the walls and for travelers on I-10. Where feasible, plantings associated with the walls would soften the presence of the walls.

Viewer sensitivity within this unit is likely to be moderately low, with the residences and businesses located along the north side of I-10 having a higher sensitivity. Any viewers along the railroad track that parallels the south side of I-10 would likely have a very low sensitivity, and for residents farther south, the views are more distant with a corresponding lower sensitivity. The effects of the project would be moderately high for the landscape unit, given the reduction in the mature trees that provide partial screening, the addition of a large number of walls, plus soundwalls. For the Rail Yard Landscape Unit, the project without mitigation would be expected to lower the overall visual quality of the landscape unit from low to very low. This drop is primarily based on removal of the existing trees and the opening of views into areas

with very low visual quality, such as the rail yard area. With mitigation, the overall visual quality would be moderately low, with moderately low vividness and intactness, and moderate unity.

4.3.5 Commercial-Agricultural Landscape Unit

The rows of eucalyptus trees do not exist within the Commercial-Agricultural Landscape Unit. These tree plantings are found west of the Santa Ana River and this landscape unit; however, most of the interchanges within this landscape unit, including the large I-215/I-10 interchange and the Waterman, Richardson, and Mountain View Avenue interchanges, are well landscaped. Plantings can also be found along the freeway embankments, some of which appear to be planted and some include volunteer species (fan palms). Median plantings of olive trees *(Olea* sp.) can be found in the median between the I-215/I-10 interchange and Waterman Avenue. All of these trees would be removed with this alternative.

Replacement plantings are feasible within this landscape unit, including at the I-10/I-215 interchange and at the local street interchanges within the unit. The side slopes of the elevated freeway also present opportunities for replanting.

Within this unit, the Richardson Bridge would be replaced and many other bridges would be widened (see Table B-1 in Appendix B for the full list). The bridges would be widened approximately 10 feet from the outside face to accommodate the necessary lanes and shoulders for this alternative. An outside widening would allow for corridor aesthetic elements that are currently being developed in the corridor master plan process to be incorporated into the bridge design.

Throughout most of this landscape unit, I-10 is elevated over the local streets. The exception is the I-10/I-215 interchange, where the freeway is at grade. Because the freeway is mostly elevated, the 27 retaining walls proposed within this unit would be along the edge of the ROW and would face outward from the corridor. These walls have average heights within a range of 6 to 10 feet. The tallest walls proposed, at 14 feet, are in the California Street and Mountain View Avenue interchanges.

Ten sound walls are proposed within this landscape unit, with a total length of sound walls of 10,460 linear feet. Heights for these walls range from 12 to 14 feet, with most walls at 14 feet. One shorter wall is proposed at 10 feet tall in the area along the westbound lanes, between Elm and Mountian View Avenues.

Viewer sensitivity within this unit is anticipated to be moderate, based on community preferences and the location of some residential within this unit. The overall effects of the project to the unit are anticipated to be moderate as well. The primary effects would be associated with the removal of vegetation and the added presence of retaining walls that face out into the community. Without mitigation, the net effect of the alternative on this landscape unit is to slightly decrease the overall visual quality from moderate to moderately low. With mitigation, this landscape unit would likely maintain its moderate visual quality, with moderate vividness, intactness, and unity.

4.3.6 Redlands Landscape Unit

Under Alternative 2, the anticipated project elements within the Redlands Landscape Unit are more limited than in many of the previous landscape units. Most of the improvements anticipated under this alternative within this landscape unit are on the unit's western half, except for retaining walls associated with the Ford Street interchange. Other retaining walls are proposed for areas west of the Texas Street UC. These are anticipated to have a height in the 4- to 12-foot range. See Table B-2 in Appendix B for the wall information. Most existing bridges in the unit would be maintained; however the 6th Street, Citrus Street, Cypress Street, and Highland Avenue UCs would be reconstructed in the median areas only, and the Ford Street and Redlands Boulevard off-ramp would be widened to the outside.

Existing vegetation along the western half of I-10 would be removed by construction activities, as would the existing vegetation within the Ford Street interchange; however, the existing vegetation within the central area of Redlands (from east of Texas Street to west of Ford Street) would remain, as would the existing soundwalls in this area that are currently covered with vines.

Thirty-four new sound walls would be constructed in the Redlands Unit as part of this Alternative. However, many of these walls could be considered extensions of existing sound walls in the corridor. The total length of these walls would be 23,980 linear feet with heights between 14 to 16 feet. Because much of the freeway is elevated in this landscape unit, the views out of the corridor are anticipated to be more affected than those in the surrounding community.

Viewer sensitivity within this unit is anticipated to be moderately high due to the closeness of the community to I-10 and the established preferences of the communities; however, because of the limited nature of the improvements, the effects of the alternative are likely to be low for the unit as a whole. Because the anticipated

construction in this unit is more limited, the overall effect to the visual environment is anticipated to be minor. The existing moderate overall visual quality should remain, as should the moderately high vividness and moderate intactness and unity.

4.4 Alternative 3 (Express Lanes Alternative)

The analysis of Alternative 3 first provides an overview of the project for the existing corridor and then for each landscape unit. Chapter 5 is a study of key viewpoints, with photosimulations depicting existing and anticipated post-construction views for Alternatives 2 and 3. Following the analysis of the two alternatives below is a series of tables that summarizes the anticipated visual elements for each alternative, along with a summary of the anticipated changes in the visual environment. The anticipated changes are shown in terms of the FHWA categories of vividness, intactness, and unity.

4.4.1 Analysis Overview

Alternative 3 extends from approximately Towne Avenue in Pomona to Ford Street in Redlands, a distance of 36 miles, although the Express Lanes only cover 33 miles from the Los Angeles county line to Ford Street. Because of its longer distance, the effects of the project cover a wider area. The discussion below outlines the anticipated effects by category. This is followed by a discussion that outlines the effects by landscape unit. Note that this presentation covers the same material, but it is presented in two different ways to help facilitate an understanding of the potential effects of the project, depending on the reader's point of view.

Vegetation Removal: Because the cross section is generally wider for Alternative 3, there is a substantial amount of existing vegetation along I-10 that would be potentially disturbed by the project. This includes areas within the interchanges, such as at Euclid Avenue, Vineyard Avenue, and Richardson Avenue where bridges are being replaced and ramps realigned, areas along mainline areas, such as between Mountain Avenue to 4th Street where I-10 is being widened, as well as areas along ramps and the mainline where retaining walls are to be constructed.

The rows of eucalyptus trees, which generally fall between the I-15 interchange and the Santa Ana River, would also have greater impacts than in Alternative 2. A total of 1,148 of the trees are potentially impacted by the project, while another 295 are anticipated to remain. Table 4-2 identifies the trees removed under Alternative 3, by landscape unit.

Table 4-2			
Landscape Unit	**Number of Eucalyptus Removed[1]**	**Number of Eucalyptus with Possible Impacts[1]**	**Number of Eucalyptus Protected In Place[1]**
Commercial-Warehouse	150	0	25
Industrial	572	0	161
Rail Yard	426	0	109
Totals	**1,148**	**0**	**295**

Freeway Paving: Alternative 3 adds two new 11-foot-wide lanes of paving in each direction for most of the corridor, between the LA/SB county line to approximately California Street in Redlands. This substantially widens the existing I-10 corridor's appearance for drivers on the corridor and for pedestrians and others who might look into the corridor. Existing medians at Etiwanda Avenue and east of I-215 would be paved as part of this alternative.

Local Streets: Many local streets would be affected by the project, especially where they cross over or under the I-10 corridor. Alternative 3 would replace 11 bridges where the local street crosses over I-10, and an additional 14 undercrossing bridges would be widened by the project. Within interchanges, where the ramps interface with the local street, additional minor impacts are anticipated that are associated with the improvements to various ramps. The cross section of Monte Vista Avenue would be widened as part of the project. The existing roadway would be widened to accommodate additional left-turn lanes and other safety improvements. The widened section would be limited to the interchange area only, and the changes would extend approximately one to two blocks north and south of the interchange to bring the roadway back to its existing configuration.

Bridges: Alternative 3 would replace 13 bridges (including 1 railroad bridge and 1 bridge on the La Cadena Drive EB ramp) within the corridor. Nine of these replacement bridges fall within the County Gateway and Residential Landscape Units and are associated with local street crossings over I-10. In addition, 31 undercrossings in the corridor would be widened, including 14 associated with local streets, 15 associated with either railroads or creek/drainage crossings, and 2 associated with existing ramp configurations. The design of the new and widened bridges would be constructed to include elements of the Corridor Aesthetics Master Plan. From a visual standpoint, the current structures lack many of the unifying aesthetic elements;

therefore, it is assumed that the new bridges would improve the overall corridor aesthetics, despite their longer appearance.

Retaining Walls: Approximately 180,000 linear feet of retaining walls would be constructed as part of Alternative 3. These walls would be constructed throughout the project corridor along the mainline and along interchange ramps. The walls within the County Gateway and Residential landscape units would generally face outward to the community in the Community Gateway Landscape Unit and into the I-10 corridor for the Residential Unit, which is similar to the existing condition in both units. Those in the Community Gateway are very tall, with maximum heights of 30 feet in some locations (near the Monte Vista Avenue and Indian Hill Boulevard interchanges). East of these two units, the walls are generally associated either between an interchange ramp and the mainline facing into the freeway corridor or are associated with the mainline facing out into the community. These walls generally have average heights of 10 feet or less, although in a few locations the walls have a maximum height of 14 feet.

Euclid Avenue: Unique among the cross streets within the project area, Euclid Avenue has been listed in the National Register of Historic Places within Upland and Ontario, and it has also been designated as a historic district within Ontario. Contributing features to the designation include the specific plantings of silk oak *(Grevillea robusta)* within the parkway (between the sidewalk and curb) and plantings of southern magnolia *(Magnolia grandiflora)* and California pepper *(Schinus molle)* within the median, as well as the stone curbs used along the roadway (see Figure 4-2). The existing bridge (Bridge No. 54 0445) is not included in the designation, and the current design, with its red stamped brick and small palm tree species, is not in keeping with the rest of the Euclid Avenue corridor.

Figure 4-2. Historic Euclid Corridor Median

Under Alternative 3, the existing Euclid Avenue Bridge would be replaced and the existing interchange associated with the area reconfigured with removal of the existing loop ramp in the northeast quadrant of the interchange. The new bridge would be longer and slightly wider than the existing bridge. There is a potential that the median of the bridge would be narrower than the existing to accommodate a double turn lane, rather than the existing single turn lane, depending on the final design of the interchange.

Final design of this bridge would require working with both cities and the State Historic Preservation Officer to determine the best approach to the final design. Possible solutions include the addition of a planter (larger than the existing) to accommodate additional plantings, the use of formliner treatments to create a stone-like appearance to the curbs and any planters, and other aesthetic aspects to the bridge railing that might carry the historic context of the Euclid Avenue corridor across the bridge.

Soundwalls: A total of 109 new sound walls would be built as part of this alternative, with a total length of 119,300 linear feet. The proposed heights range from 8 to 20 feet, but most walls fall within the 12 to 16 foot range and, of these most would have

a height of 14 feet; only 10 of the 103 walls have heights 10 feet or less and only 2 walls would have heights above 16 feet. There are a number of existing sound walls in the corridor, particularly in the western third of the corridor (west of Vineyard Avenue). These walls would be replaced with new walls as part of the project, and would likely be approximately the same height or slightly taller than the existing. In the eastern portions with the City of Redlands there are also existing sound walls, however, these walls are anticipated to remain under this alternative, but a number of them would likely be extended as part of the construction.

San Bernardino County Gateway Wall: Part of the existing soundwall within the County Gateway Landscape Unit includes a graphic gateway element near Mountain Avenue that was created by Caltrans and the local community to serve as an entrance feature to the county (see Figure 4-3). Under Alternative 3, the work would require removal of the existing soundwall associated with this gateway element. A new soundwall would be constructed approximately 10 feet farther out than the existing.

Figure 4-3. San Bernardino County Gateway Wall

Final design of this area would require working with Caltrans to recreate a similar community element. Possible solutions include construction of a similar formliner patterned concrete in a similar location or relocation of the monument to a more visually prominent location, such as at an interchange.

Specific impacts associated with this alternative within each landscape unit are discussed below.

4.4.2 Los Angeles County Landscape Unit

West of the Indian Hills Boulevard interchange, the proposed project elements within the Los Angeles County Landscape Unit are limited to new signage and restriping of the existing pavement. The Indian Hills Boulevard UC and nearby College Avenue UC would be widened on the WB side and the WB ramp at Indian Hills Boulevard reconfigured. Along the EB lanes, a new retaining wall would replace the existing on the approach to the county line and the Mills Avenue UC.

New sound walls would be constructed in this unit totaling approximately 16,600 linear feet. All walls, with the exception of one 450 foot long wall along the eastbound mainline between Bucknell Avenue and Indian Hills Boulevard, would be 12 to 16 feet tall. The exception would be between 16 and 20 feet tall.

Due to its high residential component, viewer sensitivity within the Los Angeles County Landscape Unit is likely to be moderately high, but because of the limited nature of the changes within this landscape unit, the effects of the alternative are anticipated to be low. The existing visual quality is expected to be maintained either with or without mitigation; therefore, the moderate visual quality for the landscape unit as a whole, with moderate vividness, intactness, and unity, would remain.

4.4.3 County Gateway Landscape Unit

The County Gateway Landscape Unit includes the Monte Vista Avenue interchange, which would be widened on the local level, as well as the freeway. No other local streets would be widened within this unit. I-10 would be widened to the north and south by 1 to 10 feet. This would cause the existing retaining walls along the corridor mainline to be removed and a new wall located at the new edge of I-10. Existing undercrossings – Mills, Central, Benson, and Mountain avenues – would be widened along with I-10, making the area of the local streets covered by I-10 longer. Soundwalls associated with these retaining walls would also have to be replaced. Existing on- and off-ramps have some minor realignments associated with them; with the exception of a small acquisition for the WB off-ramp at Monte Vista Avenue, these would fall within the current ROW.

Freeway landscaping within this unit is generally associated with the interchanges at Monte Vista, Central, and Mountain avenues. Because of the widening of the freeway mainline and the ramps, the existing landscaping would likely be removed. In some locations, vine plantings are found associated with the soundwalls, but if these walls are moved out, the vines would also be removed.

Soundwalls, including the San Bernardino County Gateway Wall, currently associated with retaining walls would be replaced in a new location along with the new retaining wall. Alternative 3 would construct approximately 11,700 linear feet of new or replacement sound wall within this landscape unit. Most of these walls would fall between 12 and 16 feet in height, with one 334 linear foot long wall in the area of Central Avenue proposed at only 10 feet in height.

Viewer sensitivity for the unit is anticipated to be moderately high given its residential and commercial makeup. With the exception of the Monte Vista Avenue interchange area, the effects of the alternative on the landscape unit are anticipated to be moderately low due to the limited improvements proposed within the unit. It is anticipated that with mitigation the visual quality of the landscape unit would maintain the existing moderately low visual quality. Without mitigation, the visual quality would likely drop to an overall moderately low. I-10 would appear wider with more and larger paved surfaces; however, the existing views in the corridor are limited by the soundwalls through much of the unit, limiting the visual effects of the proposed changes.

4.4.4 Residential Landscape Unit

I-10 within the Residential Landscape Unit would be widened up to 12 feet to the north and south of I-10 (or more in spot locations) to add two new Express Lanes in each direction. In many instances, this widening occurs into areas currently covered by existing freeway landscaping. The current configuration of retaining walls along the edge of I-10 holding back landscape slopes would be maintained under this alternative; however, the landscape areas would be much smaller. In addition, many ramps would be reconfigured. The most substantial reconfiguration is the removal of the existing loop ramp from northbound (NB) Euclid to WB I-10 and the reconfiguration of the WB on- and off-ramp at Vineyard Avenue.

Existing landscaping along the mainline and within interchanges would likely be disturbed by construction activities for the alternative. In some interchange locations where the ramp realignments are minor, such as a portion of the EB Vineyard Avenue interchange, some of the existing vegetation may remain, but this is likely to be limited.

Many bridges over I-10 would need to be replaced by this alternative – San Antonio, Euclid, Sultana, Campus, Grove, and Vineyard avenues, as well as the 4th and 6th Street OCs. In addition, bridges associated with the Holt Boulevard ramps and

Cucamonga Wash would be widened. Retaining walls in excess of 20 feet would be anticipated near the Euclid Avenue and 4th Street interchanges. In total, 41 retaining walls would be placed within this landscape unit, primarily at the edge of the shoulder.

In many locations, there are existing soundwalls within this unit. Any soundwalls currently associated with retaining walls would be replaced as the retaining wall is moved. Alternative 3 would place approximately 28,150 linear feet of sound wall within the Residential Landscape Unit. The majority of these would fall within the 12 to 16 foot tall range, with a few walls in the San Antonio and Euclid area in the shorter 8 to 12 foot high range.

Because of the primarily residential makeup of this unit, viewer sensitivity is expected to be moderately high. Changes to visual environment caused by the alternative are also anticipated to be moderately high, given the number of bridge replacements and retaining walls proposed, all with the accompanying removal of vegetation. Without mitigation, the visual quality would likely drop to moderately low; however, it is anticipated that with mitigation the existing overall moderate visual quality would remain, but due primarily to the reduction in vegetation and the addition of soundwalls, the existing moderately high visual quality would drop to moderate, while intactness and unity would remain with the existing moderate visual quality.

4.4.5 Commercial-Warehouse Landscape Unit

Within the Commercial-Warehouse Landscape Unit, the wider cross section of I-10 for the Express Lanes would require the realignment of many on- and off-ramps, including those associated with Haven, Milliken, and Etiwanda avenues and some of the ramps associated with the I-10/I-15 interchange. No local streets are proposed for widening.

No bridges would be replaced by this alternative; however, bridges associated with drainageways within the unit (Day Canyon, Etiwanda Wash, and San Sevaine Flood Control Channel), along with those associated with Valley Boulevard on- and off-ramps, would be widened. A total of 21 retaining walls would be located within this landscape unit, with average heights of 4 to 13 feet. The tallest walls, at 19 and 22 feet, are located in the Archibald Avenue and I-15/I-10 interchanges, respectively.

Approximately 164 eucalyptus trees along I-10 would be removed by Alternative 3 and approximately 25 would be saved in place within this landscape unit. Other existing landscaping that could be impacted by the project includes the area within the two loop ramps at Haven Avenue and potentially Milliken Avenue due to ramp realignment. The existing median area between the EB and WB lands near Etiwanda Avenue would be removed and in its place would be paving and a retaining wall. There would be no sound walls constructed as part of this alternative within this unit.

Because the unit is dominated with commercial warehouses and other businesses with few windows that look into the corridor, viewer sensitivity is expected to be moderately low. The potential effects of the proposed alternative, as described above, are anticipated to create a moderate degree of change within the corridor. This is primarily associated with the removal of vegetation along I-10. Without mitigation, the overall visual quality within the landscape unit would likely decrease to moderately low, with moderately low vividness and intactness, and moderate unity. With mitigation, the existing overall visual quality of moderate would remain the same or increase slightly with the addition of aesthetic elements outlined in the corridor master plan that are not currently found within the unit. With the addition of aesthetics and landscape elements currently not found in the corridor, the vividness would remain at moderate, with moderate intactness and unity.

4.4.6 Industrial Landscape Unit

Approximately 642 of the existing eucalyptus trees would be removed by this alternative, with another 173 likely to be preserved in place. Existing landscaping within the Cherry and Citrus Avenue interchanges would also likely be affected by the project.

As with the adjacent landscape units, I-10 would be widened to accommodate two new Express Lanes in each direction. The wider pavement cross section would add more hard surfaces to the views in the unity. None of the existing bridges within the unit would be replaced or widened, and only six retaining walls would be constructed. The average height for these walls would range from 5 to 8 feet, and the tallest wall, associated with the Citrus Avenue interchange, would be 10 feet.

Three new sound walls would be added within this unit as part of the construction. These walls would total approximately 7,500 linear feet. All of the walls would fall along the right-of-way on the westbound side of the freeway. Anticipated heights range from 12 feet to 16 feet tall.

Viewer sensitivity within this unit is anticipated to be moderate, given its mix of residential and industrial businesses. The effects created by this alternative would likely also be moderate within the unit, primarily related to the removal of a large number of eucalyptus trees and the addition of soundwalls along the corridor. Without mitigation, the low overall visual quality rating for the landscape unit would likely drop to very low, with very low vividness, intactness, and unity. Much of this drop is due to the removal of many trees from the corridor, combined with the older industrial and railroad areas that would become more visible after the trees are removed. With mitigation, the landscape unit could have an increased overall visual quality rating of moderately low, with moderately low vividness and intactness, and moderate unity.

4.4.7 Rail Yard Landscape Unit

The wider freeway cross section to accommodate two new Express Lanes in each direction would lead to widening of 12 to 20 feet on the north and south sides of I-10. Due to the widening, the Slover Mountain Railroad Bridge and the La Cadena Drive EB off-ramp UC would be replaced. In addition, the Colton Railroad OC and the 9th Street UC, as well as the bridges associated with the Santa Ana River, Warm Creek, and Rialto Channel, would be widened.

Fifty-one (51) retaining walls would be constructed within this landscape unit under this alternative. The average height for these walls ranges from 6 to 19 feet, with the tallest walls located primarily in the Sierra Avenue, Cedar Avenue, Riverside Avenue, Pepper Avenue, Rancho Avenue, and La Cadena Drive/9th Street interchanges. In each of these interchanges, a retaining wall with a maximum height of 20 feet tall is proposed.

Soundwalls would be included within the Railyard Landscape Unit as part of the construction. There would be a total of fifteen new walls, ranging in height from 12 to 16 feet, built under this alternative. The total approximate length of the anticipated sound walls to be built is 18,800 linear feet. Two taller walls would be constructed in the area of Willow Avenue and the area of Acacia Avenue at 20 and 18 feet, respectively.

Of the eucalyptus trees, 426 of the total 535 would be removed by Alternative 3, leaving 109 protected in place. In addition, vegetation within the interchanges – Sierra Avenue, Cedar Avenue, Riverside Avenue, and Ranch Avenue, in particular – would be removed to accommodate the widened freeway and its associated walls within these interchanges.

Similar to Alternative 2, the viewer sensitivity within this unit is likely to be moderately low, while the effects of the project would be moderately high for the landscape unit, given the reduction in the mature trees that provide partial screening, the addition of many retaining walls, plus soundwalls that would be constructed. For the Rail Yard Landscape Unit, Alternative 3, without mitigation, would be expected to lower the overall visual quality of the landscape unit from low to very low. This drop is primarily based on the removal of the existing trees and the opening of views into areas with very low visual quality, such as the rail yard area. With mitigation, the overall visual quality would be moderately low, with moderately low vividness and intactness, and moderate unity.

4.4.8 Commercial-Agricultural Landscape Unit

Within the Commercial-Agricultural Landscape Unit, the row of olive trees currently situated in the median between the I-215/I-10 interchange and Waterman Avenue would be removed as in Alternative 2. In addition, this alternative would remove vegetation along I-10 throughout the landscape unit, particularly in the existing interchanges where retaining walls and ramp realignments would affect the landscape areas.

The Richardson Avenue OCs would be replaced in Alternative 3, and the Hunts Lane, Waterman Avenue, Tippecanoe Avenue, Mountain View Avenue, California Street, and Nevada Street UCs would be widened to the outside. The West Redlands Railroad Bridge, along with San Timoteo Creek, would also be widened.

A total of 36 retaining walls would be constructed in this landscape unit. Because I-10 is elevated through much of this landscape unit, most of the walls would face outward from the I-10 corridor into the adjacent properties. Most of the walls proposed in this area are in the range of 4 to 8 feet. The tallest proposed wall, at 20 feet, occurs in the Waterman Avenue interchange at the Carnegie Drive WB I-10 ramp.

Approximately 9,800 linear feet of sound wall would be constructed in the Commercial-Agricultural Landscape unit under this alternative. All of the walls would fall within the 12 to 16 foot height range.

Viewer sensitivity within this unit is anticipated to be moderate, based on community preferences and the location of some residential within this unit. The overall effects of the project are anticipated to be moderately high. The primary effects would be associated with the removal of vegetation and the added presence of retaining walls that face out into the community. The wider cross section and associated retaining

walls and other new elements of the freeway, coupled with the removal of existing mature vegetation, would be expected to reduce the overall visual quality of the unit to moderately low. With mitigation, the alternative would reduce the visual quality slightly, but not enough to change its moderate overall visual quality and its moderate vividness, intactness, and unity.

4.4.9 Redlands Landscape Unit

Only the Tennessee Street OC would be replaced with this alternative. The 6th Street, Citrus Avenue, Cypress Avenue, and Palm Avenue bridges would be reconstructed in the median. Lastly, of the bridges, the Ford Street Bridge would be widened. All other bridges would remain in their current configuration. A total of 13 retaining walls would be constructed within this unit, with 8 planned for the Ford Street interchange. All of the proposed retaining walls are less than 12 feet in height. Average heights are 4 to 8 feet tall.

Thirty-five soundwalls, totaling approximately 26,250 linear feet, would be constructed in the Redlands Landscape Unit as part of Alternative 3. The anticipated height for these walls is in the 12 to 14 foot range, with a few exceptions of 10 to 12 foot tall walls in the western half of this Landscape Unit. In many cases, the length of individually proposed walls is between 200 and 400 feet and represents an extension of an existing wall.

This alternative would have fewer impacts to the landscape than other landscape units. This is mostly due to the reduced amount of proposed changes. Viewer sensitivity within this unit is anticipated to be moderately high due to the closeness of the community to I-10 and the established preferences of the communities; however, because of the limited nature of the improvements, the effects of the alternative are likely to be low for the unit as a whole. The existing moderate overall visual quality should remain, as should the moderately high vividness and moderate intactness and unity.

4.5 Summary of Anticipated Changes by Landscape Units

Table 4-3 provides a summary of the visual elements that are proposed as part of each alternative. This summary includes elements such as walls and bridges, as well as landscape removal areas that would be highly noticeable changes in the environment, but it excludes elements, such as culverts, that are not typically as visible in the landscape.

Table 4-3. Summary of Visual Elements for Each Alternative

Project Visual Element	No Build	HOV Lanes Alternative 2	Express Lanes Alternative 3
Structural Elements[1]			
Length of Corridor (miles)	36	25	36
Number of Replaced Over/Undercrossings (Bridges)	0	2	13
Number of Widened or Median Reconstruction Over/Undercrossings (Bridges)	0	20	36
Retaining Walls (linear feet)	0	51,570	179,870
Soundwalls (linear feet)	0	54,500	119,300
Landscape Elements			
Number of Eucalyptus Tree Rows Removed	0	374	1,148
Miscellaneous Elements			
Glare Potential[2]	Moderate	Moderate	Moderate
Local Streets Widened	No	Yes	Yes
New Concrete Median Barrier	No	Yes	Yes

[1] While widening of the highway paving would be a noticeable element, it is implied with each alternative.

[2] Glare potential is considered possible from the relocation of street lights within interchanges and also the reduction of vegetation along the edges of the highway, which would allow headlight glare into areas surrounding the highway; however, this effect is considered mitigable.

Table 4-4 is a summary of the anticipated changes to the visual quality by landscape unit for each alternative. Note that the visual quality rating is an average for each landscape unit as a whole. Specific areas within the unit might have a higher or lower visual quality, including pre- and post-project (see Chapter 5, Analysis of Key Viewpoints, for an analysis of specific locations within the corridor).

Table 4-4. Summary of Anticipated Changes by Landscape Unit

Landscape Units	Anticipated Change to Visual Resource[1, 2]	Anticipated Viewer Response[1, 2]	Anticipated Visual Impact[1,2]
No Build			
All Units	None	None	None
HOV Lanes – Alternative 2			
Los Angeles Unit			
County Gateway Unit			
Residential Unit			
Commercial-Warehouse Unit	Moderately Low	Moderate	Moderate
Industrial Unit	Moderate	Moderate	Moderate
Rail Yard Unit	Moderately Low	Moderately High	Moderate
Commercial-Agricultural Unit	Moderate	Moderate	Moderate
Redlands Unit	Moderately High	Low	Moderate
Express Lanes – Alternative 3			
Los Angeles Unit	Moderately High	Low	Moderate
County Gateway Unit	Moderately High	Moderately Low	Moderate
Residential Unit	Moderately High	Moderately High	Moderately High
Commercial-Warehouse Unit	Moderately Low	Moderate	Moderate
Industrial Unit	Moderate	Moderate	Moderate
Rail Yard Unit	Moderately Low	Moderately High	Moderate
Commercial-Agricultural Unit	Moderate	Moderate	Moderate
Redlands Unit	Moderately High	Low	Moderate

[1] See description of anticipated changes to the existing visual quality in Chapter 4.

[2] These values represent anticipated averages for the entire landscape unit; for an evaluation of specific points and the associated effects based on project alternatives, see Chapter 5 for a Key Viewpoint analysis.

4.6 Glare

Glare constitutes the light that can reasonably be expected from a roadway corridor. It can include the light from street/roadway lighting and lighting from signs, as well as light from vehicles on the roadway. Light becomes glare when it escapes outside of its intended area (e.g., the roadway corridor) into adjoining areas (e.g., the windows of a residence); this is also called light trespassing. This analysis specifically looks at whether the proposed project/alternative would increase light trespass into areas adjoining the project.

Portions of the existing I-10 are currently well lit, with street lighting primarily at interchanges but also along portions of the mainline. Other portions of the corridor are unlit. The project alternatives have not proposed increasing the amount of lighting along the corridor or lighting new areas that are not currently lit; however, because I-10 would be widened under these alternatives, it can be anticipated that the highway lighting would be moved and may be relocated closer to homes and businesses adjacent to the roadway, depending on the interchange location.

An additional source of glare is associated with the headlights of vehicles on the roads. While this would not change with the addition of lanes on the highway, the removal of vegetation along I-10 might cause more light trespass from these sources into adjacent areas. This is somewhat mitigated in residential areas adjacent to the highway by the proposed soundwalls. The inclusion of plantings along the highway would also help reduce light trespass from the corridor. It can be anticipated that in some locations, particularly those associated with commercial areas where there are no proposed soundwalls, there could be additional light from headlights; however, because these areas have fewer sensitive receptors (e.g., homes), an increase in glare from headlights is not anticipated to be a substantial issue.

4.7 Short-Term versus Long-Term Impacts

As the name implies, short-term impacts are of relatively short duration (e.g., the visual presence of construction equipment or the time for establishment of new plants). Long-term impacts are those that are either permanent to the corridor, such as new walls or impacts that take much longer to achieve full mitigation (e.g., the length of time required for new plantings to reach maturity).

For the I-10 Corridor Project area, removal of the eucalyptus trees and other vegetation within interchange areas would likely have the greatest impact on visual quality; however, this would be a temporary effect – as replacement vegetation grows, the overall impact would be expected to diminish. Other elements, such as replacement structures, new retaining walls, and soundwalls, would be permanent elements to the existing viewsheds along the corridor. These would reflect the aesthetics developed with the community as part of the Caltrans Corridor Master Plan.

4.8 Cumulative Impacts

A cumulative impact, as defined by the CEQ, is the impact on the environment that results from the incremental impact of the action when added to other past, present,

and reasonably foreseeable future actions, regardless of which agency or person undertakes such actions. CEQA Guidelines define cumulative impacts as two or more individual effects that, when considered together, are considerable or that compound or increase other environmental impacts. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period.

The I-10 Corridor Project is anticipated to undergo a substantial overhaul from its existing design. In addition to the project alternatives discussed in this report, 21 additional projects, from bridge replacements to new interchanges, are proposed for I-10 (see Table 1-1 for a list of related projects). These projects, plus the overall corridor project, are expected to alter the existing aesthetics of the corridor. It is likely that additional eucalyptus trees would be removed, especially those located within interchanges being reconstructed (e.g., Cherry, Citrus, and Riverside avenues).

However, given that much of the existing corridor has an overall low visual quality and that Caltrans has developed a Corridor Master Plan to address aesthetics and landscaping within this corridor, the visual quality of the corridor would be maintained or slightly improved when all of the projects are complete.

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Chapter 5 Analysis of Key Views

The findings presented in this study are based on review of the entire length of the project and its surroundings. The project is assessed from stationary locations, as well as from dynamic viewpoints such as vehicles, pedestrians, and bicyclists; however, because it is not possible to analyze every possible view within the project area, the FHWA analysis methodology recommends selecting many key viewpoints that represent the potential visual effects of the project and the viewers' experience. The key viewpoints include a representation of all critical visual elements of the proposed project and viewer group types. Descriptions of the key viewpoints are provided below.

The post-construction simulations shown for the key views on the following pages include mitigation measures as described in Chapter 5 of this report, to the extent feasible for each particular view. The most noticeable mitigation measures shown in the simulations are listed below:

- Applying architectural detailing to the retaining walls and soundwalls, including textures, colors, and patterns
- Coloring and staining of bridge elements
- Installing decorative fencing on the overcrossing bridges
- Saving and protecting as much existing vegetation as feasible
- Including new landscaping where feasible
- Including skyline trees in the new plantings

Aesthetic treatments shown on structures and specific plant types in the simulations are representative only. Actual types of treatments and landscaping would be based on community input. The key views within the project area are described below:

- **Viewpoint #14, Residential Landscape Unit:** This view was taken from the San Antonio Avenue OC looking EB into the I-10 corridor. The view was selected because it shows the improvements to the corridor from Alternative 3 from the perspective of the pedestrians on the overcrossing.
- **Viewpoint #15, Residential Landscape Unit:** This photo was taken on the existing Euclid Avenue OC looking west across the bridge. It was selected to show the potential changes to the visual environment along the historic corridor from the viewpoint of the bridge user.
- **Viewpoint #18, Residential Landscape Unit:** This viewpoint looks west from the existing E. Alvarado Street, which parallels the corridor. Because the street

is residential in nature, this viewpoint was selected to show the proposed improvements from the perspective of residents looking into the corridor.

- **Viewpoint #21, Residential Landscape Unit:** This photo is taken from the WB lanes looking at the Vineyard Avenue crossing. The photo is from the vantage point of the freeway user and was selected to show any changes associated with the proposed improvements to this user group.
- **Viewpoint #34, Commercial-Warehouse Landscape Unit:** This view, from unincorporated San Bernardino County looking toward Ontario, is taken from WB I-10 looking west toward the Etiwanda Avenue OC in the distance. To the right is the on-ramp from southbound (SB) Etiwanda Avenue to WB I-10. The view was selected because it shows what will occur on the I-10 corridor, as well as to the existing median on I-10. This is currently one of the few areas in the corridor with a median.
- **Viewpoint #40, Industrial Landscape Unit:** This view, within unincorporated San Bernardino County adjacent to Fontana, is taken from the first lane of WB I-10 looking west along the freeway edge towards the existing row of eucalyptus and the existing I-10 Channel, which parallels I-10 along the north edge of the freeway. The view was selected because it shows the impacts to the existing row of eucalyptus.
- **Viewpoint #43, Industrial Landscape Unit:** This photo is taken off the corridor in a neighborhood within Fontana. The view is to the south and was selected to show the impact of a soundwall in the vicinity of these homes.
- **Viewpoint #50, Rail Yard Landscape Unit:** This view is within San Bernardino County within the Fontana area and looks east along EB I-10. This view was selected to show the changes to the row of eucalyptus along the south side of I-10 (between I-10 and the railroad tracks).
- **Viewpoint #65, Rail Yard Landscape Unit:** This view is from the perspective of the pedestrian and is taken from the midpoint of the Rancho Avenue OC looking east. This view is in Colton and was selected to show the changes to the visual environment from the perspective of pedestrians.
- **Viewpoint #72, Commercial-Agricultural Landscape Unit:** This view is taken from the existing Santa Ana River Trail southwest to the existing I-10 crossing over the Santa Ana River. The viewpoint was selected as a key viewpoint because it shows changes that would be seen by trail users.
- **Viewpoint #74, Commercial-Agricultural Landscape Unit:** This view looks east from the EB lanes and shows the proposed impacts to the existing median plantings. The viewpoint is in the city of San Bernardino. It was

selected to show the changes to the visual environment associated with removal of the existing median vegetation.

- **Viewpoint #86, Redlands Landscape Unit:** This photo looks east from the EB lanes, near Texas Street in Loma Linda. This view was selected to show the potential impacts on corridor impacts within this unit.

For each key viewpoint that is rendered, there is descriptive text of the orientation, existing visual character/quality, proposed project features, anticipated changes to the visual environment, anticipated viewer response, and the resulting visual impact anticipated in each view. This is followed by the rendered simulations. Lastly, two tables are provided to summarize the anticipated impacts. The first table quantifies the anticipated impacts by using a numerical analysis that corresponds to the low, moderately low, moderate, moderately high, and high ratings identified below. The second table summarizes the overall anticipated visual impact to the view.

For the impact analysis table, the numeric analysis rating of 1 to 5 corresponds with the following values:

- High = 4.51 to 5.00
- Moderately High = 3.51 to 4.50
- Moderate = 2.51 to 3.50
- Moderately Low = 1.51 to 2.50
- Low = 0 to 1.50

A numeric value was assigned to each of the three visual quality traits (i.e., vividness, intactness, and unity) and each of the four visual character traits (i.e., scale, diversity, continuity, and dominance) for the existing and proposed views. The ratings in each category were added up and divided by the number of traits in each category. There is no weighting of any category over any other. For example:

(Vividness + Intactness + Unity)/3 = Visual Quality Rating
(Scale + Diversity + Continuity + Dominance)/4 = Visual Character Rating

From these calculations, the percentage of change anticipated in the view was then calculated by finding the difference between the existing and proposed views and then dividing that number by the initial rating figure. For example:

(Existing Visual Quality Rating – Proposed Visual Quality Rating)/Existing Visual Quality Rating = Percent Change

The resulting percent change corresponds to the following:

- 0% to 10% = Low degree of change
- 10% to 20% = Moderately Low degree of change
- 20% to 30% = Moderate degree of change
- 30% to 40% = Moderately High degree of change
- Above 40% = High degree of change

For the viewer responses shown in the individual analysis summary tables, the existing and proposed would be the same because the viewers themselves do not change; only the stimulus changes. The anticipated changes to character and quality, along with the anticipated viewer response and sensitivity, follow the Low – Moderate – High rating designations from above. These are averaged between each category, with the higher rating prevailing to determine the resource change and overall anticipated visual impact within the key viewpoint.

Lastly, Table 5-37 provides a summary of the anticipated impacts to the visual environment for each of the key viewpoints.

5.1 Alternative 2 Key Viewpoints

Viewpoints identified as key for identifying the changes to the visual environment anticipated with Alternative 2 are viewpoints #34, #40, #43, #50, #65, #72, #74, and #86. These are described and evaluated below.

5.1.1 Viewpoint #34, Commercial-Warehouse Landscape Unit

Figure 5-1 shows a photosimulation for Viewpoint #34 and depicts the pre- and post-construction views.

Figure 5-1.
Location of Key Viewpoint #34

- **Orientation:** The photograph is taken from the WB lanes of I-10 looking west. The Etiwanda Avenue interchange can be seen in the distance.
- **Existing Visual Character/ Quality:** The existing visual character is typical for a highway view. The view includes the highway paving, the ramp OC bridge, and slope paving. The power lines add an additional industrial element to the view. The median area is unique to the corridor. Given the size of the highway, the scale in the view tends towards the monumental; diversity is low, as is the rating for dominance. The view also tends towards the dissonant because of the starkness of the highway and the lack of softening elements. The overall visual quality of the view is moderately low, with moderately low vividness, intactness, and unity.
- **Proposed Project Features:** The project would add a new inside lane to the view, reducing the open median area. The existing W-beam guardrail on the other side of the median for the EB traffic would be replaced with a concrete barrier. The existing ramp and bridge would not be changed; however, color would be applied to the walls and slope paving to mitigate their appearance. Plantings, to the extent possible, and/or gravel and hardscape treatments would be included in the median area.
- **Changes to Visual Character:** For drivers on I-10, the new lane, combined with plantings in the median area, would be the most noticeable new elements in this view. The paving would appear wider than the existing and would continue to dominate the view. The mitigation measures, particularly in the median area, would also be a noticeable fore- to mid-ground addition to the view.

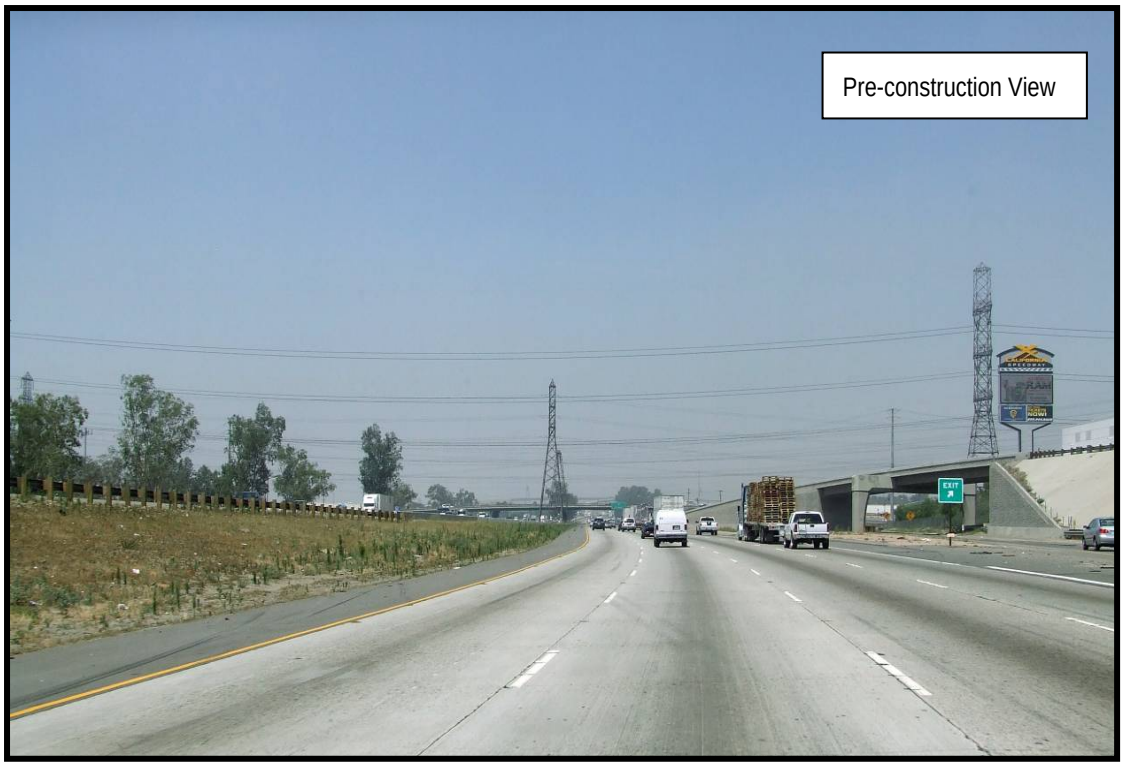

Figure 5-2. Viewpoint #34, Alternative 2, Commercial-Warehouse Landscape Unit

Minimization measures depicted in the simulation include wall texture and new landscaping of disturbed areas. Aesthetic treatments to structures and specific plant types are representative only. Actual types of treatments and landscaping would be designed in collaboration with Caltrans' District Landscape Architect.

Table 5-1. Alternative 2, Key Viewpoint #34 Anticipated Changes in Visual Character and Quality, and Their Effect on Viewers

	Attribute	Ratings[7]		Remarks (Anticipated Changes Are Shown In the Blue Rows)
		Existing Condition	Proposed Condition[5]	
Visual Quality[1]	Vividness/Memorability	2.32	4.05	Planted median adds to quality of view
	Intactness	2.18	3.93	
	Unity	1.98	3.64	
	TOTAL[6]	**2.16**	**3.87**	Percent Change = 79.17% = High degree of change
Visual Character[2]	Scale	1.95	2.87	
	Diversity	1.75	2.43	
	Continuity	2.13	3.37	
	Dominance	1.34	3.43	
	TOTAL[6]	**1.79**	**3.03**	Percent Change = 69.27% = High degree of change
Viewer Exposure[3]	Location of Views	3.25		
	Number of Viewers	4.25		
	Duration of Views	1.45		
	TOTAL[6]	**2.98**		Moderate Exposure
Viewer Sensitivity[4]	Attention of Viewer	2.78		
	Viewer Awareness	2.43		
	Local Values and Goals	2.20		
	TOTAL[6]	**2.47**		Moderately Low Sensitivity

1 – Vividness = memorable, striking (5) to plain (1); Intactness = free of encroaching elements (5) to cluttered/lacking integrity (1); and Unity = coherent/harmonious (5) to disjointed/jarring (1). A rating below 1 would only be used for an extremely low rating.

2 – Scale = small (5) to monumental (1); Diversity = complex (5) to monolithic (1); Continuity = harmonious (5) to dissonant (1); and Dominance = balanced (5) to prominent/unbalanced (1). A rating below 1 would only be used for an extremely low rating.

3 – Location = foreground (5) to distant views (1); Number = over 100,000 (5) to 20 or less (1); Duration = over 4 hours (5) to less than 1 minute (1). A rating below 1 would only be used for an extremely low rating.

4 – Activity = attention on views (5) to attention focused away (1); Awareness = High (5) to Low (1); and Values = High (5) to Low expectations (1). A rating below 1 would only be used for an extremely low rating.

5 – Proposed (post-construction condition) with avoidance and minimization measures in place. Avoidance and minimization measures are described in Chapter 6 of this report.

6 – Total = sum of attributes divided by number of attributes – e.g. Overall Visual Quality = (vividness+intactness+unity)/3.

7 – Ratings: 1 = Low, 3 = Moderate, 5 = High

- **Anticipated Viewer Response:** Freeway viewers are likely to be very aware of the changes in the I-10 corridor, but their sensitivity would be moderately low because the view to the new I-10 corridor would be similar in nature to the existing highway view, with many of the same elements. For these viewers, the wider pavement section is not expected to create any substantial changes to the visual environment.
- **Resulting Visual Impact:** The moderately high impact to the visual environment is expected to increase the overall visual quality of the view to moderately high with moderately high vividness, intactness, and unity. This is due in large part to the addition of the planted median, which adds to the memorability of the view by softening the appearance of the hard surfaces of the corridor.

Table 5-2. Alternative 2, Key Viewpoint #34
Analysis Summary

Visual Resource (Stimulus)	Change to Visual Character	High	Resource Change **High**	Visual Impact **Moderately High**
	Change to Visual Quality	High		
Viewer (Response)	Viewer Exposure	Moderate	Viewer Response **Moderate**	
	Viewer Sensitivity	Moderately Low		

Ratings for each category were determined by taking the percent change rating from the previous table and averaging these for the Resource Change/Viewer Response columns. These two ratings were then averaged again to determine the anticipated Visual Impact. If unable to average, the higher rating was used.

5.1.2 Viewpoint #40, Industrial Landscape Unit

Figure 5-3. Location of Key Viewpoint #40

Figure 5-3 shows a photosimulation for Viewpoint #40 and depicts the pre- and post-construction views.

- **Orientation:** The photograph looks to the west-northwest towards the row of existing eucalyptus trees that parallels this stretch of I-10.
- **Existing Visual Character/Quality:** The existing visual character of this view is dominated by the eucalyptus trees. The trees are mature, with some in good health and others in decline. Behind the trees is the I-10 Channel, which parallels the north side of I-10 from the San Sevaine Creek outfall to just east of Sierra Avenue. The other main visual element in the view is the paving associated with the shoulder. The placement of the eucalyptus trees helps to provide a sense of scale and balance to the highway and adds some complexity to the diversity of the view. The existing visual quality of the view is moderate overall, with moderate vividness, intactness, and unity.
- **Proposed Project Features:** The proposed project features within this portion of the corridor include a widened pavement section that pushes the roadway into the area currently occupied by the row of eucalyptus trees, necessitating their removal. The existing channel would remain, but due to its proximity to the roadway, it would require a concrete barrier to protect motorists from the hazard; however, sufficient ground is available on the other side of the channel to include new plantings of trees. It is also anticipated that a soundwall would be constructed along the edge of the existing ROW to protect adjacent homes.
- **Changes to Visual Character:** Removal of the mature trees along the corridor would substantially alter the visual character of the corridor. With replanting, as shown in the photosimulation, the character would still change, but this change would be softened by the new plantings, which would continue to grow and would eventually approach a mature size in 15 to 20 years.

Figure 5-4. Viewpoint #40, Alternative 2, Industrial Landscape Unit

Minimization measures depicted in the simulation include wall texture and new landscaping of disturbed areas. Aesthetic treatments to structures and specific plant types are representative only. Actual types of treatments and landscaping would be designed in collaboration with Caltrans' District Landscape Architect.

Table 5-3. Alternative 2, Key Viewpoint #40 Anticipated Changes in Visual Character and Quality, and Their Effect on Viewers

	Attribute	Ratings[7]		Remarks (Anticipated Changes Are Shown In the Blue Rows)
		Existing Condition	Proposed Condition[5]	
Visual Quality[1]	Vividness/Memorability	3.45	3.13	
	Intactness	2.79	2.67	
	Unity	2.67	2.54	
	TOTAL[6]	**2.97**	**2.78**	Percent Change = 6.40% = Low degree of change
Visual Character[2]	Scale	2.67	2.47	
	Diversity	3.13	2.43	
	Continuity	2.80	2.21	
	Dominance	3.16	2.18	
	TOTAL[6]	**2.94**	**2.32**	Percent Change = 21.08% = Moderate degree of change
Viewer Exposure[3]	Location of Views	3.41		
	Number of Viewers	4.50		
	Duration of Views	1.75		
	TOTAL[6]	**3.22**		Moderate Exposure
Viewer Sensitivity[4]	Attention of Viewer	3.25		
	Viewer Awareness	2.75		
	Local Values and Goals	2.21		
	TOTAL[6]	**2.74**		Moderate Sensitivity

1 – Vividness = memorable, striking (5) to plain (1); Intactness = free of encroaching elements (5) to cluttered/lacking integrity (1); and Unity = coherent/harmonious (5) to disjointed/jarring (1). A rating below 1 would only be used for an extremely low rating.

2 – Scale = small (5) to monumental (1); Diversity = complex (5) to monolithic (1); Continuity = harmonious (5) to dissonant (1); and Dominance = balanced (5) to prominent/unbalanced (1). A rating below 1 would only be used for an extremely low rating.

3 – Location = foreground (5) to distant views (1); Number = over 100,000 (5) to 20 or less (1); Duration = over 4 hours (5) to less than 1 minute (1). A rating below 1 would only be used for an extremely low rating.

4 – Activity = attention on views (5) to attention focused away (1); Awareness = High (5) to Low (1); and Values = High (5) to Low expectations (1). A rating below 1 would only be used for an extremely low rating.

5 – Proposed (post-construction condition) with avoidance and minimization measures in place. Avoidance and minimization measures are described in Chapter 6 of this report.

6 – Total = sum of attributes divided by number of attributes – e.g. Overall Visual Quality = (vividness+intactness+unity)/3.

7 – Ratings: 1 = Low, 3 = Moderate, 5 = High

- **Anticipated Viewer Response:** Removal of the trees would be very noticeable to travelers on I-10, who would likely be very sensitive to the removal. The new tree plantings would, over time, replace the existing trees in stature and presence in the landscape and would soften the roadway and bring a sense of scale to the corridor. It is anticipated that viewer exposure and sensitivity would be moderate to the changes in the corridor.
- **Resulting Visual Impact:** Although the anticipated impact to the visual quality is expected to be low, the anticipated impact to the view is expected to be moderate, due mostly to removal of the existing vegetation. Removal of the existing trees and planting of newer, smaller plantings would greatly affect the view and the ability of the plantings to bring scale and diversity to the corridor. This, however, would be temporary, because as the trees grow, their presence and ability to provide scale and a softening element to the corridor would increase over time.

Table 5-4. Alternative 2, Key Viewpoint #40
Analysis Summary

Visual Resource (Stimulus)	Change to Visual Character	Moderate	Resource Change	Visual Impact
	Change to Visual Quality	Low	**Moderate**	
				Moderate
Viewer (Response)	Viewer Exposure	Moderate	Viewer Response	
	Viewer Sensitivity	Moderate	**Moderate**	

Ratings for each category were determined by taking the percent change rating from the previous table and averaging these for the Resource Change/Viewer Response columns. These two ratings were then averaged again to determine the anticipated Visual Impact. If unable to average, the higher rating was used.

5.1.3 Viewpoint #43, Industrial Landscape Unit

Figure 5-5 shows a photosimulation for Viewpoint #43 and depicts the pre- and post-construction views.

Figure 5-5.
Location of Key Viewpoint #43

- **Orientation:** The photograph looks south towards the I-10 corridor from a residential area north of the freeway.
- **Existing Visual Character/ Quality:** The existing visual character of the view is typical of the residential areas near I-10, with smaller homes on small- to medium-sized lots. In the interior of the neighborhoods, the residents' views to I-10 are partially blocked by homes and associated vegetation that back onto the I-10 corridor. Within this view, the power poles and lines, billboards, and dead eucalyptus trees, as well as the freeway corridor itself, detract from the overall visual quality of the view. The existing visual quality in this view is moderately low, with moderately low vividness, intactness, and unity; however, because the view is residential in nature, the scale is much more intimate than the previous key viewpoints on I-10, the diversity of the view is greater and the dominance is more balanced.
- **Proposed Project Features:** It is very likely that a soundwall would be constructed along this neighborhood area. Because Oleander Avenue dead-ends at the freeway ROW, this soundwall would be a prominent visual feature. In addition, sufficient ROW likely exists in this stretch of the project to allow tree plantings between I-10 and the wall.
- **Changes to Visual Character:** The soundwall would block the residents' existing views into the I-10 corridor. The other changes within the I-10 corridor would not be visible to the residents, except that the tops of the existing eucalyptus trees in the view, which would be visible if the trees were to remain, would no longer be visible due to the removal of the trees. However, mitigation in the form of new plantings along the wall, primarily vines, would soften the wall face.

Table 5-5. Alternative 2, Key Viewpoint #43 Anticipated Changes in Visual Character and Quality, and Their Effect on Viewers

	Attribute	Ratings[7]		Remarks (Anticipated Changes Are Shown In the Blue Rows)
		Existing Condition	Proposed Condition[5]	
Visual Quality[1]	Vividness/Memorability	2.11	2.51	
	Intactness	1.97	2.72	
	Unity	2.09	2.99	
	TOTAL[6]	**2.06**	**2.74**	Percent Change = 33.17% = Moderately High degree of change
Visual Character[2]	Scale	4.21	4.23	
	Diversity	3.25	3.78	
	Continuity	3.90	4.28	
	Dominance	3.27	3.43	
	TOTAL[6]	**3.66**	**3.93**	Percent Change = 7.34% = Low degree of change
Viewer Exposure[3]	Location of Views	4.25		
	Number of Viewers	1.98		
	Duration of Views	4.65		
	TOTAL[6]	**3.63**		Moderately High Exposure
Viewer Sensitivity[4]	Attention of Viewer	4.45		
	Viewer Awareness	3.75		
	Local Values and Goals	2.21		
	TOTAL[6]	**3.47**		Moderate Sensitivity

1 – Vividness = memorable, striking (5) to plain (1); Intactness = free of encroaching elements (5) to cluttered/lacking integrity (1); and Unity = coherent/harmonious (5) to disjointed/jarring (1). A rating below 1 would only be used for an extremely low rating.

2 – Scale = small (5) to monumental (1); Diversity = complex (5) to monolithic (1); Continuity = harmonious (5) to dissonant (1); and Dominance = balanced (5) to prominent/unbalanced (1). A rating below 1 would only be used for an extremely low rating.

3 – Location = foreground (5) to distant views (1); Number = over 100,000 (5) to 20 or less (1); Duration = over 4 hours (5) to less than 1 minute (1). A rating below 1 would only be used for an extremely low rating.

4 – Activity = attention on views (5) to attention focused away (1); Awareness = High (5) to Low (1); and Values = High (5) to Low expectations (1). A rating below 1 would only be used for an extremely low rating.

5 – Proposed (post-construction condition) with avoidance and minimization measures in place. Avoidance and minimization measures are described in Chapter 6 of this report.

6 – Total = sum of attributes divided by number of attributes – e.g. Overall Visual Quality = (vividness+intactness+unity)/3.

7 – Ratings: 1 = Low, 3 = Moderate, 5 = High

Figure 5-6. Viewpoint #43, Alternative 2, Industrial Landscape Unit

Minimization measures depicted in the simulation include wall texture and new landscaping of disturbed areas. Aesthetic treatments to structures and specific plant types are representative only. Actual types of treatments and landscaping would be designed in collaboration with Caltrans' District Landscape Architect.

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- **Anticipated Viewer Response:** Residents are expected to have a high degree of sensitivity to the changes to the visual character of their neighborhood. These viewers have long duration views and are very familiar with the existing views. Visitors to the neighborhood are likely to be less sensitive to the changes.
- **Resulting Visual Impact:** The overall change to the view is expected to be moderate. The change would result in a more urban appearance to the neighborhood, given the height of the walls and the size of the nearby homes. Appropriate architectural treatments on the wall would help minimize the urbanizing effect of the wall. The anticipated visual quality is anticipated to be slightly higher than the existing, due in large part to the screening of I-10 by the new soundwall. New plantings would soften the appearance of the wall, and, in combination with other planting and architectural treatments, would lead to a moderate visual quality with moderate vividness, intactness, and unity.

Table 5-6. Alternative 2, Key Viewpoint #43
Analysis Summary

Visual Resource (Stimulus)	Change to Visual Character	Low	Resource Change	Visual Impact
	Change to Visual Quality	Moderately High	**Moderate**	
				Moderate
Viewer (Response)	Viewer Exposure	Moderately High	Viewer Response	
	Viewer Sensitivity	Moderate	**Moderate**	

Ratings for each category were determined by taking the percent change rating from the previous table and averaging these for the Resource Change/Viewer Response columns. These two ratings were then averaged again to determine the anticipated Visual Impact. If unable to average, the higher rating was used.

5.1.4 Viewpoint #50, Rail Yard Landscape Unit

Figure 5-7 shows a photosimulation for Viewpoint #50 and depicts the pre- and post-construction views.

Figure 5-7.
Location of Key Viewpoint #50

- **Orientation:** The photograph was taken from the EB lanes of I-10 looking east-southeast towards the railroad corridor and the row of eucalyptus trees that parallels the south side of I-10.
- **Existing Visual Character/ Quality:** The existing visual character of the view is dominated by the railroad corridor; however, the trees in the foreground help to break up the views into the rail corridor. The row of trees along the south side of I-10 is much more sporadic than on the north, and the trees are in a greater state of decline, so the quality of the screening is less than found elsewhere in the corridor where the trees are in better condition. The trees do help provide a sense of scale and diversity to the roadside corridor and add to the balance of the view. The overall visual quality of the view is moderately low, with moderately low vividness, intactness, and unity.
- **Proposed Project Features:** The addition of the new EB HOV lane in the median area of I-10 would require widening the lanes slightly to the south toward the row of eucalyptus trees. A roadside barrier would be needed along the edge of the shoulder, and a ROW fence would be attached to the top of the barrier.
- **Changes to Visual Character:** The corridor would appear wider to those traveling on I-10 with the addition of the HOV lane in each direction; however, by preserving the existing trees, the view is not substantially changed from the existing.

Figure 5-8. Viewpoint #50, Alternative 2, Rail Yard Landscape Unit

Minimization measures depicted in the simulation include wall texture and new landscaping of disturbed areas. Aesthetic treatments to structures and specific plant types are representative only. Actual types of treatments and landscaping would be designed in collaboration with Caltrans' District Landscape Architect.

Table 5-7. Alternative 2, Key Viewpoint #50 Anticipated Changes in Visual Character and Quality, and Their Effect on Viewers

	Attribute	Ratings[7]		Remarks (Anticipated Changes are Shown in the Blue Rows)
		Existing Condition	Proposed Condition[5]	
Visual Quality[1]	Vividness/Memorability	2.33	2.25	
	Intactness	2.35	2.32	
	Unity	2.47	2.46	
	TOTAL[6]	**2.38**	**2.34**	Percent Change = 1.68% = Low degree of change
Visual Character[2]	Scale	2.67	2.58	
	Diversity	2.48	2.41	
	Continuity	2.21	2.21	
	Dominance	2.27	2.26	
	TOTAL[6]	**2.41**	**2.37**	Percent Change = 1.66% = Low degree of change
Viewer Exposure[3]	Location of Views	3.41		
	Number of Viewers	4.50		
	Duration of Views	1.75		
	TOTAL[6]	**3.22**		Moderate Exposure
Viewer Sensitivity[4]	Attention of Viewer	3.25		
	Viewer Awareness	2.75		
	Local Values and Goals	2.21		
	TOTAL[6]	**2.74**		Moderate Sensitivity

1 – Vividness = memorable, striking (5) to plain (1); Intactness = free of encroaching elements (5) to cluttered/lacking integrity (1); and Unity = coherent/harmonious (5) to disjointed/jarring (1). A rating below 1 would only be used for an extremely low rating.

2 – Scale = small (5) to monumental (1); Diversity = complex (5) to monolithic (1); Continuity = harmonious (5) to dissonant (1); and Dominance = balanced (5) to prominent/unbalanced (1). A rating below 1 would only be used for an extremely low rating.

3 – Location = foreground (5) to distant views (1); Number = over 100,000 (5) to 20 or less (1); Duration = over 4 hours (5) to less than 1 minute (1). A rating below 1 would only be used for an extremely low rating.

4 – Activity = attention on views (5) to attention focused away (1); Awareness = High (5) to Low (1); and Values = High (5) to Low expectations (1). A rating below 1 would only be used for an extremely low rating.

5 – Proposed (post-construction condition) with avoidance and minimization measures in place. Avoidance and minimization measures are described in Chapter 6 of this report.

6 – Total = sum of attributes divided by number of attributes – e.g. Overall Visual Quality = (vividness+intactness+unity)/3.

7 – Ratings: 1 = Low, 3 = Moderate, 5 = High

- **Anticipated Viewer Response:** For those traveling on the I-10 corridor, the change would not be very noticeable. The wider pavement and the addition of a road barrier would add some additional hard surfaces to the view, but overall, the anticipated change is not highly noticeable.
- **Resulting Visual Impact:** The overall changes to the view are expected to be moderately low. The resulting visual impact would be to maintain the overall existing moderately low visual quality of the view with moderately low vividness, intactness, and unity.

Table 5-8. Alternative 2, Key Viewpoint #50
Analysis Summary

Visual Resource (Stimulus)	Change to Visual Character	Low	Resource Change	Visual Impact
	Change to Visual Quality	Low	**Low**	
				Moderately Low
Viewer (Response)	Viewer Exposure	Moderate	Viewer Response	
	Viewer Sensitivity	Moderate	**Moderate**	

Ratings for each category were determined by taking the percent change rating from the previous table and averaging these for the Resource Change/Viewer Response columns. These two ratings were then averaged again to determine the anticipated Visual Impact. If unable to average, the higher rating was used.

5.1.5 Viewpoint #65, Rail Yard Landscape Unit

Figure 5-9 shows a photosimulation for Viewpoint #65 and depicts the pre- and post-construction views.

Figure 5-9.
Location of Key Viewpoint #65

- **Orientation:** The photograph looks east from the Rancho Avenue OC. The view is from the perspective of the pedestrian on the sidewalk looking into the corridor.
- **Existing Visual Character/ Quality**: The existing eight lanes of freeway dominate this view, with the center barrier and the weeds growing under it providing a focal point to the view. Landscaping associated with the interchange provides a green counterpoint to the large areas of paving. The scale of the view tends toward the monumental given the number of lanes of the freeway, but the plantings associated with the ramps help add to the diversity and harmoniousness of the view. The overall visual quality of the view is moderately low, with moderately low vividness, intactness, and unity.
- **Proposed Project Features:** For pedestrians on the bridge, the new fence that would be included as part of the improvements to the interchange would be prominent. Looking into the I-10 corridor, the two new HOV lanes and median shoulder associated with the widened paving of the corridor would be seen. The inclusion of the new lanes would push the outside edge of the freeway into the landscape areas along the ramps and would require a retaining wall to address the existing slopes along the ramps, which would also be seen from this vantage point.

Figure 5-10. Viewpoint #65, Alternative 2, Rail Yard Landscape Unit

Minimization measures depicted in the simulation include wall texture and new landscaping of disturbed areas. Aesthetic treatments to structures and specific plant types are representative only. Actual types of treatments and landscaping would be designed in collaboration with Caltrans' District Landscape Architect.

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Table 5-9. Alternative 2, Key Viewpoint #65 Anticipated Changes in Visual Character and Quality, and Their Effect on Viewers

	Attribute	Ratings[7]		Remarks (Anticipated Changes are Shown in the Blue Rows)
		Existing Condition	Proposed Condition[5]	
Visual Quality[1]	Vividness/Memorability	2.49	2.78	Existing dirt median detracts from view
	Intactness	2.50	2.64	
	Unity	2.39	2.53	
	TOTAL[6]	**2.46**	**2.65**	Percent Change = 7.72% = Low degree of change
Visual Character[2]	Scale	2.09	2.13	
	Diversity	2.51	2.43	
	Continuity	2.24	2.51	
	Dominance	2.84	2.73	
	TOTAL[6]	**2.42**	**2.45**	Percent Change = 1.24% = Low degree of change
Viewer Exposure[3]	Location of Views	2.52		
	Number of Viewers	2.26		
	Duration of Views	3.58		
	TOTAL[6]	**2.79**		Moderate Exposure
Viewer Sensitivity[4]	Attention of Viewer	1.74		
	Viewer Awareness	3.01		
	Local Values and Goals	2.69		
	TOTAL[6]	**2.48**		Moderately Low Sensitivity

1 – Vividness = memorable, striking (5) to plain (1); Intactness = free of encroaching elements (5) to cluttered/lacking integrity (1); and Unity = coherent/harmonious (5) to disjointed/jarring (1). A rating below 1 would only be used for an extremely low rating.

2 – Scale = small (5) to monumental (1); Diversity = complex (5) to monolithic (1); Continuity = harmonious (5) to dissonant (1); and Dominance = balanced (5) to prominent/unbalanced (1). A rating below 1 would only be used for an extremely low rating.

3 – Location = foreground (5) to distant views (1); Number = over 100,000 (5) to 20 or less (1); Duration = over 4 hours (5) to less than 1 minute (1). A rating below 1 would only be used for an extremely low rating.

4 – Activity = attention on views (5) to attention focused away (1); Awareness = High (5) to Low (1); and Values = High (5) to Low expectations (1). A rating below 1 would only be used for an extremely low rating.

5 – Proposed (post-construction condition) with avoidance and minimization measures in place. Avoidance and minimization measures are described in Chapter 6 of this report.

6 – Total = sum of attributes divided by number of attributes – e.g. Overall Visual Quality = (vividness+intactness+unity)/3.

7 – Ratings: 1 = Low, 3 = Moderate, 5 = High

- **Changes to Visual Character:** In general, I-10 would appear wider to viewers on the bridge, and the new lanes and the retaining walls would increase the area of hard surfaces in the view. The improvements to the corridor would, in effect, clean up much of the existing view, removing weeds from the median area and adding plantings to the ramps. The effect of this would be to increase the diversity of the view and provide better scale to the freeway; however, the view is still into a freeway corridor and would be similar in appearance to the existing, equating to a low level of change.
- **Anticipated Viewer Response:** From the perspective of the pedestrian, the viewer is likely to have a moderate degree of sensitivity to the changes in the visual environment. Pedestrians, while much fewer in number than freeway travelers, have a much longer viewing period than a driver would over a similar distance due to the difference in speed between the two modes of transportation.
- **Resulting Visual Impact:** The overall impact to the view is anticipated to be moderately low. The extra pavement width is somewhat compensated for by the addition of plantings in the interchange, and the removal of weeds and other distracting elements helps slightly increase the overall visual quality; however, the resulting impact to the visual environment is not expected to appreciably alter the existing visual quality for this view. The overall visual quality is expected to increase slightly to moderate, with moderate vividness, intactness, and unity.

Table 5-10. Alternative 2, Key Viewpoint #65
Analysis Summary

Visual Resource (Stimulus)	Change to Visual Character	Low	Resource Change **Low**	Visual Impact **Moderately Low**
	Change to Visual Quality	Low		
Viewer (Response)	Viewer Exposure	Moderate	Viewer Response **Moderate**	
	Viewer Sensitivity	Moderately Low		

Ratings for each category were determined by taking the percent change rating from the previous table and averaging these for the Resource Change/Viewer Response columns. These two ratings were then averaged again to determine the anticipated Visual Impact. If unable to average, the higher rating was used.

5.1.6 Viewpoint #72, Commercial-Agricultural Landscape Unit

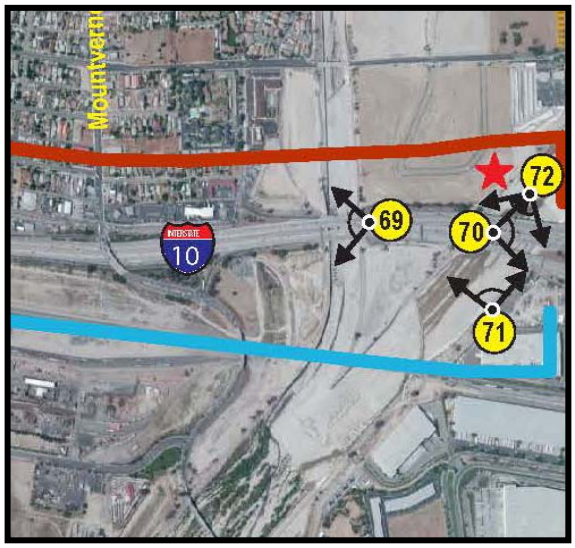

Figure 5-11.
Location of Key Viewpoint #72

Figure 5-11 shows a photosimulation for Viewpoint #72 and depicts the pre- and post-construction views.

- **Orientation:** The view is from the Santa Ana bike trail, looking southwesterly towards the I-10 corridor.
- **Existing Visual Character/ Quality:** The existing visual character of the view is dominated by the I-10 Bridge over the river. The river is generally dry for large portions of the year, and many weedy plant species can be found in the river bottom. The width of the river, combined with the long bridge, creates a somewhat monumental scale to the elements of the view. Overall, the view has a moderately low visual quality, with moderately low vividness, intactness, and unity.
- **Proposed Project Features:** The project would widen the existing highway bridge to the outside by approximately a lane width, which would bring the bridge that much closer to the viewer on the trail.
- **Changes to Visual Character:** Anticipated changes to the visual environment associated with the project features shown in the view are expected to be minor. Moving the edge of the bridge closer to the viewer is not substantial enough to alter the existing views to any considerable degree.
- **Anticipated Viewer Response:** The bike trail is only open to bicyclists; pedestrians are not allowed on the trail, so the users of the trail are more limited than might be expected on a multi-use trail. Viewers would have views to the bridge area that last 1 to 2 minutes as they approach the bridge. Viewer exposure is anticipated to be moderately low based on the speed of travel, while the sensitivity is anticipated to be moderate
- **Resulting Visual Impact:** The resulting impact to the visual environment is expected to be minor and would likely maintain the existing moderately low visual quality of the view.

Figure 5-12. Viewpoint #72, Alternative 2, Commercial-Agricultural Landscape Unit

Minimization measures depicted in the simulation include wall texture and new landscaping of disturbed areas. Aesthetic treatments to structures and specific plant types are representative only. Actual types of treatments and landscaping would be designed in collaboration with Caltrans' District Landscape Architect.

Table 5-11. Alternative 2, Key Viewpoint #72 Anticipated Changes in Visual Character and Quality, and Their Effect on Viewers

	Attribute	Ratings[7]		Remarks (Anticipated Changes are Shown in the Blue Rows)
		Existing Condition	Proposed Condition[5]	
Visual Quality[1]	Vividness/Memorability	2.45	2.44	
	Intactness	2.27	2.34	
	Unity	2.31	2.26	
	TOTAL[6]	**2.34**	**2.35**	Percent Change = 0.43% = Low degree of change
Visual Character[2]	Scale	1.97	1.89	
	Diversity	2.05	2.01	
	Continuity	1.86	1.85	
	Dominance	1.87	1.82	
	TOTAL[6]	**1.94**	**1.89**	Percent Change = 2.58% = Low degree of change
Viewer Exposure[3]	Location of Views	2.80		
	Number of Viewers	1.53		
	Duration of Views	1.68		
	TOTAL[6]	**2.00**		Moderately Low Exposure
Viewer Sensitivity[4]	Attention of Viewer	3.03		
	Viewer Awareness	2.05		
	Local Values and Goals	2.94		
	TOTAL[6]	**2.67**		Moderate Sensitivity

1 – Vividness = memorable, striking (5) to plain (1); Intactness = free of encroaching elements (5) to cluttered/lacking integrity (1); and Unity = coherent/harmonious (5) to disjointed/jarring (1). A rating below 1 would only be used for an extremely low rating.

2 – Scale = small (5) to monumental (1); Diversity = complex (5) to monolithic (1); Continuity = harmonious (5) to dissonant (1); and Dominance = balanced (5) to prominent/unbalanced (1). A rating below 1 would only be used for an extremely low rating.

3 – Location = foreground (5) to distant views (1); Number = over 100,000 (5) to 20 or less (1); Duration = over 4 hours (5) to less than 1 minute (1). A rating below 1 would only be used for an extremely low rating.

4 – Activity = attention on views (5) to attention focused away (1); Awareness = High (5) to Low (1); and Values = High (5) to Low expectations (1). A rating below 1 would only be used for an extremely low rating.

5 – Proposed (post-construction condition) with avoidance and minimization measures in place. Avoidance and minimization measures are described in Chapter 6 of this report.

6 – Total = sum of attributes divided by number of attributes – e.g. Overall Visual Quality = (vividness+intactness+unity)/3.

7 – Ratings: 1 = Low, 3 = Moderate, 5 = High

Table 5-12. Alternative 2, Key Viewpoint #72 Analysis Summary

Visual Resource (Stimulus)	Change to Visual Character	Low	Resource Change	Visual Impact
	Change to Visual Quality	Low	**Low**	
				Moderately Low
Viewer (Response)	Viewer Exposure	Moderately Low	Viewer Response	
	Viewer Sensitivity	Moderate	**Moderate**	

Ratings for each category were determined by taking the percent change rating from the previous table and averaging these for the Resource Change/Viewer Response columns. These two ratings were then averaged again to determine the anticipated Visual Impact. If unable to average, the higher rating was used.

5.1.7 Viewpoint #74, Commercial-Agricultural Landscape Unit

Figure 5-13. Location of Key Viewpoint #74

Figure 5-13 shows a photosimulation for Viewpoint #74 and depicts the pre- and post-construction views.

- **Orientation:** The view is from the EB lanes of I-10 looking east near the Waterman Avenue exit within San Bernardino County area, near Loma Linda.
- **Existing Visual Character/ Quality:** The existing visual character of the view is dominated by the freeway paving and signage. The median olive trees and fan palm trees to the right provide a counterpoint to the hard surfaces of the highway paving. The plant material helps bring a sense of scale to the view and reduces the overall monumentality of the freeway paving. The overall visual quality of the view is moderate, with moderate vividness, intactness, and moderately low unity.
- **Proposed Project Features:** The project would add the HOV lane to the center of I-10 and concrete median barrier in this view. The existing sign bridge in the mid-ground would have to be lengthened to accommodate the wider roadway as well. The existing olive trees in the median would be removed, although the plantings on the outside are expected to remain.
- **Changes to Visual Character:** The biggest change in this view would be the increase in hard surfaces within the view and removal of the vegetation in the median that helps to screen the other half of I-10 from the viewer. The result is a corridor that appears much more open and much larger.
- **Anticipated Viewer Response:** For those traveling on the I-10 corridor, the change would be very noticeable. The change to the median, with the removal of the trees, which helps to provide scale and diversity to the view, would be most notable. It is anticipated that the viewer sensitivity for this group would be moderate, as would their exposure.

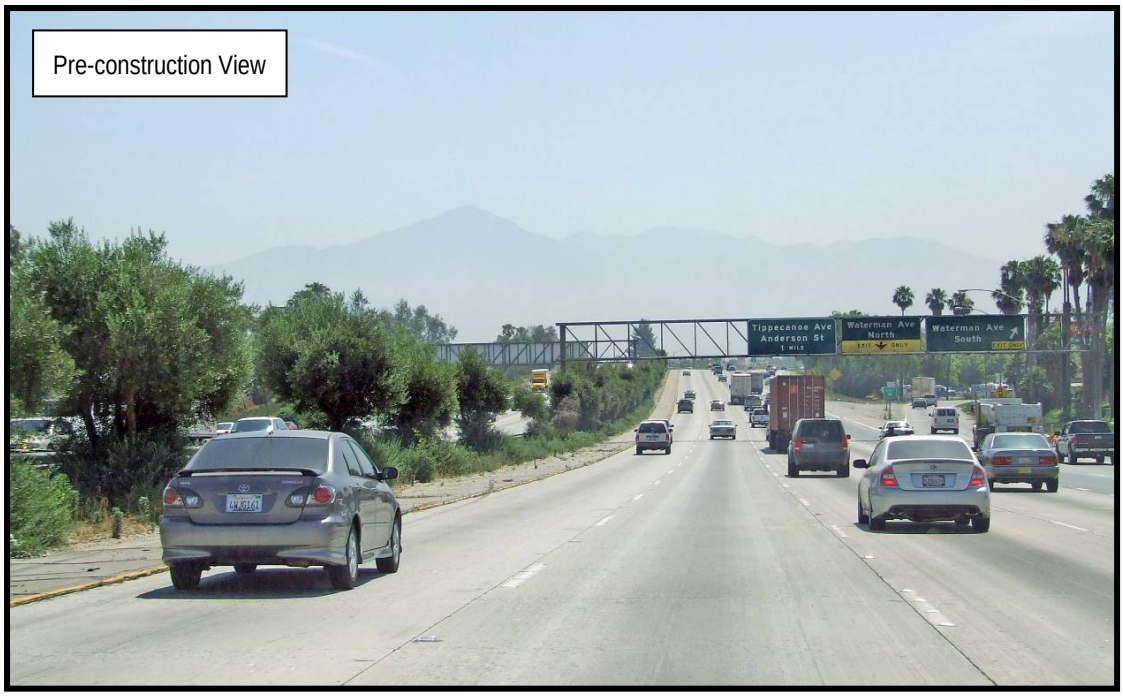

Figure 5-14. Viewpoint #74, Alternative 2, Commercial-Agricultural Landscape Unit

Minimization measures depicted in the simulation include wall texture and new landscaping of disturbed areas. Aesthetic treatments to structures and specific plant types are representative only. Actual types of treatments and landscaping would be designed in collaboration with Caltrans' District Landscape Architect.

Table 5-13. Alternative 2, Key Viewpoint #74 Anticipated Changes in Visual Character and Quality, and Their Effect on Viewers

	Attribute	Ratings[7]		Remarks (Anticipated Changes are Shown in the Blue Rows)
		Existing Condition	Proposed Condition[5]	
Visual Quality[1]	Vividness/Memorability	3.25	2.74	Existing planted median adds to view
	Intactness	3.00	2.38	
	Unity	3.36	2.18	
	TOTAL[6]	**3.20**	**2.43**	Percent Change = 24.06% = Moderate degree of change
Visual Character[2]	Scale	2.01	1.67	
	Diversity	2.75	1.63	
	Continuity	2.34	1.98	
	Dominance	1.94	1.32	
	TOTAL[6]	**2.26**	**1.65**	Percent Change = 27.00% = Moderate degree of change
Viewer Exposure[3]	Location of Views	2.32		
	Number of Viewers	4.57		
	Duration of Views	2.56		
	TOTAL[6]	**3.15**		Moderate Exposure
Viewer Sensitivity[4]	Attention of Viewer	3.78		
	Viewer Awareness	2.75		
	Local Values and Goals	3.54		
	TOTAL[6]	**3.36**		Moderate Sensitivity

1 – Vividness = memorable, striking (5) to plain (1); Intactness = free of encroaching elements (5) to cluttered/lacking integrity (1); and Unity = coherent/harmonious (5) to disjointed/jarring (1). A rating below 1 would only be used for an extremely low rating.

2 – Scale = small (5) to monumental (1); Diversity = complex (5) to monolithic (1); Continuity = harmonious (5) to dissonant (1); and Dominance = balanced (5) to prominent/unbalanced (1). A rating below 1 would only be used for an extremely low rating.

3 – Location = foreground (5) to distant views (1); Number = over 100,000 (5) to 20 or less (1); Duration = over 4 hours (5) to less than 1 minute (1). A rating below 1 would only be used for an extremely low rating.

4 – Activity = attention on views (5) to attention focused away (1); Awareness = High (5) to Low (1); and Values = High (5) to Low expectations (1). A rating below 1 would only be used for an extremely low rating.

5 – Proposed (post-construction condition) with avoidance and minimization measures in place. Avoidance and minimization measures are described in Chapter 6 of this report.

6 – Total = sum of attributes divided by number of attributes – e.g. Overall Visual Quality = (vividness+intactness+unity)/3.

7 – Ratings: 1 = Low, 3 = Moderate, 5 = High

- **Resulting Visual Impact:** The overall resulting impact to the visual environment in this view is anticipated to be moderate, with moderate vividness, and moderately low intactness and unity. Removal of the median plantings creates a more monumental appearance to the freeway paving that is only partially compensated for by the roadside plantings in the Waterman Avenue interchange.

Table 5-14. Alternative 2, Key Viewpoint #74
Analysis Summary

Visual Resource (Stimulus)	Change to Visual Character	Moderate	Resource Change **Moderate**	Visual Impact **Moderate**
	Change to Visual Quality	Moderate		
Viewer (Response)	Viewer Exposure	Moderate	Viewer Response **Moderate**	
	Viewer Sensitivity	Moderate		

Ratings for each category were determined by taking the percent change rating from the previous table and averaging these for the Resource Change/Viewer Response columns. These two ratings were then averaged again to determine the anticipated Visual Impact. If unable to average, the higher rating was used.

5.1.8 Viewpoint #86, Redlands Landscape Unit

Figure 5-15 shows a photosimulation for Viewpoint #86 and depicts the pre- and post-construction views.

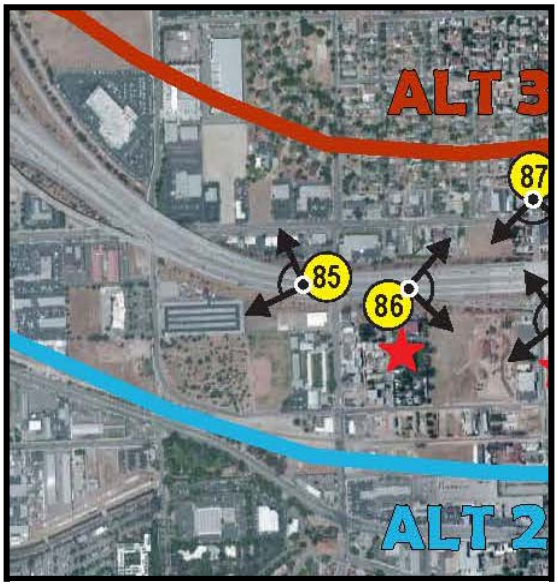

Figure 5-15.
Location of Key Viewpoint #86

- **Orientation:** The photograph is taken from the EB lanes of I-10, approaching the University Street interchange, looking east.
- **Existing Visual Character/ Quality:** The freeway paving is the dominant feature in this view. The mature plantings on either side of I-10 help to soften the overall feel of I-10; however, given its width, the freeway paving tends towards monumentality in the view and dominates the perceived landscape. The overall visual quality of the view is moderately low, with moderately low vividness and intactness, and moderate unity.
- **Proposed Project Features:** The primary feature for the project would be the addition of the new lane with a full shoulder along the median. The existing median barrier would be replaced with a slightly taller barrier.
- **Changes to Visual Character:** The addition of the new lane would add some paving into the view; however, the existing median shoulder is paved, so the addition of the lane does not appear to greatly alter the amount of paving in the view. Existing mature plantings along the outside edge of I-10 should remain.
- **Anticipated Viewer Response:** Frequent travelers on I-10 would likely have the greatest sensitivity to changes within the corridor; however, within this view, the changes are not expected to be appreciable, so the overall sensitivity is expected to be moderate, as would be the exposure.
- **Resulting Visual Impact:** The resulting impact to the overall visual environment of the view is anticipated to be moderately low. The new visual quality would likely maintain the existing quality of this portion of the corridor. Vividness and intactness would remain at moderately low, while unity would remain at moderate.

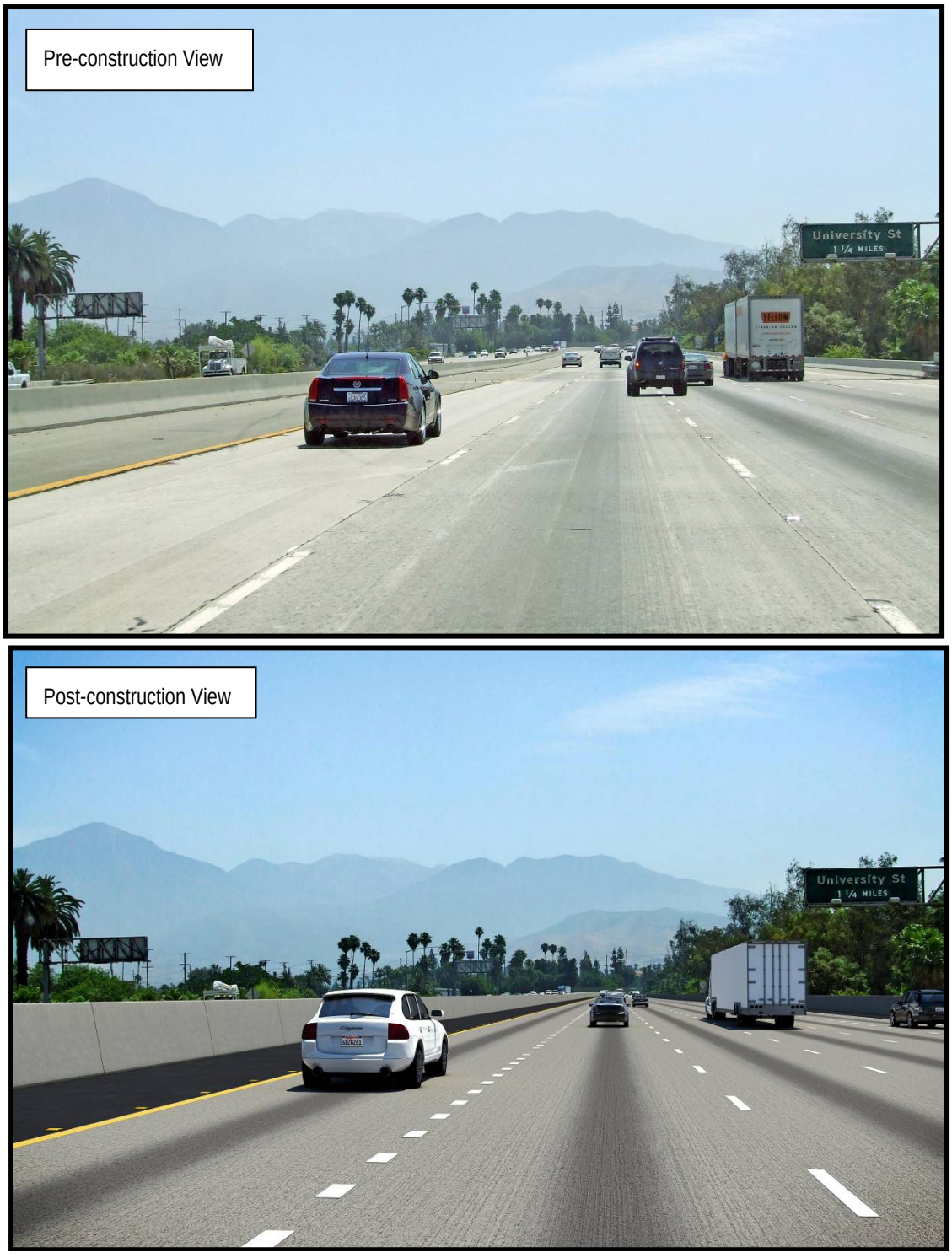

Figure 5-16. Viewpoint #86, Alternative 2, Redlands Landscape Unit

Minimization measures depicted in the simulation include wall texture and new landscaping of disturbed areas. Aesthetic treatments to structures and specific plant types are representative only. Actual types of treatments and landscaping would be designed in collaboration with Caltrans' District Landscape Architect.

Table 5-15. Alternative 2, Key Viewpoint #86 Anticipated Changes in Visual Character and Quality, and Their Effect on Viewers

	Attribute	Ratings[7]		Remarks (Anticipated Changes are Shown in the Blue Rows)
		Existing Condition	Proposed Condition[5]	
Visual Quality[1]	Vividness/Memorability	2.25	2.23	
	Intactness	2.31	2.25	
	Unity	2.67	2.55	
	TOTAL[6]	**2.41**	**2.34**	Percent Change = 2.90% = Low degree of change
Visual Character[2]	Scale	1.76	1.71	
	Diversity	2.02	2.02	
	Continuity	2.05	1.98	
	Dominance	1.94	1.89	
	TOTAL[6]	**1.94**	**1.90**	Percent Change = 2.06% = Low degree of change
Viewer Exposure[3]	Location of Views	2.35		
	Number of Viewers	4.52		
	Duration of Views	2.56		
	TOTAL[6]	**3.14**		Moderate Exposure
Viewer Sensitivity[4]	Attention of Viewer	3.78		
	Viewer Awareness	2.75		
	Local Values and Goals	3.54		
	TOTAL[6]	**3.36**		Moderate Sensitivity

1 – Vividness = memorable, striking (5) to plain (1); Intactness = free of encroaching elements (5) to cluttered/lacking integrity (1); and Unity = coherent/harmonious (5) to disjointed/jarring (1). A rating below 1 would only be used for an extremely low rating.

2 – Scale = small (5) to monumental (1); Diversity = complex (5) to monolithic (1); Continuity = harmonious (5) to dissonant (1); and Dominance = balanced (5) to prominent/unbalanced (1). A rating below 1 would only be used for an extremely low rating.

3 – Location = foreground (5) to distant views (1); Number = over 100,000 (5) to 20 or less (1); Duration = over 4 hours (5) to less than 1 minute (1). A rating below 1 would only be used for an extremely low rating.

4 – Activity = attention on views (5) to attention focused away (1); Awareness = High (5) to Low (1); and Values = High (5) to Low expectations (1). A rating below 1 would only be used for an extremely low rating.

5 – Proposed (post-construction condition) with avoidance and minimization measures in place. Avoidance and minimization measures are described in Chapter 6 of this report.

6 – Total = sum of attributes divided by number of attributes – e.g. Overall Visual Quality = (vividness+intactness+unity)/3.

7 – Ratings: 1 = Low, 3 = Moderate, 5 = High

Table 5-16. Alternative 2, Key Viewpoint #86 Analysis Summary

Visual Resource (Stimulus)	Change to Visual Character	Low	Resource Change **Low**	Visual Impact **Moderately Low**
	Change to Visual Quality	Low		
Viewer (Response)	Viewer Exposure	Moderate	Viewer Response **Moderate**	
	Viewer Sensitivity	Moderate		

Ratings for each category were determined by taking the percent change rating from the previous table and averaging these for the Resource Change/Viewer Response columns. These two ratings were then averaged again to determine the anticipated Visual Impact. If unable to average, the higher rating was used.

5.2 Alternative 3 Key Viewpoints

Viewpoints identified as key for identifying the changes to the visual environment anticipated with Alternative 3 are viewpoints #14, #15, #18, #21, #34, #40, #50, #65, #74, and #86. Viewpoints #43 and #72, shown under Alternative 2, are anticipated to be the same for Alternative 3. The key viewpoints and simulations for Alternative 3 are described and evaluated below:

5.2.1 Viewpoint #14, Residential Landscape Unit

Figure 5-17 shows a photosimulation for Viewpoint #14 and depicts the pre- and post-construction views.

Figure 5-17.
Location of Key Viewpoint #14

- **Orientation:** The image is taken from the S. San Antonio Avenue OC over I-10, looking east. The perspective of the image is from that of the pedestrian on the bridge looking into the highway corridor.
- **Existing Visual Character/ Quality:** The existing visual character is typical for a highway view. The view includes highway paving and retaining walls and soundwalls with mature highway plantings above the slope. The width of the existing pavement is monumental in its scale and dominates the view. The overall visual quality of the view is moderate, with moderate vividness, intactness, and unity.
- **Proposed Project Features:** The project would add two new inside lanes to the view, creating a wider highway cross section. The existing San Antonio Avenue Bridge would be replaced with a longer structure to accommodate the wider highway below it. As part of this replacement, the existing fence would be upgraded to the decorative fence shown in the corridor master plan. New retaining walls and soundwalls would be constructed, and new highway plantings would be included in the reduced areas above the new retaining wall locations.

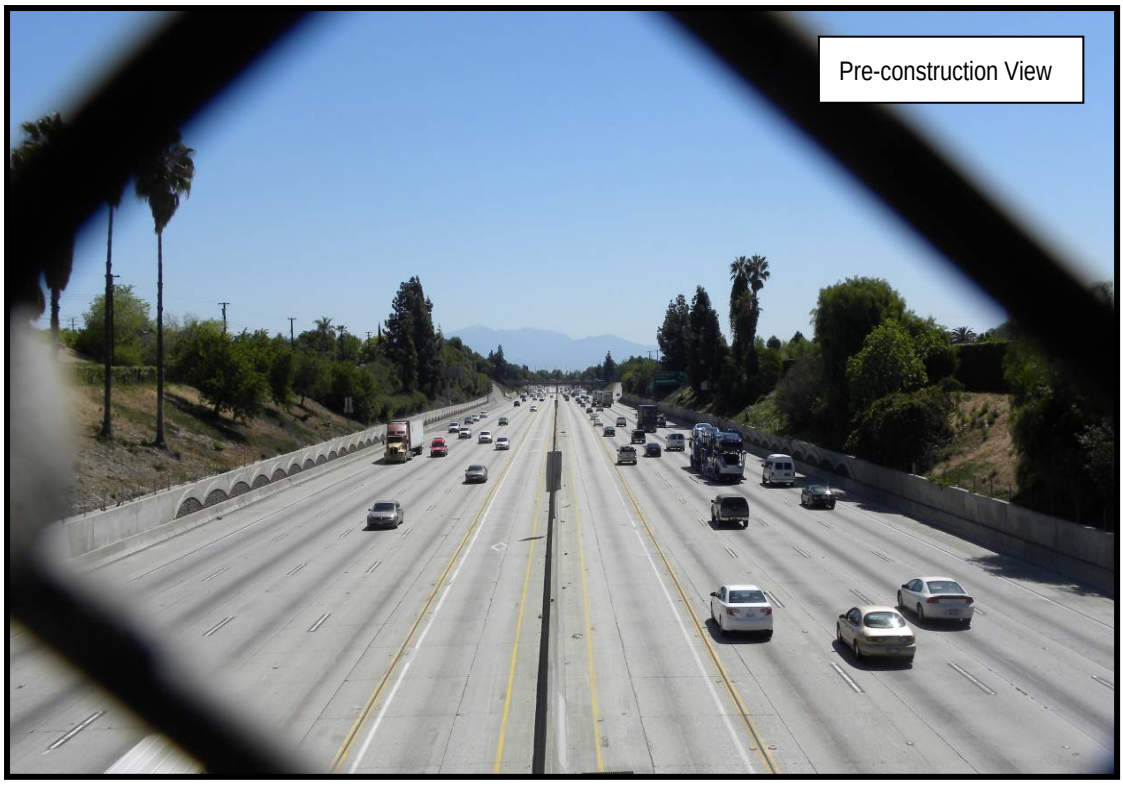

Figure 5-18. Viewpoint #14, Alternative 3, Residential Landscape Unit

Minimization measures depicted in the simulation include wall texture and new landscaping of disturbed areas. Aesthetic treatments to structures and specific plant types are representative only. Actual types of treatments and landscaping would be designed in collaboration with Caltrans' District Landscape Architect.

Table 5-17. Alternative 3, Key Viewpoint #14 Anticipated Changes in Visual Character and Quality, and Their Effect on Viewers

	Attribute	Ratings[7]		Remarks (Anticipated Changes are Shown in the Blue Rows)
		Existing Condition	Proposed Condition[5]	
Visual Quality[1]	Vividness/Memorability	3.33	3.13	
	Intactness	3.12	3.10	
	Unity	3.25	3.09	
	TOTAL[6]	**3.23**	**3.11**	Percent Change = 3.72% = Low degree of change
Visual Character[2]	Scale	1.35	1.24	
	Diversity	2.03	1.98	
	Continuity	2.25	2.18	
	Dominance	1.34	1.29	
	TOTAL[6]	**1.74**	**1.67**	Percent Change = 4.60% = Low degree of change
Viewer Exposure[3]	Location of Views	2.52		
	Number of Viewers	2.26		
	Duration of Views	3.58		
	TOTAL[6]	**2.79**		Moderate Exposure
Viewer Sensitivity[4]	Attention of Viewer	1.74		
	Viewer Awareness	3.01		
	Local Values and Goals	2.69		
	TOTAL[6]	**2.48**		Moderately Low Sensitivity

1 – Vividness = memorable, striking (5) to plain (1); Intactness = free of encroaching elements (5) to cluttered/lacking integrity (1); and Unity = coherent/harmonious (5) to disjointed/jarring (1). A rating below 1 would only be used for an extremely low rating.

2 – Scale = small (5) to monumental (1); Diversity = complex (5) to monolithic (1); Continuity = harmonious (5) to dissonant (1); and Dominance = balanced (5) to prominent/unbalanced (1). A rating below 1 would only be used for an extremely low rating.

3 – Location = foreground (5) to distant views (1); Number = over 100,000 (5) to 20 or less (1); Duration = over 4 hours (5) to less than 1 minute (1). A rating below 1 would only be used for an extremely low rating.

4 – Activity = attention on views (5) to attention focused away (1); Awareness = High (5) to Low (1); and Values = High (5) to Low expectations (1). A rating below 1 would only be used for an extremely low rating.

5 – Proposed (post-construction condition) with avoidance and minimization measures in place. Avoidance and minimization measures are described in Chapter 6 of this report.

6 – Total = sum of attributes divided by number of attributes – e.g. Overall Visual Quality = (vividness+intactness+unity)/3.

7 – Ratings: 1 = Low, 3 = Moderate, 5 = High

- **Changes to Visual Character:** For pedestrians on the bridge, changes to the visual environment would be associated with the wider freeway and new bridge fence, which would appear as the most noticeable elements. For drivers on I-10, the new lanes would be the most noticeable new element in this view, along with the new walls along the outside edge of the highway. The paving would appear wider than the existing and would continue to dominate the view.
- **Anticipated Viewer Response:** Viewer response and exposure are both anticipated to be moderate for this view, due to the number of viewers and the length of view associated with pedestrians on the bridge. In general, I-10 would appear wider to viewers on the bridge, and the new lanes and the retaining walls would increase the area of hard surfaces in the view. The improvements to the corridor would, in effect, clean up much of the existing view, removing weeds from the median area and adding plantings to the ramps. The effect of this would be to increase the diversity of the view and provide better scale to the freeway.
- **Resulting Visual Impact:** The overall impact on this view is anticipated to be moderately low. The visual quality is expected to remain approximately the same, with a moderate overall visual quality and moderate vividness, intactness, and unity. This is due to the proposed keeping of vegetation above the retaining walls. While the highway is wider and the planting areas smaller, the percentage changes of these two cover types is small compared to the existing.

Table 5-18. Alternative 3, Key Viewpoint #14
Analysis Summary

Visual Resource (Stimulus)	Change to Visual Character	Low	Resource Change	Visual Impact
	Change to Visual Quality	Low	**Low**	
				Moderately Low
Viewer (Response)	Viewer Exposure	Moderate	Viewer Response	
	Viewer Sensitivity	Moderately Low	**Moderate**	

Ratings for each category were determined by taking the percent change rating from the previous table and averaging these for the Resource Change/Viewer Response columns. These two ratings were then averaged again to determine the anticipated Visual Impact. If unable to average, the higher rating was used.

5.2.2 Viewpoint #15, Residential Landscape Unit

Figure 5-19 shows a photosimulation for Viewpoint #15 and depicts the pre- and post-construction views.

Figure 5-19.
Location of Key Viewpoint #15

- **Orientation:** The photograph is taken on the Euclid Avenue OC, looking to the northeast across the bridge, from the SB lanes of Euclid Avenue to the NB lanes. The perspective of the view is from that of the pedestrian on the bridge.
- **Existing Visual Character/ Quality:** The view is dominated by the red, raised median planters on the bridge. These appear out of character with medians immediately north and south of the bridge. The overall visual quality of the view is moderate, with moderate vividness and moderately low intactness and unity, primarily based on the starkness of median treatments.
- **Proposed Project Features:** The Euclid Avenue Bridge would be replaced as part of the work for Alternative 3. This would provide an opportunity to make the bridge area visually compatible with the historic median treatments to the north and south of the bridge. The final design of the bridge elements (e.g., median treatments, barrier fencing along the outside of the bridge) would be determined during final design of the project in consultation with Caltrans and the cities of Ontario and Upland. The elements shown in the simulation are based on the Caltrans Corridor Master Plan.
- **Changes to Visual Character:** The most likely anticipated change to the existing view would be to the median area of the bridge, bringing the design closer in line with the historic nature of the Euclid Avenue corridor. In addition, pedestrians would have a revised fence along the parapet of the bridge that is upgraded to at least the corridor standard.

Figure 5-20. Viewpoint #15, Alternative 3, Residential Landscape Unit

Minimization measures depicted in the simulation include wall texture and new landscaping of disturbed areas. Aesthetic treatments to structures and specific plant types are representative only. Actual types of treatments and landscaping would be designed in collaboration with Caltrans' District Landscape Architect.

Table 5-19. Alternative 3, Key Viewpoint #15 Anticipated Changes in Visual Character and Quality, and Their Effect on Viewers

	Attribute	Ratings[7]		Remarks (Anticipated Changes are Shown in the Blue Rows)
		Existing Condition	Proposed Condition[5]	
Visual Quality[1]	Vividness/Memorability	3.12	3.25	
	Intactness	2.45	3.10	
	Unity	2.23	3.00	
	TOTAL[6]	**2.60**	**3.12**	Percent Change = 20% = Moderate degree of change
Visual Character[2]	Scale	3.75	3.51	
	Diversity	3.24	3.18	
	Continuity	2.32	3.37	
	Dominance	3.27	3.43	
	TOTAL[6]	**3.15**	**3.37**	Percent Change = 6.98% = Low degree of change
Viewer Exposure[3]	Location of Views	2.45		
	Number of Viewers	2.75		
	Duration of Views	2.98		
	TOTAL[6]	**2.73**		Moderate Exposure
Viewer Sensitivity[4]	Attention of Viewer	3.00		
	Viewer Awareness	2.75		
	Local Values and Goals	4.50		
	TOTAL[6]	**3.42**		Moderate Sensitivity

1 – Vividness = memorable, striking (5) to plain (1); Intactness = free of encroaching elements (5) to cluttered/lacking integrity (1); and Unity = coherent/harmonious (5) to disjointed/jarring (1). A rating below 1 would only be used for an extremely low rating.

2 – Scale = small (5) to monumental (1); Diversity = complex (5) to monolithic (1); Continuity = harmonious (5) to dissonant (1); and Dominance = balanced (5) to prominent/unbalanced (1). A rating below 1 would only be used for an extremely low rating.

3 – Location = foreground (5) to distant views (1); Number = over 100,000 (5) to 20 or less (1); Duration = over 4 hours (5) to less than 1 minute (1). A rating below 1 would only be used for an extremely low rating.

4 – Activity = attention on views (5) to attention focused away (1); Awareness = High (5) to Low (1); and Values = High (5) to Low expectations (1). A rating below 1 would only be used for an extremely low rating.

5 – Proposed (post-construction condition) with avoidance and minimization measures in place. Avoidance and minimization measures are described in Chapter 6 of this report.

6 – Total = sum of attributes divided by number of attributes – e.g. Overall Visual Quality = (vividness+intactness+unity)/3.

7 – Ratings: 1 = Low, 3 = Moderate, 5 = High

- **Anticipated Viewer Response:** The anticipated viewer response and sensitivity are both anticipated to be moderate. In general, the appearance would contain many of the same elements as the existing, but these would be newer and a better fit with the aesthetics of the corridor. The addition of more median plantings would help bring scale to the bridge and add diversity to the view.
- **Resulting Visual Impact:** The impact to the visual environment is expected to be moderate. The visual quality of the view would increase slightly with moderate vividness, intactness, and unity.

Table 5-20. Alternative 3, Key Viewpoint #15
Analysis Summary

Visual Resource (Stimulus)	Change to Visual Character	Low	Resource Change	Visual Impact
	Change to Visual Quality	Moderate	**Moderately Low**	
				Moderate
Viewer (Response)	Viewer Exposure	Moderate	Viewer Response	
	Viewer Sensitivity	Moderate	**Moderate**	

Ratings for each category were determined by taking the percent change rating from the previous table and averaging these for the Resource Change/Viewer Response columns. These two ratings were then averaged again to determine the anticipated Visual Impact. If unable to average, the higher rating was used.

5.2.3 Viewpoint #18, Residential Landscape Unit

Figure 5-21 shows a photosimulation for Viewpoint #18 and depicts the pre- and post-construction views.

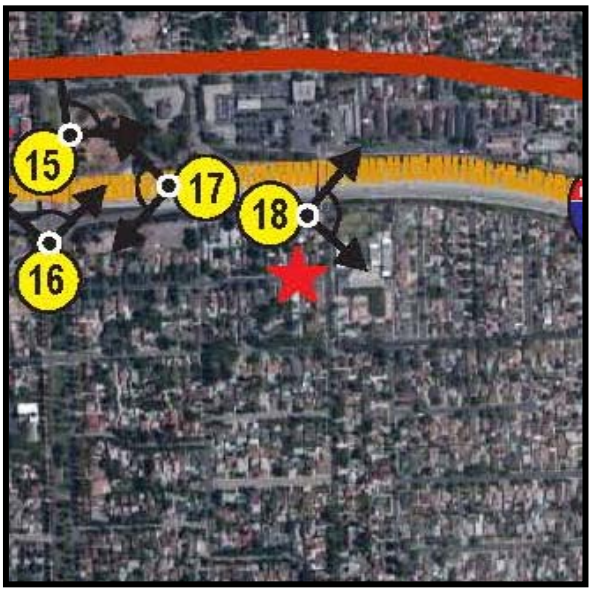

Figure 5-21.
Location of Key Viewpoint #18

- **Orientation:** This view is taken in a residential area that fronts the freeway corridor along East Alvarado Street. The view is looking east.
- **Existing Visual Character/ Quality:** The existing view shows a dichotomy along the streetscape, with typical residential on one side of the street and what appears, without hearing the noise of the freeway, to be open space on the other. In addition to the screening they provide, the row of California pepper trees along the edge of the street provides scale and diversity to the view. The overall visual quality of the view is considered to be moderate, with moderate vividness, intactness, and unity.
- **Proposed Project Features:** From this vantage point, the project would include removal of the existing trees and construction of a new soundwall along the back of the existing curb. It is assumed that plantings, including vines, would be included on the freeway side of the new soundwall and that these vines would eventually grow over the wall and provide some softening of the wall.
- **Changes to Visual Character:** For residents along this street, removal of the mature pepper trees and the addition of the new soundwall would provide a stark difference to the views from their homes. While the views into the I-10 corridor would still be screened, the element providing the screening would be more urban in nature and lack, at least for the period of time necessary for the freeway plantings to grow and over top the wall, any visual relief.

Figure 5-22. Viewpoint #18, Alternative 3, Residential Landscape Unit

Minimization measures depicted in the simulation include wall texture and new landscaping of disturbed areas. Aesthetic treatments to structures and specific plant types are representative only. Actual types of treatments and landscaping would be designed in collaboration with Caltrans' District Landscape Architect.

Table 5-21. Alternative 3, Key Viewpoint #18 Anticipated Changes in Visual Character and Quality, and Their Effect on Viewers

	Attribute	Ratings[7]		Remarks (Anticipated Changes are Shown in the Blue Rows)
		Existing Condition	Proposed Condition[5]	
Visual Quality[1]	Vividness/Memorability	2.54	2.05	
	Intactness	2.75	2.01	
	Unity	2.58	1.97	
	TOTAL[6]	**2.62**	**2.01**	Percent Change = 23.28% = Moderate degree of change
Visual Character[2]	Scale	2.85	2.09	
	Diversity	3.13	1.96	
	Continuity	3.25	1.98	
	Dominance	3.31	2.02	
	TOTAL[6]	**3.14**	**2.01**	Percent Change = 35.99% = Moderately High degree of change
Viewer Exposure[3]	Location of Views	4.18		
	Number of Viewers	1.80		
	Duration of Views	4.25		
	TOTAL[6]	**3.41**		Moderate Exposure
Viewer Sensitivity[4]	Attention of Viewer	3.78		
	Viewer Awareness	3.75		
	Local Values and Goals	2.51		
	TOTAL[6]	**3.35**		Moderate Sensitivity

1 – Vividness = memorable, striking (5) to plain (1); Intactness = free of encroaching elements (5) to cluttered/lacking integrity (1); and Unity = coherent/harmonious (5) to disjointed/jarring (1). A rating below 1 would only be used for an extremely low rating.

2 – Scale = small (5) to monumental (1); Diversity = complex (5) to monolithic (1); Continuity = harmonious (5) to dissonant (1); and Dominance = balanced (5) to prominent/unbalanced (1). A rating below 1 would only be used for an extremely low rating.

3 – Location = foreground (5) to distant views (1); Number = over 100,000 (5) to 20 or less (1); Duration = over 4 hours (5) to less than 1 minute (1). A rating below 1 would only be used for an extremely low rating.

4 – Activity = attention on views (5) to attention focused away (1); Awareness = High (5) to Low (1); and Values = High (5) to Low expectations (1). A rating below 1 would only be used for an extremely low rating.

5 – Proposed (post-construction condition) with avoidance and minimization measures in place. Avoidance and minimization measures are described in Chapter 6 of this report.

6 – Total = sum of attributes divided by number of attributes – e.g. Overall Visual Quality = (vividness+intactness+unity)/3.

7 – Ratings: 1 = Low, 3 = Moderate, 5 = High

- **Anticipated Viewer Response:** Because the view is from the front of a row of residential homes, with their associated foreground views and longer view times, the viewer exposure is anticipated to be overall moderate, but with moderately high numbers for these two categories. Sensitivity is also anticipated to be moderate, given the location of the viewer in relationship to the changes.
- **Resulting Visual Impact:** The overall impact to the view is expected to be moderate. The impact to the visual environment is expected to decrease the overall visual quality of the view to moderately low, with moderately low vividness, intactness, and unity.

Table 5-22. Alternative 3, Key Viewpoint #18 Analysis Summary

Visual Resource (Stimulus)	Change to Visual Character	Moderately High	Resource Change **Moderate**	Visual Impact **Moderate**
	Change to Visual Quality	Moderate		
Viewer (Response)	Viewer Exposure	Moderate	Viewer Response **Moderate**	
	Viewer Sensitivity	Moderate		

Ratings for each category were determined by taking the percent change rating from the previous table and averaging these for the Resource Change/Viewer Response columns. These two ratings were then averaged again to determine the anticipated Visual Impact. If unable to average, the higher rating was used.

5.2.4 Viewpoint #21, Residential Landscape Unit

Figure 5-23.
Location of Key Viewpoint #21

Figure 5-23 shows a photosimulation for Viewpoint #21 and depicts the pre- and post-construction views.

- **Orientation:** The photograph is taken from the WB lanes of I-10 looking west towards the Vineyard Avenue interchange OC.
- **Existing Visual Character/ Quality:** The existing view, though somewhat monumental in scale due to the size and scale of the freeway elements, has a moderate visual quality. This is partially due to the presence of trees in the interchange, which bring down the scale of the bridge and add diversity to the view. The overall visual quality of the existing view is rated at moderate, with moderate vividness and unity and moderately low intactness.
- **Proposed Project Features:** Construction of the HOV lane to I-10 would necessitate removal and reconstruction of the existing Vineyard Avenue OC. The trees in the existing view would be removed due to this construction. Reconstruction of the area would include designs from the corridor master plan, including a decorative fence on the bridge and new plantings in the interchange.
- **Changes to Visual Character:** For drivers on I-10, the new lane and bridge, together with removal of the existing vegetation, would be the most noticeable changes to the view. The freeway paving would appear wider and, at least initially, there would be no counterbalancing of mature vegetation to help lend scale to the larger paved surfaces. Over time, the replacement plantings, included in the project, would grow and eventually provide a similar element provided by the existing vegetation.

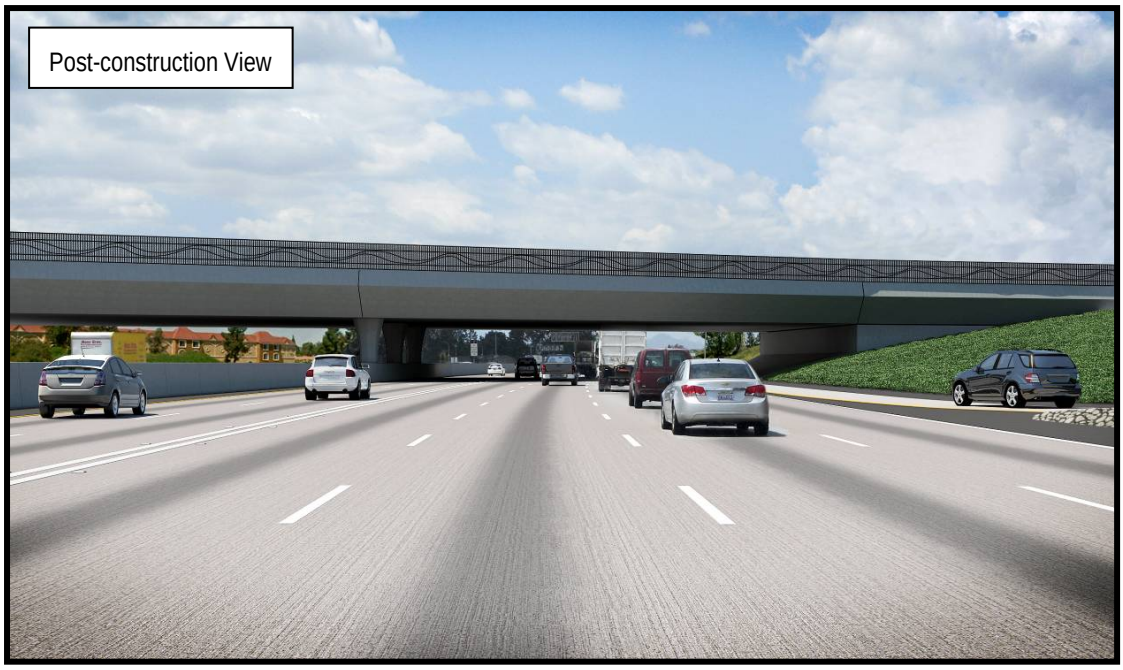

Figure 5-24. Viewpoint #21, Alternative 3, Residential Landscape Unit

Minimization measures depicted in the simulation include wall texture and new landscaping of disturbed areas. Aesthetic treatments to structures and specific plant types are representative only. Actual types of treatments and landscaping would be designed in collaboration with Caltrans' District Landscape Architect.

Table 5-23. Alternative 3, Key Viewpoint #21 Anticipated Changes in Visual Character and Quality, and Their Effect on Viewers

	Attribute	Ratings[7]		Remarks (Anticipated Changes are Shown in the Blue Rows)
		Existing Condition	Proposed Condition[5]	
Visual Quality[1]	Vividness/Memorability	2.58	2.51	
	Intactness	2.43	2.37	
	Unity	2.51	2.49	
	TOTAL[6]	**2.51**	**2.46**	Percent Change = 2.00% = Low degree of change
Visual Character[2]	Scale	2.03	1.85	
	Diversity	2.13	1.99	
	Continuity	2.24	2.10	
	Dominance	1.85	1.75	
	TOTAL[6]	**2.06**	**1.92**	Percent Change = 14.25% = Moderately Low degree of change
Viewer Exposure[3]	Location of Views	2.50		
	Number of Viewers	4.35		
	Duration of Views	1.75		
	TOTAL[6]	**2.87**		Moderate Exposure
Viewer Sensitivity[4]	Attention of Viewer	3.53		
	Viewer Awareness	2.75		
	Local Values and Goals	2.51		
	TOTAL[6]	**2.93**		Moderate Sensitivity

1 – Vividness = memorable, striking (5) to plain (1); Intactness = free of encroaching elements (5) to cluttered/lacking integrity (1); and Unity = coherent/harmonious (5) to disjointed/jarring (1). A rating below 1 would only be used for an extremely low rating.

2 – Scale = small (5) to monumental (1); Diversity = complex (5) to monolithic (1); Continuity = harmonious (5) to dissonant (1); and Dominance = balanced (5) to prominent/unbalanced (1). A rating below 1 would only be used for an extremely low rating.

3 – Location = foreground (5) to distant views (1); Number = over 100,000 (5) to 20 or less (1); Duration = over 4 hours (5) to less than 1 minute (1). A rating below 1 would only be used for an extremely low rating.

4 – Activity = attention on views (5) to attention focused away (1); Awareness = High (5) to Low (1); and Values = High (5) to Low expectations (1). A rating below 1 would only be used for an extremely low rating.

5 – Proposed (post-construction condition) with avoidance and minimization measures in place. Avoidance and minimization measures are described in Chapter 6 of this report.

6 – Total = sum of attributes divided by number of attributes – e.g. Overall Visual Quality = (vividness+intactness+unity)/3.

7 – Ratings: 1 = Low, 3 = Moderate, 5 = High

- **Anticipated Viewer Response:** It is anticipated that the viewer exposure and sensitivity would be moderate, with the number of viewers being high but the length of time for the views being brief.
- **Resulting Visual Impact:** The overall visual impact to the view is expected to be moderate, with the visual quality dropping slightly to moderately low from moderate, with moderate vividness and moderately low intactness and unity. It is anticipated that as the replacement plantings mature, the visual quality of the view would eventually equal or exceed the existing.

Table 5-24. Alternative 3, Key Viewpoint #21
Analysis Summary

Visual Resource (Stimulus)	Change to Visual Character	Moderately Low	Resource Change	Visual Impact
	Change to Visual Quality	Low	**Moderate**	
				Moderate
Viewer (Response)	Viewer Exposure	Moderate	Viewer Response	
	Viewer Sensitivity	Moderate	**Moderate**	

Ratings for each category were determined by taking the percent change rating from the previous table and averaging these for the Resource Change/Viewer Response columns. These two ratings were then averaged again to determine the anticipated Visual Impact. If unable to average, the higher rating was used.

5.2.5 Viewpoint #34, Commercial-Warehouse Landscape Unit

Figure 5-25.
Location of Key Viewpoint #34

Figure 5-25 shows a photosimulation for Viewpoint #34 and depicts the pre- and post-construction views.

- **Orientation:** The photograph is taken from the WB lanes of I-10 looking west. The Etiwanda Avenue interchange can be seen in the distance.
- **Existing Visual Character/ Quality:** The existing visual character is typical for a highway view. The view includes the highway paving, the ramp OC bridge, and slope paving. The power lines add an additional industrial element to the view. The median area is unique to the corridor. Given the size of the highway, the scale in the view tends towards the monumental; diversity is low, as is the rating for dominance. The view also tends towards the dissonant because of the starkness of the highway and the lack of softening elements. The overall visual quality of the view is moderately low, with moderately low vividness, intactness, and unity.
- **Proposed Project Features:** The project would add two new inside lanes to the view, removing the existing median area and placing a retaining wall between the WB and EB lanes. In addition to the roadway elements, the existing towers for the power lines, currently located in the median, would also need to be moved to the outside edges of I-10. As in Alternative 2, the existing ramp and bridge would not be changed; however, color would be applied to the walls and slope paving to mitigate their appearance.
- **Changes to Visual Character:** For drivers on I-10, the new lanes, combined with the retaining wall where the median existed, would be the most noticeable new elements in this view. The paving would appear much wider than the existing and would continue to dominate the view.

Figure 5-26. Viewpoint #34, Alternative 3, Commercial-Warehouse Landscape Unit

Minimization measures depicted in the simulation include wall texture and new landscaping of disturbed areas. Aesthetic treatments to structures and specific plant types are representative only. Actual types of treatments and landscaping would be designed in collaboration with Caltrans' District Landscape Architect.

Table 5-25. Alternative 3, Key Viewpoint #34 Anticipated Changes in Visual Character and Quality, and Their Effect on Viewers

	Attribute	Ratings[7]		Remarks (Anticipated Changes are Shown in the Blue Rows)
		Existing Condition	Proposed Condition[5]	
Visual Quality[1]	Vividness/Memorability	2.32	2.41	
	Intactness	2.18	2.45	
	Unity	1.98	2.01	
	TOTAL[6]	**2.16**	**2.29**	Percent Change = 6.02% = Low degree of change
Visual Character[2]	Scale	1.95	1.55	
	Diversity	1.75	1.35	
	Continuity	2.13	2.50	
	Dominance	1.34	1.50	
	TOTAL[6]	**1.79**	**1.73**	Percent Change = 3.35% = Low degree of change
Viewer Exposure[3]	Location of Views	3.25		
	Number of Viewers	4.25		
	Duration of Views	1.45		
	TOTAL[6]	**2.98**		Moderate Exposure
Viewer Sensitivity[4]	Attention of Viewer	2.78		
	Viewer Awareness	2.43		
	Local Values and Goals	2.20		
	TOTAL[6]	**2.47**		Moderately Low Sensitivity

1 – Vividness = memorable, striking (5) to plain (1); Intactness = free of encroaching elements (5) to cluttered/lacking integrity (1); and Unity = coherent/harmonious (5) to disjointed/jarring (1). A rating below 1 would only be used for an extremely low rating.

2 – Scale = small (5) to monumental (1); Diversity = complex (5) to monolithic (1); Continuity = harmonious (5) to dissonant (1); and Dominance = balanced (5) to prominent/unbalanced (1). A rating below 1 would only be used for an extremely low rating.

3 – Location = foreground (5) to distant views (1); Number = over 100,000 (5) to 20 or less (1); Duration = over 4 hours (5) to less than 1 minute (1). A rating below 1 would only be used for an extremely low rating.

4 – Activity = attention on views (5) to attention focused away (1); Awareness = High (5) to Low (1); and Values = High (5) to Low expectations (1). A rating below 1 would only be used for an extremely low rating.

5 – Proposed (post-construction condition) with avoidance and minimization measures in place. Avoidance and minimization measures are described in Chapter 6 of this report.

6 – Total = sum of attributes divided by number of attributes – e.g. Overall Visual Quality = (vividness+intactness+unity)/3.

7 – Ratings: 1 = Low, 3 = Moderate, 5 = High

- **Anticipated Viewer Response:** Freeway viewers are likely to be very aware of the changes in the I-10 corridor, but their sensitivity would be moderately low because the view to the new highway corridor would be similar in nature to the existing highway view, with many of the same elements. For these viewers, the wider pavement section is not expected to create any substantial changes to the visual environment.
- **Resulting Visual Impact:** It is anticipated that for the overall visual quality of the view, the additional paving width, typically viewed as a negative, would be counter balanced by moving the power line towers to a less prominent location outside of the freeway corridor, as well as removal of the weedy, unkempt appearance of the median. The overall visual impact to the view is anticipated to be moderately low, with vividness, intactness, and unity remaining moderately low.

Table 5-26. Alternative 3, Key Viewpoint #34
Analysis Summary

Visual Resource (Stimulus)	Change to Visual Character	Low	Resource Change **Low**	Visual Impact **Moderately Low**
	Change to Visual Quality	Low		
Viewer (Response)	Viewer Exposure	Moderate	Viewer Response **Moderate**	
	Viewer Sensitivity	Moderately Low		

Ratings for each category were determined by taking the percent change rating from the previous table and averaging these for the Resource Change/Viewer Response columns. These two ratings were then averaged again to determine the anticipated Visual Impact. If unable to average, the higher rating was used.

5.2.6 Viewpoint #40, Industrial Landscape Unit

Figure 5-27 shows a photosimulation for Viewpoint #40 and depicts the pre- and post-construction views.

Figure 5-27. Location of Key Viewpoint #40

- **Orientation:** The photograph looks to the west-northwest towards the row of existing eucalyptus trees that parallels this stretch of I-10.
- **Existing Visual Character/ Quality:** The existing visual character of this view is dominated by the eucalyptus trees. The trees are mature, with some in good health and others in decline. Behind the trees is the I-10 Channel, which parallels the north side of I-10 from the San Sevaine Creek outfall to just east of Sierra Avenue. The other main visual element in the view is the paving associated with the shoulder. The placement of the eucalyptus trees helps to provide a sense of scale and balance to the highway and adds some complexity to the diversity of the view. The existing visual quality of the view is moderate overall, with moderate vividness, intactness, and unity.
- **Proposed Project Features:** The proposed project features within this portion of the corridor include a widened pavement section that pushes the roadway into the area currently occupied by the row of eucalyptus trees, necessitating their removal. The existing channel would remain, but due to its proximity to the roadway, it would require a concrete barrier to protect motorists from the hazard; however, as in Alternative 2, sufficient ground is available on the other side of the channel to include new plantings of trees. It is also anticipated that a soundwall would be constructed along the edge of the existing ROW to protect adjacent homes.
- **Changes to Visual Character:** Removal of the mature trees along the corridor would substantially alter the visual character of the corridor. With replanting, as shown in the photosimulation, the character would still change, but this change would be softened by the new plantings, which would continue to grow and would eventually approach a mature size in 15 to 20 years.

Figure 5-28. Viewpoint #40, Alternative 3, Commercial-Warehouse Landscape Unit

Minimization measures depicted in the simulation include wall texture and new landscaping of disturbed areas. Aesthetic treatments to structures and specific plant types are representative only. Actual types of treatments and landscaping would be designed in collaboration with Caltrans' District Landscape Architect.

Table 5-27. Alternative 3, Key Viewpoint #40 Anticipated Changes in Visual Character and Quality, and Their Effect on Viewers

	Attribute	Ratings[7]		Remarks (Anticipated Changes are Shown in the Blue Rows)
		Existing Condition	Proposed Condition[5]	
Visual Quality[1]	Vividness/Memorability	3.45	3.13	
	Intactness	2.79	2.67	
	Unity	2.67	2.54	
	TOTAL[6]	**2.97**	**2.78**	Percent Change = 6.40% = Low degree of change
Visual Character[2]	Scale	2.67	2.47	
	Diversity	3.13	2.43	
	Continuity	2.80	2.21	
	Dominance	3.16	2.18	
	TOTAL[6]	**2.94**	**2.32**	Percent Change = 21.08% = Moderate degree of change
Viewer Exposure[3]	Location of Views	3.41		
	Number of Viewers	4.50		
	Duration of Views	1.75		
	TOTAL[6]	**3.22**		Moderate Exposure
Viewer Sensitivity[4]	Attention of Viewer	3.25		
	Viewer Awareness	2.75		
	Local Values and Goals	2.21		
	TOTAL[6]	**2.74**		Moderate Sensitivity

1 – Vividness = memorable, striking (5) to plain (1); Intactness = free of encroaching elements (5) to cluttered/lacking integrity (1); and Unity = coherent/harmonious (5) to disjointed/jarring (1). A rating below 1 would only be used for an extremely low rating.

2 – Scale = small (5) to monumental (1); Diversity = complex (5) to monolithic (1); Continuity = harmonious (5) to dissonant (1); and Dominance = balanced (5) to prominent/unbalanced (1). A rating below 1 would only be used for an extremely low rating.

3 – Location = foreground (5) to distant views (1); Number = over 100,000 (5) to 20 or less (1); Duration = over 4 hours (5) to less than 1 minute (1). A rating below 1 would only be used for an extremely low rating.

4 – Activity = attention on views (5) to attention focused away (1); Awareness = High (5) to Low (1); and Values = High (5) to Low expectations (1). A rating below 1 would only be used for an extremely low rating.

5 – Proposed (post-construction condition) with avoidance and minimization measures in place. Avoidance and minimization measures are described in Chapter 6 of this report.

6 – Total = sum of attributes divided by number of attributes – e.g. Overall Visual Quality = (vividness+intactness+unity)/3.

7 – Ratings: 1 = Low, 3 = Moderate, 5 = High

- **Anticipated Viewer Response:** Removal of the trees would be very noticeable to travelers on I-10, who would likely be very sensitive to the removal. The new tree plantings would, over time, replace the existing trees in stature and presence in the landscape and would soften the roadway and bring a sense of scale to the corridor. It is anticipated that viewer exposure and sensitivity would be moderate to the changes in the corridor.
- **Resulting Visual Impact:** Although the anticipated impact to the visual quality is expected to be low, the anticipated impact to the view is expected to be moderate, due mostly to removal of the existing vegetation. Removal of the existing trees and planting of newer, smaller plantings would greatly affect the view and the ability of the plantings to bring scale and diversity to the corridor. This, however, would be temporary, because as the trees grow, their presence and ability to provide scale and a softening element to the corridor would increase over time.

Table 5-28. Alternative 3, Key Viewpoint #40
Analysis Summary

Visual Resource (Stimulus)	Change to Visual Character	Moderate	Resource Change	Visual Impact
	Change to Visual Quality	Low	**Moderately Low**	
				Moderate
Viewer (Response)	Viewer Exposure	Moderate	Viewer Response	
	Viewer Sensitivity	Moderate	**Moderate**	

Ratings for each category were determined by taking the percent change rating from the previous table and averaging these for the Resource Change/Viewer Response columns. These two ratings were then averaged again to determine the anticipated Visual Impact. If unable to average, the higher rating was used.

5.2.7 Viewpoint #50, Rail Yard Landscape Unit

Figure 5-29 shows a photosimulation for Viewpoint #50 and depicts the pre- and post-construction views.

Figure 5-29.
Location of Key Viewpoint #50

- **Orientation:** The photograph was taken from the EB lanes of I-10 looking east-southeast towards the railroad corridor and the row of eucalyptus trees that parallels the south side of I-10.
- **Existing Visual Character/ Quality:** The existing visual character of the view is dominated by the railroad corridor; however, the trees in the foreground help to break up the views into the rail corridor. The row of trees along the south side of I-10 is more sporadic than on the north, and the trees are in a greater state of decline, so the quality of the screening is less than found elsewhere in the corridor where the trees are in better condition. The trees do help provide a sense of scale and diversity to the roadside corridor and add to the balance of the view. The overall visual quality of the view is moderately low, with moderately low vividness, intactness, and unity.
- **Proposed Project Features:** The addition of the two new EB Express Lanes in the center area of the highway would require widening the lanes into the area currently occupied by the row of eucalyptus trees. A roadside barrier would be needed along the edge of the shoulder, and a ROW fence would be attached to the top of the barrier.
- **Changes to Visual Character:** Removal of the mature trees would change the visual character of the corridor by leaving the railroad corridor fully exposed to view without the softening/screen effects provided by the vegetation. In addition, the corridor would appear wider to those traveling on I-10 with the addition of the Express Lanes.

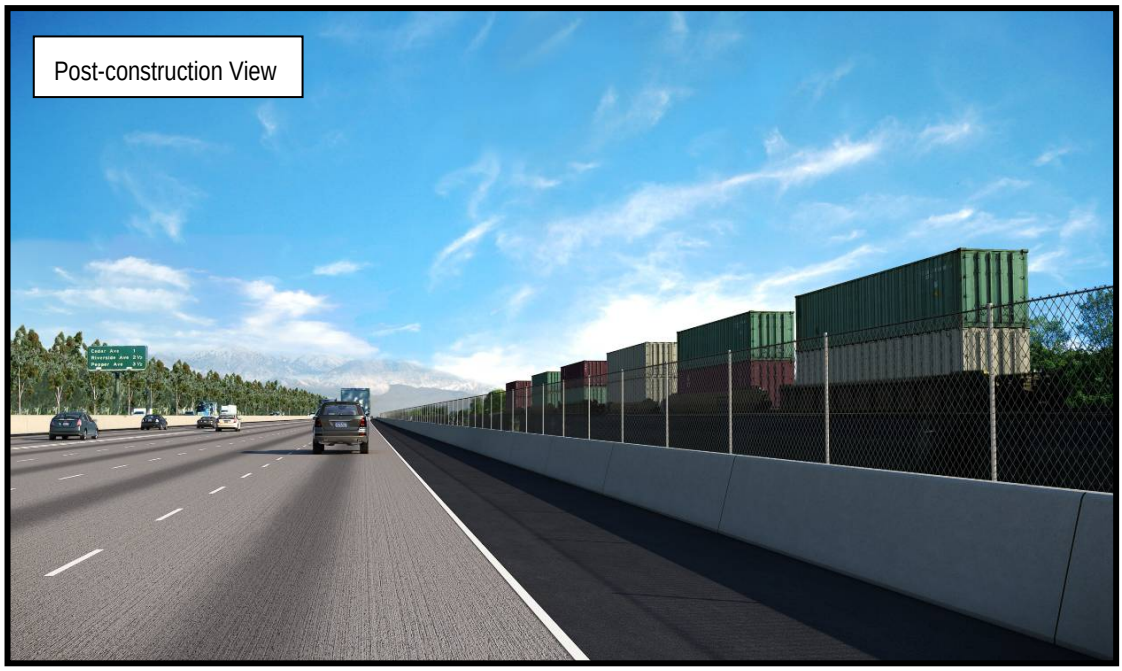

Figure 5-30. Viewpoint #50, Alternative 3, Rail Yard Landscape Unit

Minimization measures depicted in the simulation include wall texture and new landscaping of disturbed areas. Aesthetic treatments to structures and specific plant types are representative only. Actual types of treatments and landscaping would be designed in collaboration with Caltrans' District Landscape Architect.

Table 5-29. Alternative 3, Key Viewpoint #50 Anticipated Changes in Visual Character and Quality, and Their Effect on Viewers

	Attribute	Ratings[7]		Remarks (Anticipated Changes are Shown in the Blue Rows)
		Existing Condition	Proposed Condition[5]	
Visual Quality[1]	Vividness/Memorability	2.33	1.93	
	Intactness	2.35	1.98	
	Unity	2.47	1.74	
	TOTAL[6]	**2.38**	**1.88**	Percent Change = 21.00% = Moderate degree of change
Visual Character[2]	Scale	2.67	1.87	
	Diversity	2.48	1.98	
	Continuity	2.21	1.93	
	Dominance	2.27	1.83	
	TOTAL[6]	**2.41**	**1.90**	Percent Change = 21.16% = Moderate degree of change
Viewer Exposure[3]	Location of Views	3.41		
	Number of Viewers	4.50		
	Duration of Views	1.75		
	TOTAL[6]	**3.22**		Moderate Exposure
Viewer Sensitivity[4]	Attention of Viewer	3.25		
	Viewer Awareness	2.75		
	Local Values and Goals	2.21		
	TOTAL[6]	**2.74**		Moderate Sensitivity

1 – Vividness = memorable, striking (5) to plain (1); Intactness = free of encroaching elements (5) to cluttered/lacking integrity (1); and Unity = coherent/harmonious (5) to disjointed/jarring (1). A rating below 1 would only be used for an extremely low rating.

2 – Scale = small (5) to monumental (1); Diversity = complex (5) to monolithic (1); Continuity = harmonious (5) to dissonant (1); and Dominance = balanced (5) to prominent/unbalanced (1). A rating below 1 would only be used for an extremely low rating.

3 – Location = foreground (5) to distant views (1); Number = over 100,000 (5) to 20 or less (1); Duration = over 4 hours (5) to less than 1 minute (1). A rating below 1 would only be used for an extremely low rating.

4 – Activity = attention on views (5) to attention focused away (1); Awareness = High (5) to Low (1); and Values = High (5) to Low expectations (1). A rating below 1 would only be used for an extremely low rating.

5 – Proposed (post-construction condition) with avoidance and minimization measures in place. Avoidance and minimization measures are described in Chapter 6 of this report.

6 – Total = sum of attributes divided by number of attributes – e.g. Overall Visual Quality = (vividness+intactness+unity)/3.

7 – Ratings: 1 = Low, 3 = Moderate, 5 = High

- **Anticipated Viewer Response:** For those traveling on the I-10 corridor, the change would be very noticeable. Depending on the viewer (whether local resident, frequent commuter, or tourist), the degree of sensitivity to the change would depend in part on the frequency of travel and familiarity with the corridor. Those more familiar with the corridor (e.g., local residents) would be very sensitive to the change; infrequent travelers or tourists would likely not be aware of it.
- **Resulting Visual Impact:** The overall changes to the view are expected to be moderate. It is unlikely that there would be sufficient ROW for new plantings that might screen I-10 from the rail corridor. The resulting visual impact would be to maintain the overall existing moderately low visual quality of the view, with moderately low vividness, intactness, and unity.

Table 5-30. Alternative 3, Key Viewpoint #50
Analysis Summary

Visual Resource (Stimulus)	Change to Visual Character	Moderate	Resource Change	Visual Impact
	Change to Visual Quality	Moderate	**Moderate**	
				Moderate
Viewer (Response)	Viewer Exposure	Moderate	Viewer Response	
	Viewer Sensitivity	Moderate	**Moderate**	

Ratings for each category were determined by taking the percent change rating from the previous table and averaging these for the Resource Change/Viewer Response columns. These two ratings were then averaged again to determine the anticipated Visual Impact. If unable to average, the higher rating was used.

5.2.8 Viewpoint #65, Rail Yard Landscape Unit

Figure 5-31 shows a photosimulation for Viewpoint #65 and depicts the pre- and post-construction views.

Figure 5-31.
Location of Key Viewpoint #65

- **Orientation:** The photograph looks east from the Rancho Avenue OC. The view is from the perspective of the pedestrian on the sidewalk looking into the corridor.
- **Existing Visual Character/ Quality**: The existing eight lanes of freeway dominate this view, with the center barrier and the weeds growing under it providing a focal to the view. Landscaping associated with the interchange provides a green counterpoint to the large areas of paving. The scale of the view tends toward the monumental given the number of lanes of I-10, but the plantings associated with the ramps help add to the diversity and harmoniousness of the view. The overall visual quality of the view is moderately low, with moderately low vividness, intactness, and unity.
- **Proposed Project Features:** For pedestrians on the bridge, the new fence that would be included as part of the improvements to the interchange would be prominent. Looking into the I-10 corridor, the four new Express Lanes and median shoulder associated with the widened paving of the corridor would be seen. The inclusion of the new lanes would push the outside edge of I-10 into the landscape areas along the ramps and would require retaining walls on each side of I-10 to address the existing slopes along the ramps, which would also be seen from this vantage point. These walls would be larger than those anticipated in Alternative 2.

Table 5-31. Alternative 3, Key Viewpoint #65 Anticipated Changes in Visual Character and Quality, and Their Effect on Viewers

	Attribute	Ratings[7]		Remarks (Anticipated Changes are Shown in the Blue Rows)
		Existing Condition	Proposed Condition[5]	
Visual Quality[1]	Vividness/Memorability	2.49	2.68	Existing dirt median detracts from view
	Intactness	2.50	2.59	
	Unity	2.39	2.53	
	TOTAL[6]	**2.46**	**2.60**	Percent Change = 10.57% = Moderately Low degree of change
Visual Character[2]	Scale	2.09	2.07	
	Diversity	2.51	2.34	
	Continuity	2.24	2.51	
	Dominance	2.84	2.73	
	TOTAL[6]	**2.42**	**2.41**	Percent Change = 0.42% = Low degree of change
Viewer Exposure[3]	Location of Views	2.52		
	Number of Viewers	2.26		
	Duration of Views	3.58		
	TOTAL[6]	**2.79**		Moderate Exposure
Viewer Sensitivity[4]	Attention of Viewer	1.74		
	Viewer Awareness	3.01		
	Local Values and Goals	2.69		
	TOTAL[6]	**2.48**		Moderately Low Sensitivity

1 – Vividness = memorable, striking (5) to plain (1); Intactness = free of encroaching elements (5) to cluttered/lacking integrity (1); and Unity = coherent/harmonious (5) to disjointed/jarring (1). A rating below 1 would only be used for an extremely low rating.

2 – Scale = small (5) to monumental (1); Diversity = complex (5) to monolithic (1); Continuity = harmonious (5) to dissonant (1); and Dominance = balanced (5) to prominent/unbalanced (1). A rating below 1 would only be used for an extremely low rating.

3 – Location = foreground (5) to distant views (1); Number = over 100,000 (5) to 20 or less (1); Duration = over 4 hours (5) to less than 1 minute (1). A rating below 1 would only be used for an extremely low rating.

4 – Activity = attention on views (5) to attention focused away (1); Awareness = High (5) to Low (1); and Values = High (5) to Low expectations (1). A rating below 1 would only be used for an extremely low rating.

5 – Proposed (post-construction condition) with avoidance and minimization measures in place. Avoidance and minimization measures are described in Chapter 6 of this report.

6 – Total = sum of attributes divided by number of attributes – e.g. Overall Visual Quality = (vividness+intactness+unity)/3.

7 – Ratings: 1 = Low, 3 = Moderate, 5 = High

Figure 5-32. Viewpoint #65, Alternative 3, Rail Yard Landscape Unit

Minimization measures depicted in the simulation include wall texture and new landscaping of disturbed areas. Aesthetic treatments to structures and specific plant types are representative only. Actual types of treatments and landscaping would be designed in collaboration with Caltrans' District Landscape Architect.

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- **Changes to Visual Character:** In general, I-10 would appear wider to viewers on the bridge, and the new lanes and retaining walls would increase the area of hard surfaces in the view. The improvements to the corridor would, in effect, clean up much of the existing view, removing weeds from the median area and adding plantings to the ramps. The effect of this would be to increase the diversity of the view and provide better scale to I-10; however, the view is still into a freeway corridor and would be similar in appearance to the existing, equating to a low level of change.
- **Anticipated Viewer Response:** From the perspective of the pedestrian, the viewer is likely to have a moderately low degree of sensitivity to the changes in the visual environment. Pedestrians, while much fewer in number than freeway travelers, have a much longer viewing period than a driver would over a similar distance due to the difference in speed between the two modes of transportation.
- **Resulting Visual Impact:** The overall impact to the view is anticipated to be moderately low. The extra pavement width is somewhat compensated for by the addition of plantings in the interchange, and the removal of weeds and other distracting elements helps slightly increase the overall visual quality; however, the resulting impact to the visual environment is not expected to appreciably alter the existing visual quality for this view. The overall visual quality is expected to increase slightly to moderate, with moderate vividness, intactness, and unity.

Table 5-32. Alternative 3, Key Viewpoint #65
Analysis Summary

Visual Resource (Stimulus)	Change to Visual Character	Low	Resource Change	Visual Impact
	Change to Visual Quality	Moderately Low	**Moderately Low**	
				Moderate
Viewer (Response)	Viewer Exposure	Moderate	Viewer Response	
	Viewer Sensitivity	Moderate	**Moderate**	

Ratings for each category were determined by taking the percent change rating from the previous table and averaging these for the Resource Change/Viewer Response columns. These two ratings were then averaged again to determine the anticipated Visual Impact. If unable to average, the higher rating was used.

5.2.9 Viewpoint #74, Commercial-Agricultural Landscape Unit

Figure 5-33 shows a photosimulation for Viewpoint #74 and depicts the pre- and post-construction views.

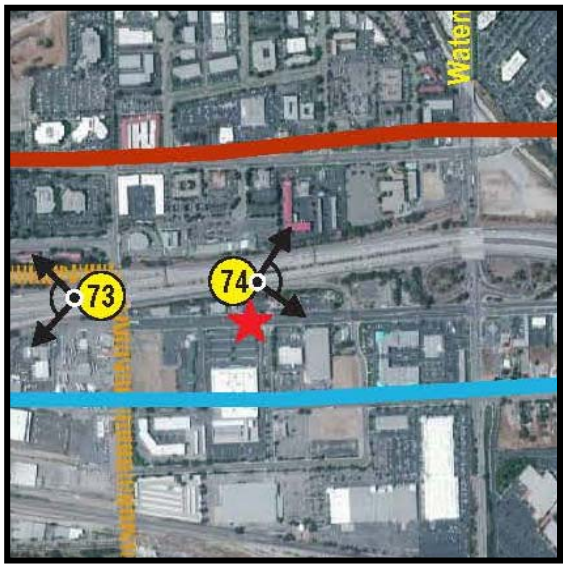

Figure 5-33.
Location of Key Viewpoint #74

- **Orientation:** The view is from the EB lanes of I-10 looking east near the Waterman Avenue exit within San Bernardino County area, near Loma Linda.
- **Existing Visual Character/ Quality:** The existing visual character of the view is dominated by the freeway paving and signage. The median olive trees and fan palm trees to the right provide a counterpoint to the hard surfaces of the highway paving. The plant material helps bring a sense of scale to the view and reduce the overall monumentality of the freeway paving. The overall visual quality of the view is moderate, with moderate vividness, intactness, and moderately low unity.
- **Proposed Project Features:** The project would add two center Express Lanes on each side of I-10 and a concrete median barrier in this view. The widening would require some reconfiguration of the off-ramp to Waterman Avenue, necessitating removal of vegetation. The existing sign bridge in the mid-ground would have to be lengthened to accommodate the wider roadway as well. The existing olive trees in the median would be removed, although the plantings on the outside are expected to remain.
- **Changes to Visual Character:** The biggest change in this view would be the addition of the Express Lanes associated with the corresponding increase in hard surfaces within the view and the removal of vegetation in the median that helps to screen the other half of I-10 from the viewer. In addition, the widening requires reconfiguration of the Waterman Avenue ramps, which equates to the removal of additional mature vegetation within the view. The result is a corridor that appears more open and much larger.

Figure 5-34. Viewpoint #74, Alternative 3, Commercial-Agricultural Landscape Unit

Minimization measures depicted in the simulation include wall texture and new landscaping of disturbed areas. Aesthetic treatments to structures and specific plant types are representative only. Actual types of treatments and landscaping would be designed in collaboration with Caltrans' District Landscape Architect.

Table 5-33. Alternative 3, Key Viewpoint #74 Anticipated Changes in Visual Character and Quality, and Their Effect on Viewers

	Attribute	Ratings[7]		Remarks (Anticipated Changes are Shown in the Blue Rows)
		Existing Condition	Proposed Condition[5]	
Visual Quality[1]	Vividness/Memorability	3.25	2.54	Existing planted median adds to view
	Intactness	3.00	2.32	
	Unity	3.36	2.18	
	TOTAL[6]	**3.20**	**2.35**	Percent Change = 26.56% = Moderate degree of change
Visual Character[2]	Scale	2.01	1.45	
	Diversity	2.75	1.57	
	Continuity	2.34	1.83	
	Dominance	1.94	1.32	
	TOTAL[6]	**2.26**	**1.54**	Percent Change = 31.86% = Moderately High degree of change
Viewer Exposure[3]	Location of Views	2.32		
	Number of Viewers	4.57		
	Duration of Views	2.56		
	TOTAL[6]	**3.15**		Moderate Exposure
Viewer Sensitivity[4]	Attention of Viewer	3.78		
	Viewer Awareness	2.75		
	Local Values and Goals	3.54		
	TOTAL[6]	**3.36**		Moderate Sensitivity

1 – Vividness = memorable, striking (5) to plain (1); Intactness = free of encroaching elements (5) to cluttered/lacking integrity (1); and Unity = coherent/harmonious (5) to disjointed/jarring (1). A rating below 1 would only be used for an extremely low rating.

2 – Scale = small (5) to monumental (1); Diversity = complex (5) to monolithic (1); Continuity = harmonious (5) to dissonant (1); and Dominance = balanced (5) to prominent/unbalanced (1). A rating below 1 would only be used for an extremely low rating.

3 – Location = foreground (5) to distant views (1); Number = over 100,000 (5) to 20 or less (1); Duration = over 4 hours (5) to less than 1 minute (1). A rating below 1 would only be used for an extremely low rating.

4 – Activity = attention on views (5) to attention focused away (1); Awareness = High (5) to Low (1); and Values = High (5) to Low expectations (1). A rating below 1 would only be used for an extremely low rating.

5 – Proposed (post-construction condition) with avoidance and minimization measures in place. Avoidance and minimization measures are described in Chapter 6 of this report.

6 – Total = sum of attributes divided by number of attributes – e.g. Overall Visual Quality = (vividness+intactness+unity)/3.

7 – Ratings: 1 = Low, 3 = Moderate, 5 = High

- **Anticipated Viewer Response:** For those traveling on the I-10 corridor, the change would be very noticeable. The addition of two lanes of paving on each side of I-10, coupled with removal of the median trees, would be most notable. It is anticipated that the viewer sensitivity for this group would be moderate, as would their exposure.
- **Resulting Visual Impact:** The overall resulting impact to the visual environment in this view is anticipated to be moderately high, with moderate vividness, and moderately low intactness and unity. Removal of the median plantings and the addition of two lanes on each side of I-10 creates a much more monumental appearance to the freeway paving. In addition, removal of the mature plantings at Waterman Avenue further reduces the elements that would add scale and diversity to the view. New plantings, included as part of the work, would eventually bring back some of this, but given the limited space available, the plantings would likely not be to the size and scale of the existing.

Table 5-34. Alternative 3, Key Viewpoint #74
Analysis Summary

Visual Resource (Stimulus)	Change to Visual Character	Moderately High	Resource Change	Visual Impact
	Change to Visual Quality	Moderate	**Moderately High**	
				Moderately High
Viewer (Response)	Viewer Exposure	Moderate	Viewer Response	
	Viewer Sensitivity	Moderate	**Moderate**	

Ratings for each category were determined by taking the percent change rating from the previous table and averaging these for the Resource Change/Viewer Response columns. These two ratings were then averaged again to determine the anticipated Visual Impact. If unable to average, the higher rating was used.

5.2.10 Viewpoint #86, Redlands Landscape Unit

Figure 5-35 shows a photosimulation for Viewpoint #86 and depicts the pre- and post-construction views.

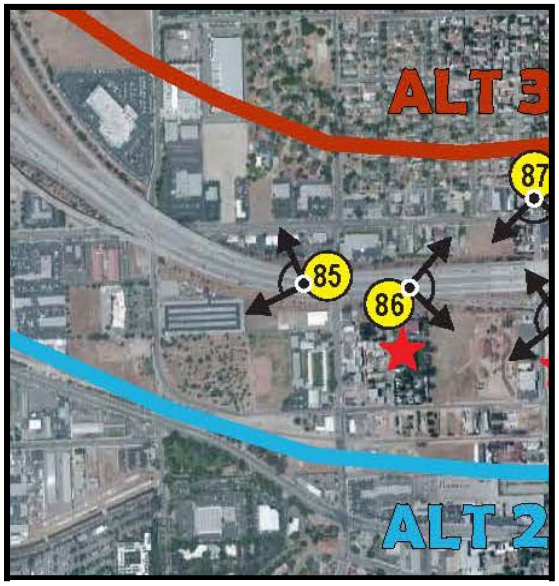

Figure 5-35.
Location of Key Viewpoint #86

- **Orientation:** The image is taken from the EB lanes of I-10, approaching the University Street interchange, looking east.
- **Existing Visual Character/ Quality:** The freeway paving is the dominant feature in this view. The mature plantings on either side of I-10 help soften the overall feel of the freeway; however, given its width, the freeway paving tends towards monumentality in the view and dominates the perceived landscape. The overall visual quality of the view is moderately low, with moderately low vividness and intactness, and moderate unity.
- **Proposed Project Features:** The primary feature for the project would be the addition of the new lane with a full shoulder along the median. The existing median barrier would be replaced with a slightly taller barrier.
- **Changes to Visual Character:** The addition of one new Express Lane would add some paving into the view; however, the existing median shoulder is paved, so the addition of the lane does not appear to greatly alter the amount of paving in the view. Existing mature plantings along the outside edge of I-10 would likely remain.
- **Anticipated Viewer Response:** Frequent travelers on I-10 would likely have the greatest sensitivity to changes within the corridor; however, within this view, the changes are not expected to be appreciable, so the overall sensitivity is expected to be moderate, as would the exposure.
- **Resulting Visual Impact:** The resulting impact to the overall visual environment of the view is anticipated to be moderately low. The new visual quality would likely maintain the existing quality of this portion of the corridor. Vividness and intactness would remain at moderately low, while unity would remain at moderate.

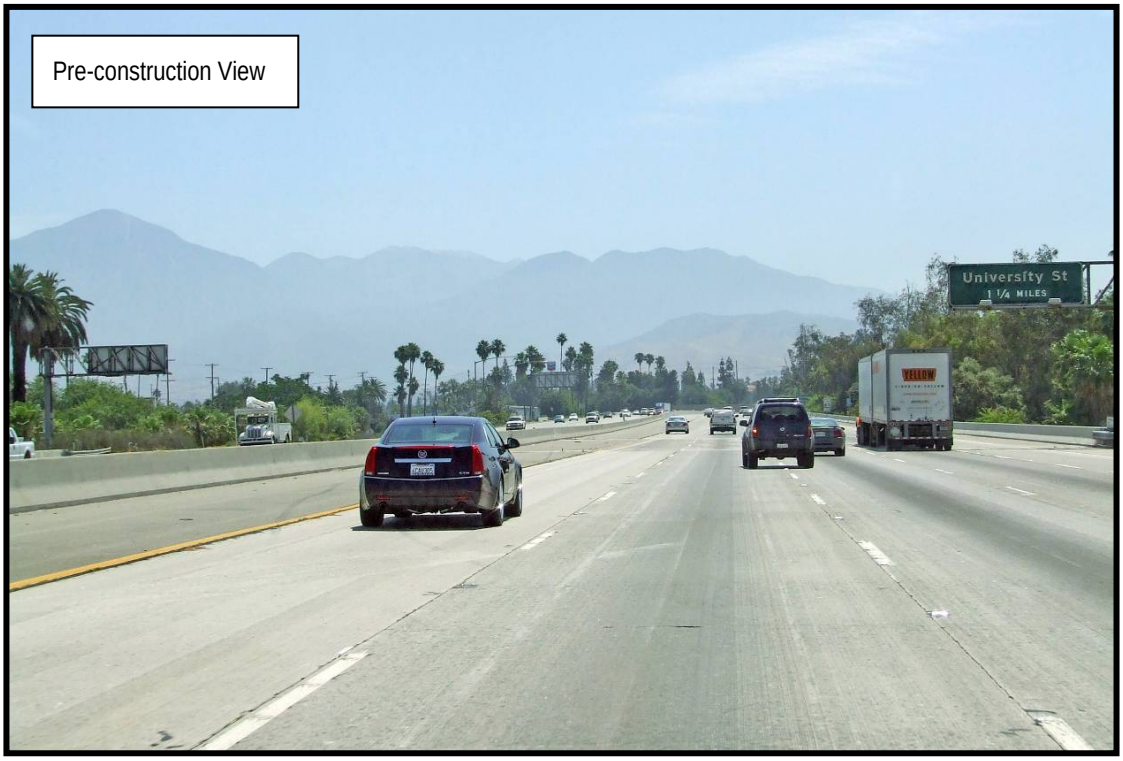

Figure 5-36. Viewpoint #86, Redlands Landscape Unit

Minimization measures depicted in the simulation include wall texture and new landscaping of disturbed areas. Aesthetic treatments to structures and specific plant types are representative only. Actual types of treatments and landscaping would be designed in collaboration with Caltrans' District Landscape Architect.

Table 5-35. Alternative 3, Key Viewpoint #86 Anticipated Changes in Visual Character and Quality, and Their Effect on Viewers

	Attribute	Ratings[7]		Remarks (Anticipated Changes are Shown in the Blue Rows)
		Existing Condition	Proposed Condition[5]	
Visual Quality[1]	Vividness/Memorability	2.25	2.23	
	Intactness	2.31	2.25	
	Unity	2.67	2.55	
	TOTAL[6]	**2.41**	**2.34**	Percent Change = 2.90% = Low degree of change
Visual Character[2]	Scale	1.76	1.71	
	Diversity	2.02	2.02	
	Continuity	2.05	1.98	
	Dominance	1.94	1.89	
	TOTAL[6]	**1.94**	**1.90**	Percent Change = 2.06% = Low degree of change
Viewer Exposure[3]	Location of Views	2.35		
	Number of Viewers	4.52		
	Duration of Views	2.56		
	TOTAL[6]	**3.14**		Moderate Exposure
Viewer Sensitivity[4]	Attention of Viewer	3.78		
	Viewer Awareness	2.75		
	Local Values and Goals	3.54		
	TOTAL[6]	**3.36**		Moderate Sensitivity

1 – Vividness = memorable, striking (5) to plain (1); Intactness = free of encroaching elements (5) to cluttered/lacking integrity (1); and Unity = coherent/harmonious (5) to disjointed/jarring (1). A rating below 1 would only be used for an extremely low rating.

2 – Scale = small (5) to monumental (1); Diversity = complex (5) to monolithic (1); Continuity = harmonious (5) to dissonant (1); and Dominance = balanced (5) to prominent/unbalanced (1). A rating below 1 would only be used for an extremely low rating.

3 – Location = foreground (5) to distant views (1); Number = over 100,000 (5) to 20 or less (1); Duration = over 4 hours (5) to less than 1 minute (1). A rating below 1 would only be used for an extremely low rating.

4 – Activity = attention on views (5) to attention focused away (1); Awareness = High (5) to Low (1); and Values = High (5) to Low expectations (1). A rating below 1 would only be used for an extremely low rating.

5 – Proposed (post-construction condition) with avoidance and minimization measures in place. Avoidance and minimization measures are described in Chapter 6 of this report.

6 – Total = sum of attributes divided by number of attributes – e.g. Overall Visual Quality = (vividness+intactness+unity)/3.

7 – Ratings: 1 = Low, 3 = Moderate, 5 = High

Table 5-36. Alternative 3, Key Viewpoint #86 Analysis Summary

Visual Resource (Stimulus)	Change to Visual Character	Low	Resource Change	Visual Impact
	Change to Visual Quality	Low	**Low**	
				Moderately Low
Viewer (Response)	Viewer Exposure	Moderate	Viewer Response	
	Viewer Sensitivity	Moderate	**Moderate**	

Ratings for each category were determined by taking the percent change rating from the previous table and averaging these for the Resource Change/Viewer Response columns. These two ratings were then averaged again to determine the anticipated Visual Impact. If unable to average, the higher rating was used.

5.3 Summary of Anticipated Changes by Key Viewpoints

Table 5-37 provides a summary of findings from the analysis for each key viewpoint for the anticipated change to the visual resource, the anticipated viewer response to that change, and the overall anticipated visual impact for each alternative.

Table 5-37. Summary of Anticipated Visual Impacts by Key Viewpoint and Alternative

Key Viewpoint	Anticipated Change to Visual Resource	Anticipated Viewer Response	Anticipated Visual Impact
ALTERNATIVE 2 – HOV LANES			
Key Viewpoint #34	High	Moderate	Moderately High
Key Viewpoint #40	Moderate	Moderate	Moderate
Key Viewpoint #43*	Moderate	Moderate	Moderate
Key Viewpoint #50	Low	Moderate	Moderately Low
Key Viewpoint #65	Low	Moderate	Moderately Low
Key Viewpoint #72*	Low	Moderate	Moderately Low
Key Viewpoint #74	Moderate	Moderate	Moderate
Key Viewpoint #86	Low	Moderate	Moderately Low
ALTERNATIVE 3 – EXPRESS LANES			
Key Viewpoint #14	Low	Moderate	Moderately Low
Key Viewpoint #15	Moderately Low	Moderate	Moderate
Key Viewpoint #18	Moderate	Moderate	Moderate
Key Viewpoint #21	Moderate	Moderate	Moderate
Key Viewpoint #34	Low	Moderate	Moderately Low
Key Viewpoint #40	Moderately Low	Moderate	Moderate
Key Viewpoint #50	Moderate	Moderate	Moderate
Key Viewpoint #65	Moderately Low	Moderate	Moderate
Key Viewpoint #74	Moderately High	Moderate	Moderately High
Key Viewpoint #86	Low	Moderate	Moderately Low

*The image and analysis results for these key viewpoints are the same for both build alternatives.

Chapter 6 Visual Mitigation

Caltrans and FHWA mandate that a qualitative/aesthetic approach be taken to mitigate for visual quality loss in the project area. This approach fulfills the letter and spirit of FHWA requirements because it addresses the actual cumulative loss of visual quality that would occur in the project viewshed when the project is implemented. It also constitutes mitigation that can more readily generate public acceptance of the project.

Visual mitigation for adverse project impacts addressed in the key view assessments and summarized in Chapter 5 will consist of adhering to the following design requirements in cooperation with the District Landscape Architect. The requirements are arranged by project feature and include design options in order of effectiveness. All visual mitigation will be designated and implemented with concurrence of the District Landscape Architect.

6.1 Visual Mitigation Measures

To address the potential adverse visual impacts to the project area and community concerns over the change of scale of the highway corridor visually within the community, the following actions are recommended. With implementation of these mitigation measures, the visual impacts of this project can be reduced and would not result in a substantial change in overall visual quality for the area.

Table 6-1. Mitigation Measures

Mitigation No.	Description	Responsible Party
Measures for Corridor Aesthetics		
VA-1	For the application of aesthetics and landscape in the corridor, follow the guidelines from Corridor Master Plan, as developed by Caltrans.	SANBAG and Caltrans
Measures to Preserve Existing Vegetation		
VA-2	Beginning with preliminary design and continuing through final design and construction, save and protect as much existing vegetation in the corridor as feasible, especially eucalyptus and other skyline trees.	SANBAG and Caltrans
VA-3	Survey exact locations for trees and include in plan set.	SANBAG and Caltrans
VA-4	Protect the drip zone of isolated trees with temporary fencing.	SANBAG and Caltrans

Table 6-1. Mitigation Measures

Mitigation No.	Description	Responsible Party
VA-5	Protect large infield areas of existing plantings to be preserved with temporary fencing.	SANBAG and Caltrans
Measures for Noise Barriers		
VA-6	Beginning with preliminary design and continuing through final design and construction, develop construction plans that apply aesthetic treatments to the soundwalls that follow the guidelines in the Corridor Master Plan.	SANBAG and Caltrans
VA-7	As part of the project, include a redesign of the existing San Bernardino Gateway soundwall at the county line.	SANBAG and Caltrans
VA-8	Include vine plantings on one or both faces of soundwalls wherever feasible (given Caltrans setback and maintenance requirements). If vines are only planted on one side of the wall, include vine portals in the design of the wall to accommodate vine access to both sides of the wall.	SANBAG and Caltrans
Measures for Retaining Walls		
VA-9	Beginning with preliminary design and continuing through final design and construction, develop construction plans that apply aesthetic treatments to the retaining walls that follow the guidelines in the Corridor Master Plan.	SANBAG and Caltrans
Measures for Bridge Aesthetics		
VA-10	Beginning with preliminary design and continuing through final design and construction, develop construction plans that apply aesthetic treatments to the proposed bridges in the corridor that follow the guidelines in the Corridor Master Plan.	SANBAG and Caltrans
VA-11	Design the aesthetics of the Euclid Avenue Bridge over I-10 that is sympathetic to the requirements of the local communities.	SANBAG and Caltrans
Measures for Fencing and Barriers		
VA-12	Include aesthetic treatment on concrete median barrier consistent with the visual character of the corridor and the adjacent community.	SANBAG and Caltrans
VA-13	Design fencing to match the ornamental fencing shown in the Corridor Master Plan for all pedestrian fencing on all overcrossings, pedestrian bridges, or other elements associated with pedestrian traffic.	SANBAG and Caltrans
Measures for Landscape Plantings		
VA-14	Beginning with preliminary design and continuing through final design and construction, landscape and revegetate disturbed areas to the greatest extent feasible, as directed by Caltrans District Landscape Architect.	SANBAG and Caltrans
VA-15	Provide replacement plants at the rate determined by the Caltrans District Landscape Architect.	

Table 6-1. Mitigation Measures

Mitigation No.	Description	Responsible Party
VA-16	Include skyline trees in the planting palette to bring down the scale of the new freeway elements.	SANBAG and Caltrans
VA-17	Provide a permanent irrigation system to all plantings.	SANBAG and Caltrans
VA-18	Include an extended 3-year maintenance period as part of the construction period to provide a single source of maintenance through the establishment period.	SANBAG and Caltrans
Measures for Stormwater Treatment Facilities		
VA-19	Beginning with preliminary design and continuing through final design and construction, use drainage and water quality elements, where required, that maximize the allowable landscape.	SANBAG and Caltrans
VA-20	Locate basins so that they would be at least 10 feet from the edge of the Caltrans plant setback to allow landscape screening to be installed.	SANBAG and Caltrans
VA-21	Design infiltration/detention basins so that they appear to be a natural landscape feature, such as a dry streambed or a riparian pool. They should be shaped in an informal, curvilinear manner to the greatest extent possible.	SANBAG and Caltrans
VA-22	Basin slope grading should incorporate slope rounding, variable gradients, and be similar to the surrounding topography to de-emphasize the edge. If a wall or hard feature is necessary, it should be worked into the overall design concept.	SANBAG and Caltrans
VA-23	Locate maintenance access drives in unobtrusive areas away from local streets. Such drives should consist of inert materials or herbaceous groundcover that is visually compatible with the surrounding landscape.	SANBAG and Caltrans
VA-24	Basins should be designed so that chain-link perimeter fencing is not required.	SANBAG and Caltrans
VA-25	Design all visible concrete structures and surfaces to visually blend with the adjacent landscaping and natural plantings.	SANBAG and Caltrans
VA-26	Design rock slope protection to consist of aesthetically pleasing whole material with a variety of sizes.	SANBAG and Caltrans
VA-27	Limit the use of bioswales within corridor landscape areas. If they must be used, locate them in nonobtrusive areas and design should appear natural to the greatest extent possible.	SANBAG and Caltrans

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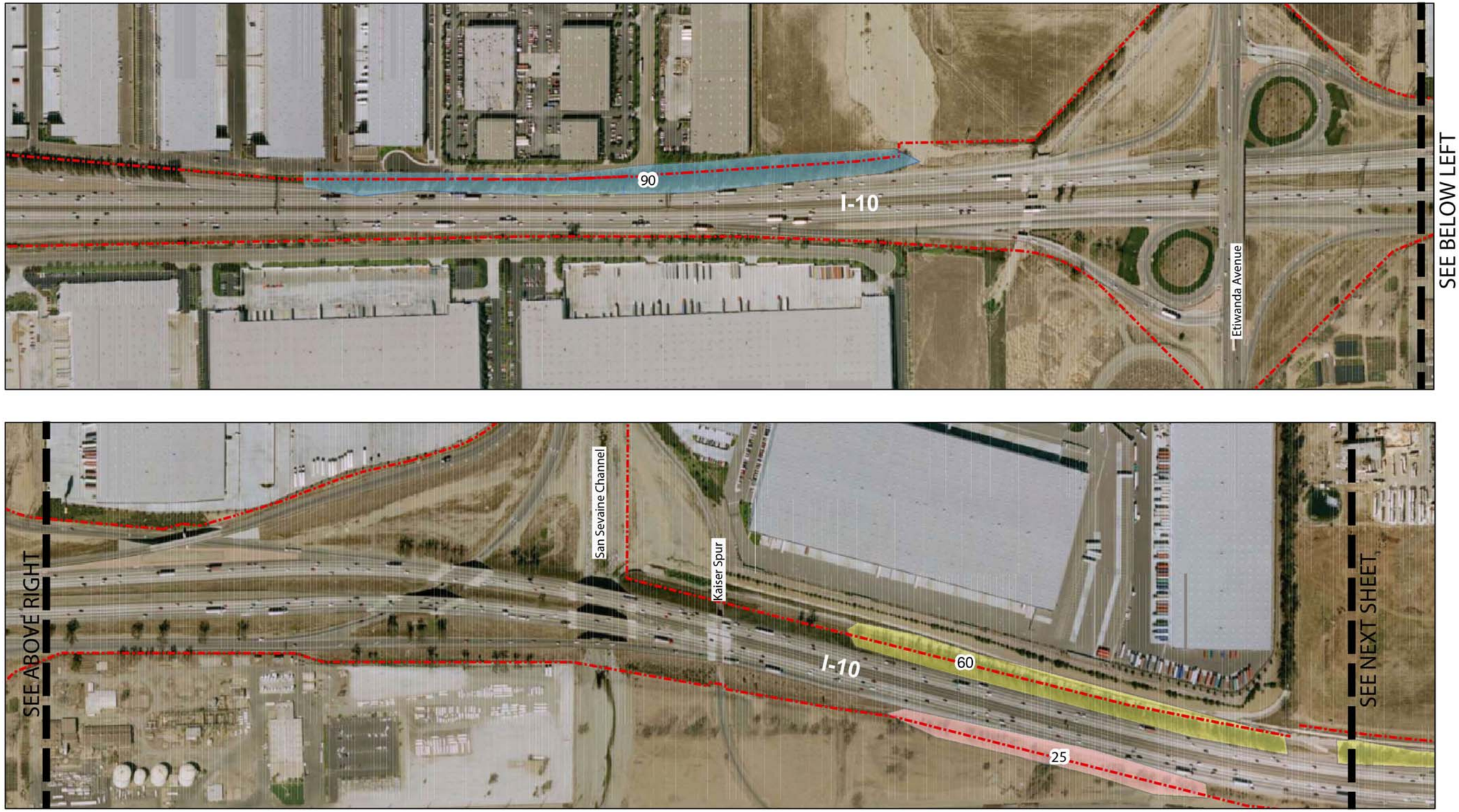
Appendix A Alternatives 2 and 3 Tree Removals



SOURCE: PARSONS TRANSPORTATION GROUP GIS, EAGLE AERIAL 2005

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N

Legend
- Right of Way
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- Number of Impacted Eucalyptus Trees
- Number of Eucalyptus Trees Anticipated to be Protected in Place

Exhibit 1 and 2
Alternative 2
Impacted Eucalyptus Trees along the I-10 ROW

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SOURCE: PARSONS TRANSPORTATION GROUP GIS, EAGLE AERIAL 2005

500 250 0
Feet

N

Legend
- Right of Way
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- Number of Impacted Eucalyptus Trees
- Number of Eucalyptus Trees Anticipated to be Protected in Place

Exhibit 3 and 4
Alternative 2
Impacted Eucalyptus Trees along the I-10 ROW

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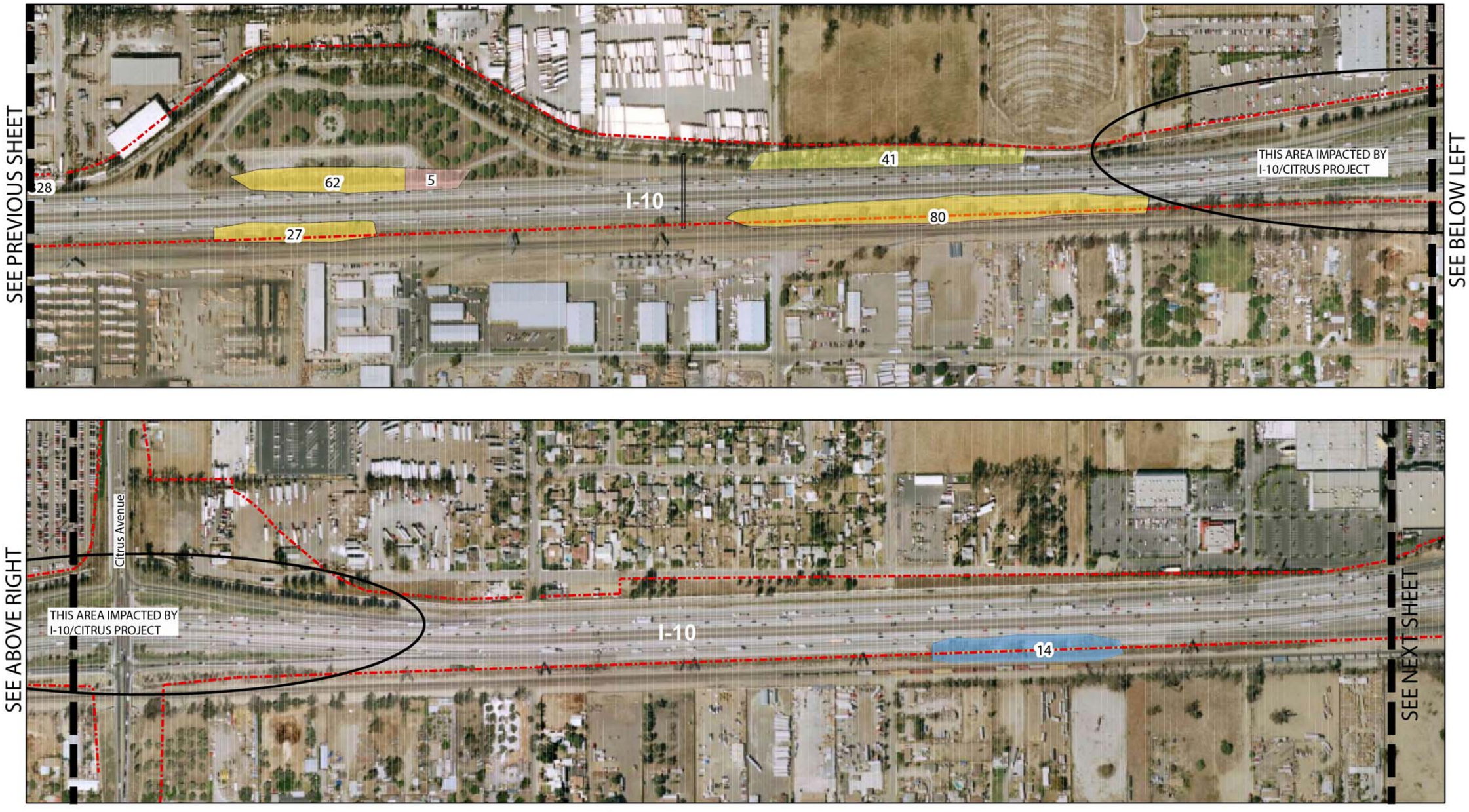

SOURCE: PARSONS TRANSPORTATION GROUP GIS, EAGLE AERIAL 2005

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- Number of Impacted Eucalyptus Trees
- Number of Eucalyptus Trees Anticipated to be Protected in Place

Exhibit 5 and 6
Alternative 2
Impacted Eucalyptus Trees along the I-10 ROW

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Exhibit 7and 8
Alternative 2
Impacted Eucalyptus Trees along the I-10 ROW

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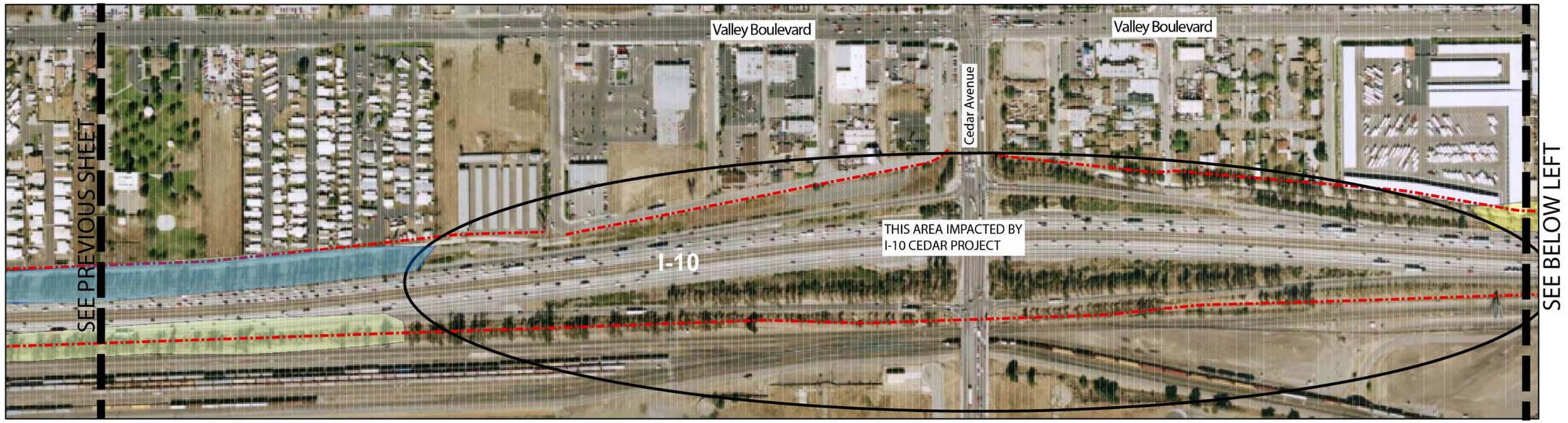

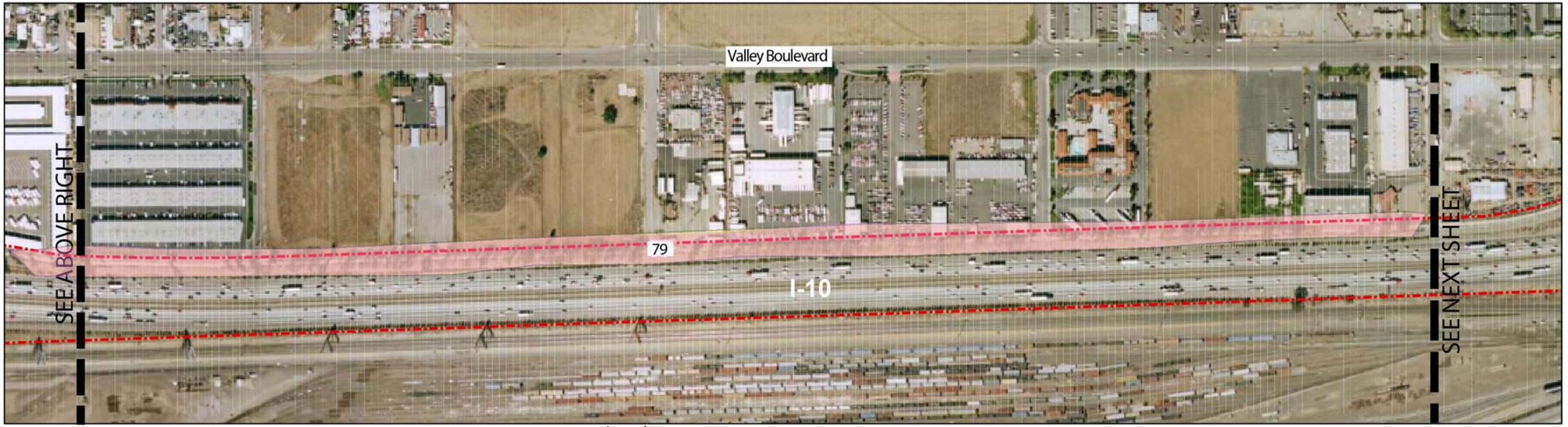

SOURCE: PARSONS TRANSPORTATION GROUP GIS, EAGLE AERIAL 2005

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- Number of Impacted Eucalyptus Trees
- Number of Eucalyptus Trees Anticipated to be Protected in Place

Exhibit 9 and 10
Alternative 2
Impacted Eucalyptus Trees along the I-10 ROW

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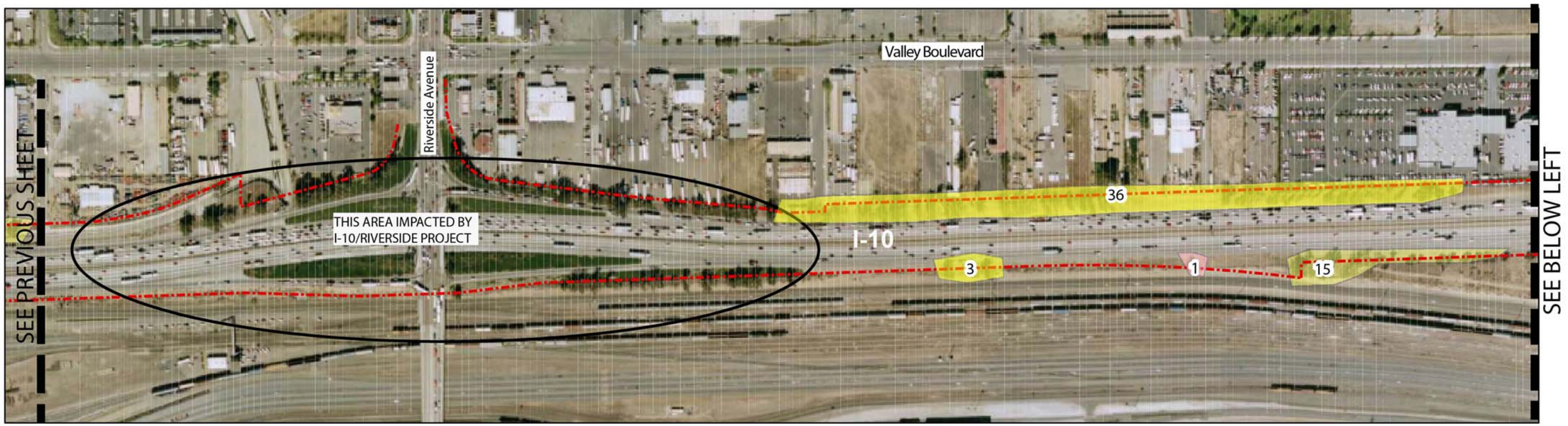

SOURCE: PARSONS TRANSPORTATION GROUP GIS, EAGLE AERIAL 2005

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- Number of Impacted Eucalyptus Trees
- Number of Eucalyptus Trees Anticipated to be Protected in Place

Exhibit 11 and 12
Alternative 2
Impacted Eucalyptus Trees along the I-10 ROW

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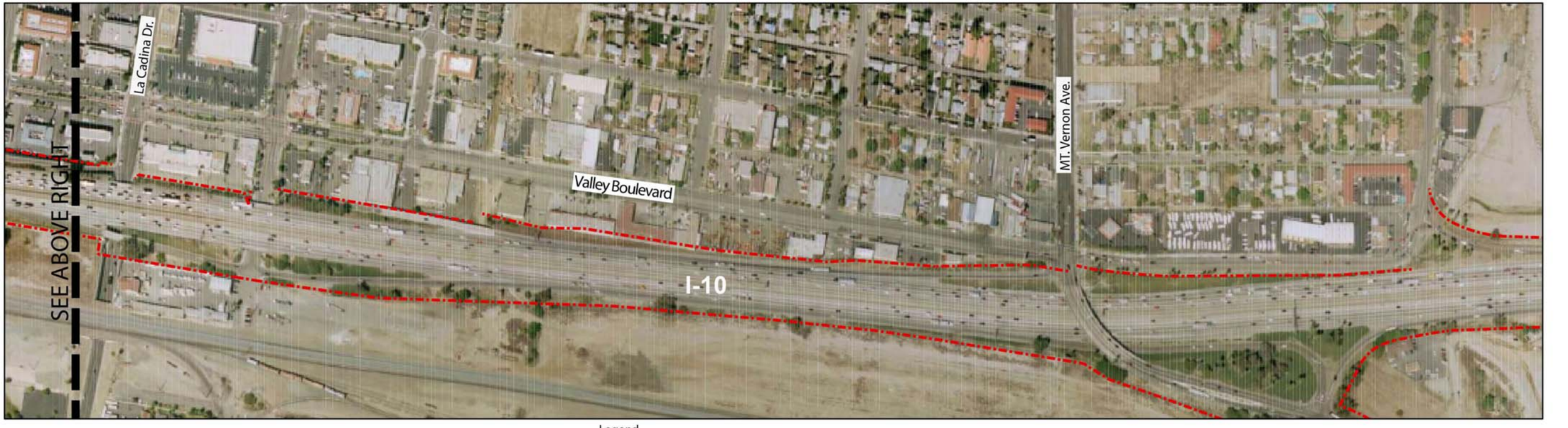

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Legend
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- Possible Impact, Requires Further Study
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- Number of Eucalyptus Trees Anticipated to be Protected in Place
(XX) Indicates a Continuation of Quantities from the Previous Plan View

Exhibit 13 and 14
Alternative 2
Impacted Eucalyptus Trees along the I-10 ROW

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SOURCE: PARSONS TRANSPORTATION GROUP GIS, EAGLE AERIAL 2005

500 250 0 Feet

N

Legend
- Right of Way
- Possible Number of Impacted Eucalyptus Trees, Requires Further Study
- Number of Impacted Eucalyptus Trees
- Number of Eucalyptus Trees Anticipated to be Protected in Place

Exhibit 15 and 16
Alternative 3
Impacted Eucalyptus Trees along the I-10 ROW

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SOURCE: PARSONS TRANSPORTATION GROUP GIS, EAGLE AERIAL 2005

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Legend
- Right of Way
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- Number of Impacted Eucalyptus Trees
- Number of Eucalyptus Trees Anticipated to be Protected in Place

Exhibit 17 and 18
Alternative 3
Impacted Eucalyptus Trees along the I-10 ROW

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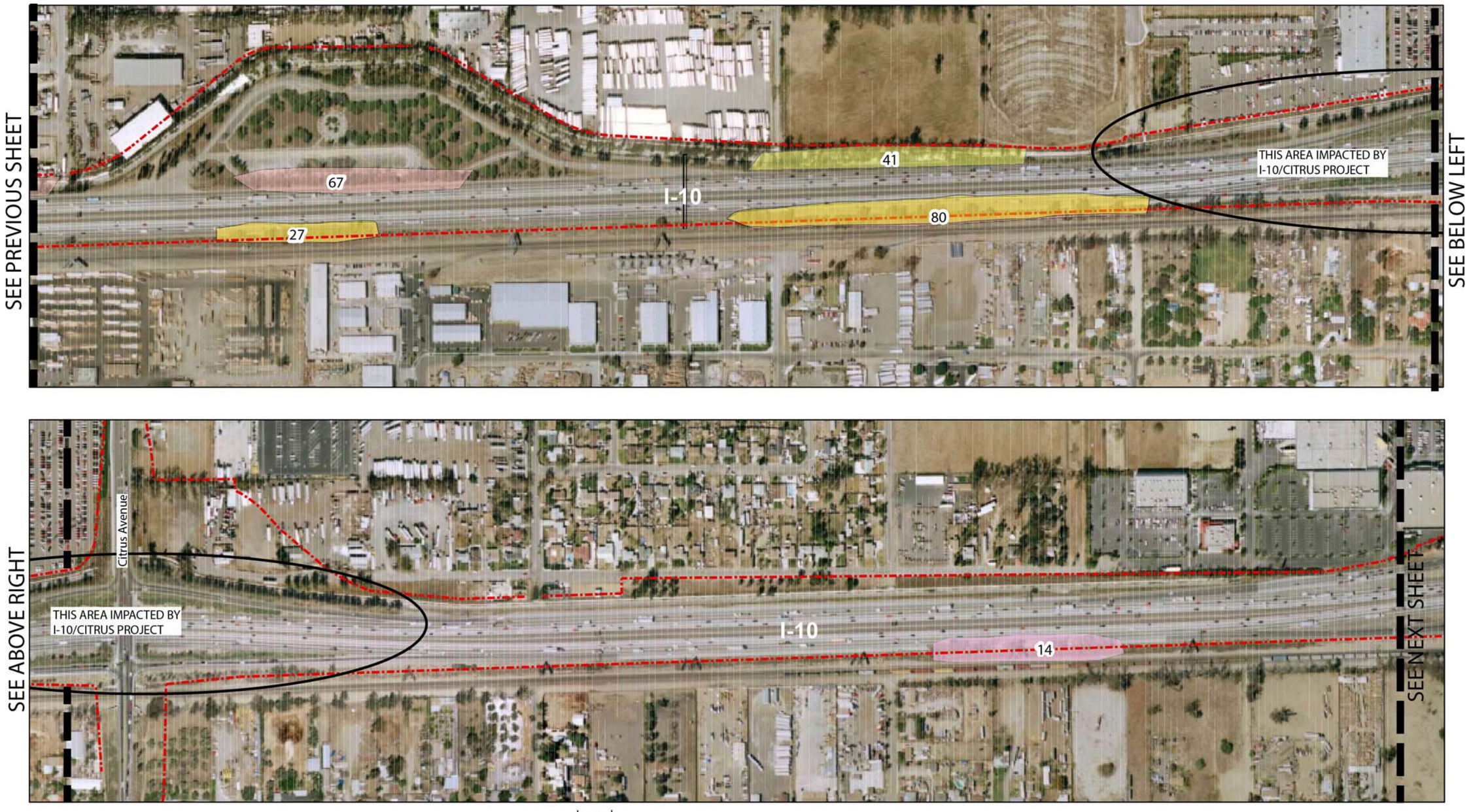

Exhibit 19 and 20
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Impacted Eucalyptus Trees along the I-10 ROW

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Legend
- Right of Way
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- Number of Impacted Eucalyptus Trees
- Number of Eucalyptus Trees Anticipated to be Protected in Place

Exhibit 21and 22
Alternative 3
Impacted Eucalyptus Trees along the I-10 ROW

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SOURCE: PARSONS TRANSPORTATION GROUP GIS, EAGLE AERIAL 2005

500 250 0 Feet

N

Legend
- Right of Way
- Possible Number of Impacted Eucalyptus Trees, Requires Further Study
- Number of Impacted Eucalyptus Trees
- Number of Eucalyptus Trees Anticipated to be Protected in Place

Exhibit 23 and 24
Alternative 3
Impacted Eucalyptus Trees along the I-10 ROW

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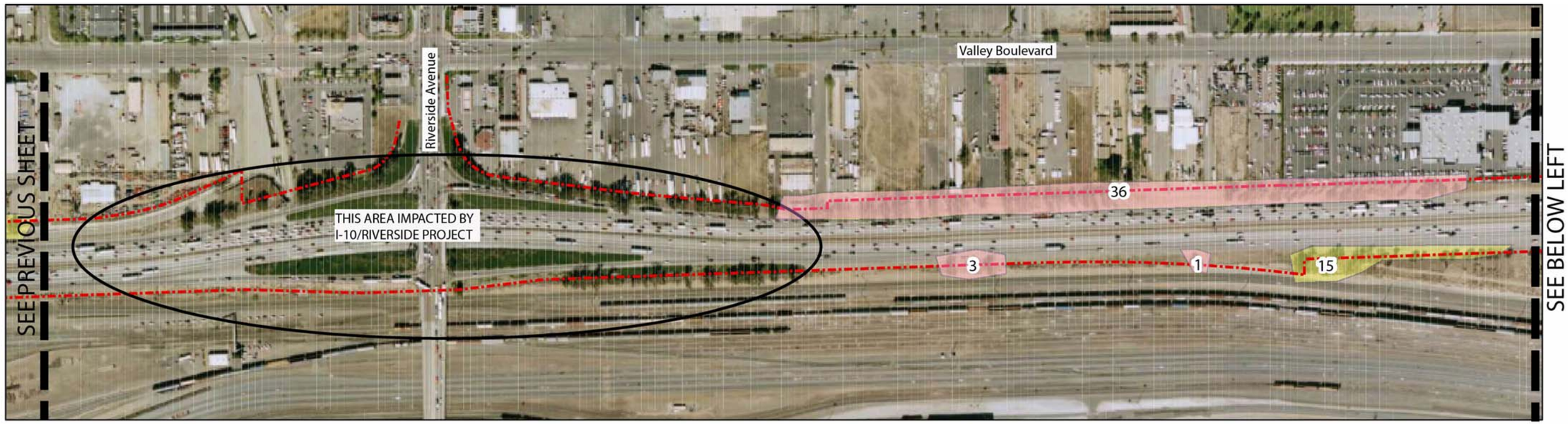

Exhibit 25 and 26
Alternative 3
Impacted Eucalyptus Trees along the I-10 ROW

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SOURCE: PARSONS TRANSPORTATION GROUP GIS, EAGLE AERIAL 2005

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Legend
- Project Study Area
- NUmber of Impacted Eucalyptus Trees
- Number of Eucalyptus Trees Anticipated to be Protected in Place
  (XX) Indicates a Continuation of Quantities from the Previous Plan View

Exhibit 27 and 28
Alternative 3
Impacted Eucalyptus Trees along the I-10 ROW

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Appendix B Alternatives 2 and 3 Proposed Bridge, Retaining and Sound Walls

Table B-1. Summary of Proposed Bridge Work by Alternative

Bridge No.	Interchange or Location	Alternative		Notes	Bridge No.	Interchange or Location	Alternative		Notes
		2	3				2	3	
53-0858	Town Avenue UC		Maintain		54-0835	Slover Mountain (Railroad)	Replace	Replace	
53-0859	San Antonio Avenue UC		Maintain		54-0817	Rancho Avenue OC	Maintain	Maintain	Tie-back walls under bridge
53-0860	Indian Hill Boulevard		Widen	Widen to the outside	54-0464R & 54-0464L	Colton Overhead (Railroad)	Widen	Widen	
53-1019	College Avenue RCB Bridge		Maintain		54-0462	La Cadena Drive UC	Widen	Widen	
54-0453	Mills Avenue UC		Widen	Widen to the outside	54-0462S	La Cadena Drive EB Off-Ramp UC	Widen	Replace	
54-0451	San Antonio Wash Bridge		Widen	Widen to the outside	54-0461	9th Street UC	Widen	Widen	
54-0450	Monte Vista Avenue UC		Replace		54-0460 & 54-0861K	Pavillion Spur Overhead/ 9th Street WB Off-Ramp	Abandon	Abandon	
51-1186	Central Avenue UC		Widen	Widen to the outside	54-0459	Mt. Vernon Avenue OC	Replace	Maintain	Tie-back walls under bridge
54-0448	Benson Avenue UC		Widen	Widen to the outside	54-0830L & 54-0830R	Warm Creek Bridges	Widen	Widen	
54-1187	Mountain Avenue UC		Widen	Widen to the outside	54-0292R & 54-0292L	Santa Ana River Bridges	Widen	Widen	

Table B-1. Summary of Proposed Bridge Work by Alternative

Bridge No.	Interchange or Location	Alternative		Notes	Bridge No.	Interchange or Location	Alternative		Notes
		2	3				2	3	
54-0446	San Antonio Avenue OC		Replace		54-0292G	Santa Ana River Bridge (EB I-10 to NB/SB I-215)	Widen	Maintain	
54-0445	Euclid Avenue OC		Replace		54-0823G	EB I-10 to NB I-215 Connector	Maintain	Maintain	
54-0444	Sultana Avenue OC		Replace		54-0479L & 54-0479R	I-215 Bridge over I-10	Maintain	Maintain	
54-0443	Campus Avenue OC		Replace		54-1064F	WB I-10 to NB I-215 Connector OC	Maintain	Maintain	
54-0442	6th Street OC		Replace		54-0822F	WB I-10 to SB I-215 Connector OC	Maintain	Maintain	
54-1117	West Cucamonga Channel		Widen	Widen to the outside	54-0821F	Sunwest Lane WB On-Ramp	Maintain	Maintain	
54-0441	Grove Avenue UC		Replace		54-0601	Hunts Lane UC	Widen	Widen	
54-0440	4th Street UC		Replace		54-0600	Waterman Avenue UC	Widen	Widen	
54-0439	Vineyard Avenue OC		Replace		54-1105K	San Timoteo Creek (Carnegie Drive WB On-Ramp)	Maintain	Maintain	
54-0438L & 54-0438R	Cucamonga Wash Bridges		Widen	Widen to the outside	54-0599	San Timoteo Creek	Widen	Widen	
54-0437L & 54-0437R	Holt Boulevards Ramp UC		Widen	Widen to the outside	54-0598	Tippecanoe Avenue UC	Widen	Widen	

Table B-1. Summary of Proposed Bridge Work by Alternative

Bridge No.	Interchange or Location	Alternative		Notes	Bridge No.	Interchange or Location	Alternative		Notes
		2	3				2	3	
54-1107	Archibald Avenue Off-Ramp /Holt Boulevard UC		Maintain		54-0597	Richardson Street OC	Replace	Replace	
54-1166	Archibald Avenue OC		Maintain		54-0596	Mountain View Avenue UC	Widen	Widen	Widen to the outside
54-1201L & 54-0560R	Haven Avenue OC	Maintain	Maintain	Tie-back walls under bridge	54-0570	West Redlands Overhead (Railroad UC)	Widen	Widen	Widen to the outside
54-0539	Milliken Ave. OC	Maintain	Maintain	Tie-back walls under bridge	54-0595	California Street UC	Widen	Widen	Widen to the outside
54-0913G	EB I-10 to NB I-15 Connector OC	Maintain	Maintain		54 0594	Nevada Street UC	Widen	Widen	Widen to the outside
54-0908G	NB I-15 to WB I-10 Connector OC	Maintain	Maintain		54-0593	Alabama Street OC	Maintain	Maintain	
54-1065F	WB I-10 to SB I-15 Connector OC	Maintain	Maintain		54-0937G	EB I-210 to WB I-10/ Alabama Street WB Off-ramp	Maintain	Maintain	
54-0909L & 54-0909R	I-15 Bridge over I-10	Maintain	Maintain		54-0938G	EB I-10 to WB I-210 Connector OC	Maintain	Maintain	
54-0914F	WB I-10 to SB I-15 Bridge over Day Canyon Channel	Maintain	Widen		54-0929G	EB I-210 to EB I-10 Connector OC	Maintain	Maintain	
54-0927F	WB I-10 to NB I-15 Bridge over Day Canyon Channel	Maintain	Widen		54-0931H	WB I-10 to WB I-210/ Lugonia Ave UC	Maintain	Maintain	

Table B-1. Summary of Proposed Bridge Work by Alternative

Bridge No.	Interchange or Location	Alternative		Notes	Bridge No.	Interchange or Location	Alternative		Notes
		2	3				2	3	
54-0351	Day Canyon Channel Bridge	Widen	Widen		54-0592	Tennessee Street OC	Replace	Replace	
54-0378 L & R 54-0378S	Etiwanda Wash Bridges & EB Off-Ramp Bridge	Widen	Widen		54-0930F	WB I-10 to WB I-210 over Tennessee Street UC	Maintain	Maintain	
54-0463	Etiwanda Avenue OC	Maintain	Maintain		54-0591	New York Street/Colton Avenue UC	Maintain	Maintain	
54-1214K	Valley Boulevard WB Off-Ramp OC	Maintain	Maintain		5- 0583	Texas Street UC	Maintain	Maintain	
54-0030L & 54-0030R	Valley Boulevard EB On-Ramp UC	Widen	Widen		54-0580	Eureka Street UC	Maintain	Maintain	
54-0454 L & R 54-0454S	Etiwanda San Sevaine Flood Control Channel	Widen	Widen		54-0581	I-10/SR 38 (Orange Avenue)	Maintain	Maintain	
54 0416	Kaiser Spur Overhead (Railroad UC)	Widen	Widen		54-0579	6th Street UC	Reconstruct	Reconstruct	Median area only
54-0434	San Sevaine Creek	Abandon	Abandon		54-0578	Church Street UC	Maintain	Maintain	
54-0425M	Mulberry Creek	Abandon	Abandon		54-0472	Mill Creek Zanja Channel/Redlands OH	Maintain	Maintain	
54-0543	Cherry Avenue OC	Maintain	Maintain		54-0582	University Street UC	Maintain	Maintain	
54-0538	Citrus Avenue OC	Maintain	Maintain		54-0584	Citrus Avenue UC	Reconstruct	Reconstruct	Median area only
54-1280	Cypress Avenue OC	Maintain	Maintain		54-0585	Cypress Avenue UC	Reconstruct	Reconstruct	Median area only
54-1169	Sierra Avenue OC	Maintain	Maintain		54-0586	Palm Avenue UC	Maintain	Maintain	

Table B-1. Summary of Proposed Bridge Work by Alternative

Bridge No.	Interchange or Location	Alternative		Notes	Bridge No.	Interchange or Location	Alternative		Notes
		2	3				2	3	
54-0035	Cedar Avenue OC	Maintain	Maintain	Tie-back walls under bridge	54-0587	Highland Avenue UC	Reconstruct	Reconstruct	Median area only
54-1116	Rialto Channel RCB Bridge	Widen	Widen		54-0588	Ford Street UC	Widen	Widen	Widen to the outside
54-0536	Riverside Avenue OC	Maintain	Maintain		54-0589	Redlands Boulevard Off-Ramp UC	Widen	Widen	Widen to the outside
54-0531	Pepper Avenue OC	Maintain	Maintain						

Table B-2. Alternative 2 Proposed Retaining Walls

Wall No.	Facility	Location	Nearest Interchange	Retaining Walls						
				Length (Ft)	Min Height (Ft)	Max Height (Ft)	Avg Height (Ft)	Area (Sq Ft)	Cut/Fill Wall	Wall Location
RW 1484	Mainline	EB I-10	Milliken	180	4.0	14.0	9.0	1,620	Tie Back	Edge of Shoulder
RW 1562	Mainline/Ramp	EB I-10	I-15	1,587	4	6	5.0	7,935	Fill	Edge of Shoulder
RW 1581	Ramp	Etiwanda EB Off-Ramp	Etiwanda	126	4.0	4.0	4.0	504	Fill	Edge of Shoulder
RW 1618	Ramp/Mainline	Etiwanda EB On-Ramp/ EB-10	Etiwanda	1,169	6.0	12.0	9.0	10,521	Fill	Edge of Shoulder
RW 1851	Mainline	WB I-10	Sierra	318	4.0	12.0	8.0	2,544	Cut	Edge of Shoulder
RW 1850	Mainline	EB I-10	Sierra	555	4.0	16	10	5,550	Cut	Edge of Shoulder
RW 1858	Mainline	EB I-10	Sierra	429	4.0	16	10	4,290	Cut	Edge of Shoulder
RW 1859	Ramp	Sierra WB On-Ramp	Sierra	500	4.0	4.0	4.0	2,000	Cut	Edge of Shoulder
RW 1970	Mainline	EB I-10	Cedar	623	4.0	8.0	6.0	3,738	Cut	Edge of Shoulder
RW 1976	Mainline	EB I-10	Cedar	145	12.0	12.0	12.0	1,740	Tie Back	Edge of Shoulder
RW 1978	Mainline	EB I-10	Cedar	632	4.0	8.0	6.0	3,792	Cut	Edge of Shoulder
RW 1988	Mainline/Ramp	EB I-11	Cedar	2,597	4.0	8.0	6.0	15,582	Cut	Edge of Shoulder
RW 1971	Mainline	WB I-10	Cedar	525	4.0	8.0	6.0	3,150	Cut	Edge of Shoulder
RW 1975	Mainline	WB I-10	Cedar	145	12.0	12.0	12.0	1,740	Cut	Edge of Shoulder
RW 1977	Mainline	WB I-10	Cedar	330	4.0	8.0	6.0	1,980	Cut	Edge of Shoulder
RW 1987	Ramp	Cedar WB Off-Ramp	Cedar	236	4.0	8.0	6.0	1,416	Cut	Edge of Shoulder
RW 2051	Mainline	WB I-10	Riverside	339	4.0	8.0	6.0	2,034	Cut	Edge of Shoulder
RW 2055	Mainline	WB I-10	Riverside	326	4.0	8.0	6.0	1,956	Cut	Edge of Shoulder
RW 2026	Mainline	EB I-10	Riverside	855	4.0	8.0	6.0	5,130	Cut	Edge of Shoulder
RW 2036	Mainline	EB I-10	Riverside	687	4.0	8.0	6.0	4,122	Fill	Edge of Shoulder

Table B-2. Alternative 2 Proposed Retaining Walls

Wall No.	Facility	Location	Nearest Interchange	Retaining Walls						
				Length (Ft)	Min Height (Ft)	Max Height (Ft)	Avg Height (Ft)	Area (Sq Ft)	Cut/Fill Wall	Wall Location
RW 2048	Mainline	EB I-10	Riverside	563	4.0	12.0	8.0	4,504	Fill	Edge of Shoulder
RW 2056	Mainline	EB I-10	Riverside	478	4.0	12.0	8.0	3,824	Cut	Edge of Shoulder
RW 2064	Mainline/Ramp	Riverside EB On-Ramp/ EB I-10	Riverside	1,046	4.0	4.0	4.0	4,184	Fill	Edge of Shoulder
RW 2073	Mainline	WB I-10	Pepper	469	4.0	8.0	6.0	2,814	Cut	Edge of Shoulder
RW 2018	Mainline/Ramp	Pepper EB On-Ramp	Pepper	1,013	4.0	12.0	8.0	8,104	Fill	Edge of Shoulder
RW 2157	Mainline	WB I-10	Rancho	122	4.0	8.0	6.0	732	Cut	Edge of Shoulder
RW 2159	Mainline	WB I-10	Rancho	72	8.0	8.0	8.0	576	Cut	Edge of Shoulder
RW 2161	Mainline	WB I-10	Rancho	670	4.0	8.0	6.0	4,020	Tie Back	Edge of Shoulder
RW 2158	Mainline	EB I-10	Rancho	100	4.0	8.0	6.0	600	Cut	Edge of Shoulder
RW 2160	Mainline	EB I-10	Rancho	73	8.0	8.0	8.0	584	Tie Back	Edge of Shoulder
RW 2162	Mainline	EB I-10	Rancho	174	4.0	8.0	6.0	1,044	Cut	Edge of Shoulder
RW 2163	Ramp	Rancho WB Off-Ramp	Rancho	447	4.0	4.0	4.0	1,788	Fill	Edge of Shoulder
RW 2154	Ramp	Rancho EB Off-Ramp	Rancho	286	4.0	16.0	10.0	2,860	Fill	Edge of Shoulder
RW 2178	Mainline	EB I-10	9th/La Cadena	243	4.0	12.0	8.0	1,944	Fill	Edge of Shoulder
RW 2186	Mainline	EB I-10	9th/La Cadena	799	4.0	26.0	15.0	11,985	Fill	Edge of Shoulder
RW 2194	Mainline	EB I-10	9th/La Cadena	412	4.0	12.0	8.0	3,296	Fill	Edge of Shoulder
RW 2200	Mainline	EB I-10	9th/La Cadena	453	4.0	12.0	8.0	3,624	Fill	Edge of Shoulder
RW 2196	Ramp	9th EB Off-Ramp	9th/La Cadena	323	4.0	18.0	11.0	3,553	Fill	Edge of Shoulder
RW 2202	Ramp	9th EB On-Ramp	9th/La Cadena	661	4.0	8.0	6.0	3,966	Fill	Edge of Shoulder
RW 2208	Mainline/Ramp	9th EB On-Ramp	9th/La Cadena	878	4.0	16.0	10.0	8,780	Fill	Edge of Shoulder

Table B-2. Alternative 2 Proposed Retaining Walls

Wall No.	Facility	Location	Nearest Interchange	Retaining Walls						
				Length (Ft)	Min Height (Ft)	Max Height (Ft)	Avg Height (Ft)	Area (Sq Ft)	Cut/Fill Wall	Wall Location
RW 2209	Mainline	WB I-10	Mt. Vernon	848	4.0	4.0	4.0	3,392	Fill	Edge of Shoulder
RW 2223	Mainline	WB I-10	Mt. Vernon	318	4.0	12.0	8.0	2,544	Cut	Edge of Shoulder
RW 2227	Mainline	WB I-10	Mt. Vernon	69	8.0	12.0	10.0	690	Tie Back	Edge of Shoulder
RW 2229	Mainline	WB I-10	Mt. Vernon	520	4.0	8.0	6.0	3,120	Cut	Edge of Shoulder
RW 2220	Mainline	EB I-10	Mt. Vernon	1,079	4.0	8.0	6.0	6,474	Cut	Edge of Shoulder
RW 2219	Ramp	Mt. Vernon WB On-Ramp	Mt. Vernon	385	4.0	8.0	6.0	2,310	Cut	Edge of Shoulder
RW 2243	Ramp	Sperry WB Off-Ramp	Mt. Vernon	352	4.0	12.0	8.0	2,816	Fill	Edge of Shoulder
RW 2293	Ramp	Sunwest Ln WB On-Ramp	I-215	307	4.0	10.0	7.0	2,149	Cut	Edge of Shoulder
RW 2331	Mainline	WB I-10	Waterman	557	4.0	8.0	6.0	3,342	Fill	Edge of Shoulder
RW 2335	Mainline/Ramp	Carnegie Dr WB On-Ramp/WB I-10	Waterman	753	4.0	12.0	8.0	6,024	Fill	Edge of Shoulder
RW 2347	Mainline	WB I-10	Waterman	171	4.0	4.0	4.0	684	Fill	Edge of Shoulder
RW 2311	Ramp	Waterman WB On-Ramp	Waterman	944	4.0	8.0	6.0	5,664	Fill	Edge of Shoulder
RW 2346	Ramp	Waterman EB On-Ramp	Waterman	246	4.0	8.0	6.0	1,476	Fill	Edge of Shoulder
RW 2353	Mainline/Ramp	Carnegie WB Off-Ramp/WB I-10	Tippecanoe	1,123	4.0	4.0	4.0	4,492	Fill	Edge of Shoulder
RW 2405	Mainline	WB I-10	Tippecanoe	882	4.0	8.0	6.0	5,292	Fill	Edge of Shoulder
RW 2388	Mainline	EB I-10	Tippecanoe	550	4.0	8.0	6.0	3,300	Fill	Edge of Shoulder

Table B-2. Alternative 2 Proposed Retaining Walls

Wall No.	Facility	Location	Nearest Interchange	Retaining Walls						
				Length (Ft)	Min Height (Ft)	Max Height (Ft)	Avg Height (Ft)	Area (Sq Ft)	Cut/Fill Wall	Wall Location
RW 2383	Ramp	Tippecanoe WB Loop On-Ramp	Tippecanoe	219	4.0	4.0	4.0	876	Fill	Edge of Shoulder
RW 2415	Mainline	WB I-10	Mountain View	721	4.0	8.0	6.0	4,326	Fill	Edge of Shoulder
RW 2431	Mainline	WB I-10	Mountain View	891	4.0	8.0	6.0	5,346	Fill	Edge of Shoulder
RW 2443	Mainline	WB I-10	Mountain View	778	4.0	8.0	6.0	4,668	Fill	Edge of Shoulder
RW 2455	Mainline	WB I-10	Mountain View	224	4.0	12.0	8.0	1,792	Fill	Edge of Shoulder
RW 2461	Mainline	WB I-10	Mountain View	1,510	4.0	14.0	9.0	13,590	Fill	Edge of Shoulder
RW 2422	Mainline	EB I-10	Mountain View	363	4.0	4.0	4.0	1,452	Fill	Edge of Shoulder
RW 2434	Mainline	EB I-10	Mountain View	877	4.0	8.0	6.0	5,262	Fill	Edge of Shoulder
RW 2442	Mainline	EB I-10	Mountain View	655	4.0	8.0	6.0	3,930	Fill	Edge of Shoulder
RW 2454	Mainline	EB I-10	Mountain View	465	8.0	12.0	10.0	4,650	Fill	Edge of Shoulder
RW 2483	Mainline	WB I-10	California	923	4.0	12.0	8.0	7,384	Fill	Edge of Shoulder
RW 2495	Mainline	WB I-10	California	527	4.0	12.0	8.0	4,216	Fill	Edge of Shoulder
RW 2507	Mainline	WB I-10	California	1,273	4.0	14.0	9.0	11,457	Fill	Edge of Shoulder
RW 2464	Mainline	EB I-10	California	1,025	4.0	12.0	8.0	8,200	Fill	Edge of Shoulder

Table B-2. Alternative 2 Proposed Retaining Walls

Wall No.	Facility	Location	Nearest Interchange	Retaining Walls						
				Length (Ft)	Min Height (Ft)	Max Height (Ft)	Avg Height (Ft)	Area (Sq Ft)	Cut/Fill Wall	Wall Location
RW 2488	Mainline	EB I-10	California	550	4.0	8.0	6.0	3,300	Fill	Edge of Shoulder
RW 2496	Mainline	EB I-10	California	628	4.0	10.0	7.0	4,396	Fill	Edge of Shoulder
RW 2508	Mainline	EB I-10	California	1,141	4.0	10.0	7.0	7,987	Fill	Edge of Shoulder
RW 2481	Ramp	California WB On-Ramp	California	249	6.0	12.0	9.0	2,241	Fill	Edge of Shoulder
RW 2521	Mainline	WB I-10	Alabama	696	4.0	8.0	6.0	4,176	Fill	Edge of Shoulder
RW 2522	Mainline/Ramp	EB I-10	Alabama	1,311	4.0	8.0	6.0	7,866	Fill	Edge of Shoulder
RW 2562	Ramp	Tennessee EB Off-Ramp	Tennessee	132	4.0	6.0	5.0	659	Cut	Edge of Shoulder
RW 2578	Ramp	Tennessee EB On-Ramp	Tennessee	689	4.0	4.0	4.0	2,756	Fill	Edge of Shoulder
RW 2598	Mainline	EB I-10	Texas	571	4.0	4.0	4.0	2,284	Fill	Edge of Shoulder
RW 2606	Mainline	EB I-10	Texas	307	4.0	4.0	4.0	1,228	Fill	Edge of Shoulder
RW 2729	Mainline/Ramp	WB I-10	Ford	1,495	4.0	12.0	8.0	11,960	Cut	Edge of Shoulder
RW 2745	Mainline	WB I-10	Ford	260	4.0	8.0	6.0	1,560	Fill	Edge of Shoulder
RW 2751	Mainline	WB I-10	Ford	639	4.0	8.0	6.0	3,834	Fill	Edge of Shoulder
RW 2761	Mainline	WB I-10	Ford	125	4.0	4.0	4.0	500	Fill	Edge of Shoulder
RW 2728	Mainline	EB I-10	Ford	1,221	4.0	8.0	6.0	7,326	Fill	Edge of Shoulder
RW 2746	Mainline	EB I-10	Ford	309	4.0	8.0	6.0	1,854	Fill	Edge of Shoulder
RW 2754	Mainline	EB I-10	Ford	110	4.0	4.0	4.0	440	Fill	Edge of Shoulder
RW 2744	Ramp	Ford EB Off-Ramp	Ford	287	4.0	4.0	4.0	1,148	Fill	Edge of Shoulder
TOTAL				51,574				350,559		

Table B-3. Alternative 3 Proposed Retaining Walls

Wall No.	Facility	Location	Nearest Interchange	Retaining Wall Quantities						
				Length (Ft)	Min Height (Ft)	Max Height (Ft)	Avg Height (Ft)	Area (Sq Ft)	Cut/Fill Wall	Wall Location
RW 12	Cross Street	Monte Vista Lt	Monte Vista	440	4.0	4.0	4.0	1,760	Fill	Back of Soundwall
RW 703	Mainline	WB I-10	Indian Hill	372	6.0	16.0	11.0	4,092	Fill	Edge of Shoulder
RW 722	Mainline	EB I-10	Indian Hill	690	8.0	12.0	10.0	6,900	Fill	Edge of Shoulder
RW 1000	Mainline	EB I-10	Indian Hill	1,585	6.0	10.0	8.0	12,680	Fill	Edge of Shoulder
RW 1018	Mainline	EB I-10	Monte Vista	100	6.0	10.0	8.0	800	Fill	Edge of Shoulder
RW 1028	Mainline	EB I-10	Monte Vista	803	6.0	14.0	10.0	8,030	Fill	Edge of Shoulder
RW 1038	Mainline	EB I-10	Monte Vista	271	12.0	12.0	12.0	3,252	Fill	Edge of Shoulder
RW 1031	Mainline	WB I-10	Monte Vista	524	4.0	12.0	8.0	4,192	Fill	Edge of Shoulder
RW 1037	Mainline	WB I-10	Monte Vista	436	4.0	14.0	9.0	3,924	Fill	Edge of Shoulder
RW 1029	Ramp	Monte Vista WB On-Ramp	Monte Vista	196	6.0	8.0	7.0	1,372	Fill	Edge of Shoulder
RW 1039	Ramp	Monte Vista WB Off-Ramp	Monte Vista	263	4.0	10.0	7.0	1,841	Cut	Edge of Shoulder
RW 1041	Ramp	Monte Vista WB Off-Ramp	Monte Vista	199	4.0	4.0	4.0	796	Fill	Edge of Shoulder
RW1024	Ramp	Monte Vista EB Off-Ramp	Monte Vista	248	4.0	4.0	4.0	992	Fill	Edge of Shoulder
RW 1040	Ramp	Monte Vista EB On-Ramp	Monte Vista	160	4.0	6.0	5.0	800	Fill	Edge of Shoulder
RW1053	Mainline	WB I-10	Central	160	6.0	10.0	8.0	1,280	Cut	Edge of Shoulder
RW 1067	Mainline	WB I-10	Central	380	4.0	10.0	7.0	2,660	Fill	Edge of Shoulder
RW 1069	Mainline/Ramp	WB I-10	Central	2,341	6.0	14.0	10.0	23,410	Fill	Edge of Shoulder

Table B-3. Alternative 3 Proposed Retaining Walls

Wall No.	Facility	Location	Nearest Interchange	Retaining Wall Quantities						
				Length (Ft)	Min Height (Ft)	Max Height (Ft)	Avg Height (Ft)	Area (Sq Ft)	Cut/Fill Wall	Wall Location
RW 1066	Mainline	EB I-10	Central	498	4.0	10.0	7.0	3,486	Fill	Edge of Shoulder
RW 1068	Mainline/Ramp	EB I-10	Central	2,440	4.0	14.0	9.0	21,960	Fill	Edge of Shoulder
RW 1057	Ramp	Central WB On-Ramp	Central	549	4.0	14.0	9.0	4,941	Cut	Edge of Shoulder
RW 1094	Mainline	EB I-10	Mountain	2,260	4.0	20.0	12.0	27,120	Fill	Edge of Shoulder
RW 1120	Mainline	EB I-10	Mountain	397	4.0	9.5	7.0	2,779	Fill	Edge of Shoulder
RW 1126	Mainline	EB I-10	Mountain	363	4.0	8.0	6.0	2,178	Fill	Edge of Shoulder
RW 1138	Mainline	EB I-10	Mountain	1,537	4.0	21.0	13.0	19,981	Cut	Edge of Shoulder
RW 1093	Mainline	WB I-10	Mountain	691	6.0	16.0	11.0	7,601	Fill	Edge of Shoulder
RW 1121	Mainline	WB I-10	Mountain	397	4.0	14.0	9.0	3,573	Fill	Edge of Shoulder
RW 1127	Mainline	WB I-10	Mountain	392	4.0	12.0	8.0	3,136	Fill	Edge of Shoulder
RW 1137	Mainline	WB I-10	Mountain	1,525	6.0	26.0	16.0	24,400	Cut	Edge of Shoulder
RW 1130	Ramp	Mountain EB On-Ramp	Mountain	683	4.0	8.0	6.0	4,098	Fill	Edge of Shoulder
RW 11	Cross Street	Sultana Lt	Euclid	110	3.0	5.0	4.0	440	Fill	Back of Soundwall
RW 12	Cross Street	Sultana Rt	Euclid	76	3.0	5.0	4.0	304	Fill	Back of Soundwall
RW 1155	Mainline	WB I-10	Euclid	2,476	20.0	28.0	24.0	59,424	Cut	Edge of Shoulder
RW 1175	Mainline	WB I-10	Euclid	648	9.0	24.0	17.0	11,016	Cut	Edge of Shoulder
RW 1197	Mainline	WB I-10	Euclid	1,356	26.0	30.0	28.0	37,968	Cut	Edge of Shoulder
RW 1213	Mainline	WB I-10	Euclid	1,710	13.0	25.0	19.0	32,490	Cut	Edge of Shoulder
RW 1231	Mainline	WB I-10	Euclid	1131	4.0	12.0	8.0	9,048	Cut	Edge of Shoulder

Table B-3. Alternative 3 Proposed Retaining Walls

Wall No.	Facility	Location	Nearest Interchange	Retaining Wall Quantities						
				Length (Ft)	Min Height (Ft)	Max Height (Ft)	Avg Height (Ft)	Area (Sq Ft)	Cut/Fill Wall	Wall Location
RW 1241	Mainline	WB I-10	Euclid	1,438	4.0	12.0	8.0	11,504	Fill	Edge of Shoulder
RW 1154	Mainline	EB I-10	Euclid	2,713	14.0	28.0	21.0	56,973	Cut	Edge of Shoulder
RW 1178	Mainline	EB I-10		449	4.0	12.0	8.0	3,592	Cut	Edge of Shoulder
RW 1184	Mainline	EB I-10	Euclid	585	5.0	19.0	12.0	7,020	Cut	Edge of Shoulder
RW 1198	Mainline	EB I-10	Euclid	1,407	19.0	21.0	20.0	28,140	Cut	Edge of Shoulder
RW 1214	Mainline	EB I-10	Euclid	1,340	14.0	20.0	17.0	22,780	Cut	Edge of Shoulder
RW 1228	Mainline	EB I-10	Euclid	1,021	6.0	10.0	8.0	8,168	Cut	Edge of Shoulder
RW 1238	Mainline	EB I-10	Euclid	615	4.0	8.0	6.0	3,690	Fill	Edge of Shoulder
RW 1242	Mainline	EB I-10	Euclid	1,476	4.0	12.0	8.0	11,808	Fill	Edge of Shoulder
RW 1191	Ramp	Euclid WB Off-Ramp	Euclid	771	16.0	30.0	23.0	17,733	Cut	Edge of Shoulder
RW 1194	Ramp	Euclid EB On-Ramp	Euclid	439	10.0	21.0	16.0	7,024	Cut	Edge of Shoulder
RW 16	Cross Street	Euclid Rt	Euclid	175	3.0	5.0	4.0	700	Fill	Back of Soundwall
RW 1259	Mainline/Ramp	WB I-10 / 4th WB On-Ramp	4th	1,730	8.0	14.0	11.0	19,030	Fill	Edge of Shoulder
RW 1273	Mainline	WB I-10	4th	503	4.0	22.0	13.0	6,539	Fill	Edge of Shoulder
RW 1279	Mainline	WB I-10	4th	471	4.0	20.0	12.0	5,652	Fill	Edge of Shoulder
RW 1260	Mainline	EB I-10	4th	1,016	10.0	14.0	12.0	12,192	Fill	Edge of Shoulder
RW 1272	Mainline	EB I-10	4th	447	4.0	20.0	12.0	5,364	Fill	Edge of Shoulder
RW 1276	Mainline	EB I-10	4th	319	4.0	22.0	13.0	4,147	Fill	Edge of Shoulder
RW 1278	Ramp/Mainline	4th EB On-Ramp / EB I-10	4th	1,303	4.0	16.0	10.0	13,030	Fill	Edge of Shoulder

Table B-3. Alternative 3 Proposed Retaining Walls

Wall No.	Facility	Location	Nearest Interchange	Retaining Wall Quantities						
				Length (Ft)	Min Height (Ft)	Max Height (Ft)	Avg Height (Ft)	Area (Sq Ft)	Cut/Fill Wall	Wall Location
RW 1283	Ramp	4th WB Off-Ramp	4th	528	4.0	6.0	5.0	2,640	Fill	Edge of Shoulder
RW 223	Cross Street	6th Lt	4th	173	4.0	16.0	10.0	1,730	Fill	Back of Soundwall
RW 229	Cross Street	6th Lt	4th	375	4.0	8.0	6.0	2,250	Fill	Back of Soundwall
RW 224	Cross Street	6th Rt	4th	103	4.0	8.0	6.0	618	Fill	Back of Soundwall
RW 226	Cross Street	6th Rt	4th	102	8.0	12.0	10.0	1,020	Fill	Back of Soundwall
RW 230	Cross Street	6th Rt	4th	394	4.0	14.0	9.0	3,546	Fill	Back of Soundwall
RW 1290	Mainline/Ramp	EB I-10 / Vineyard EB Off-Ramp	Vineyard	2,881	4.0	6.0	5.0	14,405	Fill	Edge of Shoulder
RW 1320	Mainline	EB I-10	Vineyard	158	6.0	12.0	9.0	1,422	Cut	Edge of Shoulder
RW 1324	Mainline	EB I-10	Vineyard	9,794	6.0	20.0	13.0	127,322	Cut	Edge of Shoulder
RW 1332	Mainline	EB I-10	Vineyard	1,477	4.0	6.0	5.0	7,385	Fill	Edge of Shoulder
RW 1325	Ramp	Vineyard WB Off-Ramp	Vineyard	202	10.0	18.0	14.0	2,828	Fill	Edge of Shoulder
RW 327	Cross Street	Vineyard Lt	Vineyard	118	4.0	4.0	4.0	472	Fill	Back of Soundwall
RW 331	Cross Street	Vineyard Lt	Vineyard	217	4.0	4.0	4.0	868	Fill	Back of Soundwall
RW 332	Cross Street	Vineyard Rt	Vineyard	170	4.0	4.0	4.0	680	Fill	Back of Soundwall
RW 1361	Mainline Median	WB I-10	Archibald	1,266	4.0	8.0	6.0	7,596	Fill	Edge of Shoulder
RW 1379	Mainline	WB I-10		648	5.0	8.0	7.0	4,536	Cut	Edge of Shoulder
RW 1380	Mainline	EB I-10	Archibald	560	5.0	19.0	12.0	6,720	Cut	Edge of Shoulder
RW 1421	Mainline	WB I-10	Haven	292	6.0	8.0	7.0	2,044	Cut	Edge of Shoulder

Table B-3. Alternative 3 Proposed Retaining Walls

Wall No.	Facility	Location	Nearest Interchange	Retaining Wall Quantities						
				Length (Ft)	Min Height (Ft)	Max Height (Ft)	Avg Height (Ft)	Area (Sq Ft)	Cut/Fill Wall	Wall Location
RW 1437	Mainline/Ramp	WB I-10	Haven	892	4.0	10.0	7.0	6,244	Cut	Edge of Shoulder
RW 1396	Mainline/Ramp	EB I-10	Haven	2,929	4.0	6.0	5.0	14,645	Fill	Edge of Shoulder
RW 1438	Mainline/Ramp	EB I-10	Haven	2,999	4.0	8.0	6.0	17,994	Fill	Edge of Shoulder
RW 1428	Mainline	WB I-10	Haven	213	4.0	12.0	8.0	1,704	Cut	Edge of Shoulder
RW 1429	Mainline	EB I-10	Haven	227	4.0	8.0	6.0	1,362	Cut	Edge of Shoulder
RW 1484	Mainline	EB I-10	Milliken	230	4.0	14.0	9.0	2,070	Cut	Edge of Shoulder
RW 1512	Connector	E10-S15	I-15	295	8.0	14.0	11.0	3,245	Cut	Edge of Shoulder
RW 1513	Connector	S15-W10	I-15	150	4.0	8.0	6.0	900	Cut	Edge of Shoulder
RW 1536	Connector	N15-E10	I-15	372	6	16	11	4,092	Cut	Edge of Shoulder
RW 1558	Mainline/Ramp	EB I-10	I-15	1,867	4	8	6	11,202	Fill	Edge of Shoulder
RW 1551	Mainline	WB I-10	I-15	484	4	4	4	1,936	Fill	Edge of Shoulder
RW 1611	Mainline	WB I-10	Etiwanda	323	4.0	6.0	5.0	1,615	Fill	Edge of Shoulder
RW 1617	Mainline	WB I-10	Etiwanda	331	7.0	14.0	11.0	3,641	Fill	Edge of Shoulder
RW 1619	Mainline	WB I-10	Etiwanda	4,406	4.0	22.0	13.0	57,278	Fill	Edge of Shoulder
RW 1581	Ramp	Etiwanda EB Off-Ramp	Etiwanda	126	3.0	4.0	4.0	504	Fill	Edge of Shoulder
RW 1614	Ramp/Mainline	Etiwanda EB On-Ramp / EB-10	Etiwanda	1,573	6.0	14.0	10.0	15,730	Fill	Edge of Shoulder
RW 1584	Mainline	I-10 MEDIAN	Etiwanda	205	6.0	7.0	7.0	1,435	Cut	Edge of Shoulder
RW 1594	Mainline	I-10 MEDIAN	Etiwanda	1,328	6.0	14.0	10.0	13,280	Cut	Edge of Shoulder
RW 1610	Mainline	I-10 MEDIAN	Etiwanda	407	6.0	14.0	10.0	4,070	Cut	Edge of Shoulder

Table B-3. Alternative 3 Proposed Retaining Walls

Wall No.	Facility	Location	Nearest Interchange	Retaining Wall Quantities						
				Length (Ft)	Min Height (Ft)	Max Height (Ft)	Avg Height (Ft)	Area (Sq Ft)	Cut/Fill Wall	Wall Location
RW 1644	Mainline	I-10 Median	Etiwanda	1,050	6.0	8.0	7.0	7,350	Cut	Edge of Shoulder
RW 1686	Mainline	EB I-10	Cherry	92	7.0	9.0	8.0	736	Cut	Edge of Shoulder
RW 1713	Mainline	WB I-10	Cherry	3,964	5.0	8.0	7.0	27,748	Fill	Edge of Shoulder
RW 1775	Mainline	WB I-10	Citrus	1,500	6.0	8.0	7.0	10,500	Fill	Edge of Shoulder
RW 1793	Mainline	WB I-10	Citrus	624	4.0	10.0	7.0	4,368	Cut	Edge of Shoulder
RW 1794	Mainline	EB I-10	Citrus	231	4	6	5	1,155	Fill	Edge of Shoulder
RW 1814	Mainline	EB I-10	Citrus	1,630	4	6	5	8,150	Fill	Edge of Shoulder
RW 1830	Mainline	EB I-10	Citrus	1,631	4	6	5	8,155	Fill	Edge of Shoulder
RW 1851	Mainline	WB I-10	Sierra	318	4.0	12.0	8.0	2,544	Cut	Edge of Shoulder
RW 1857	Mainline	WB I-10	Sierra	371	4.0	14.0	9.0	3,339	Cut	Edge of Shoulder
RW 1850	Mainline	EB I-10	Sierra	586	4.0	20	12	7,032	Cut	Edge of Shoulder
RW 1858	Mainline	EB I-10	Sierra	531	4.0	16	10	5,310	Cut	Edge of Shoulder
RW 1859	Ramp	Sierra WB On-Ramp	Sierra	423	4.0	8.0	6.0	2,538	Cut	Edge of Shoulder
RW 1864	Ramp	Sierra EB On-Ramp	Sierra	608	4.0	4.0	4.0	2,432	Fill	Edge of Shoulder
RW 1912	Mainline	EB I-10	Cedar	4,118	4.0	4.0	4.0	16,472	Fill	Edge of Shoulder
RW 1966	Mainline	EB I-10	Cedar	969	4.0	20.0	12.0	11,628	Cut	Edge of Shoulder
RW 1976	Mainline	EB I-10	Cedar	145	18.0	20.0	19.0	2,755	Cut	Edge of Shoulder
RW 1978	Mainline	EB I-10	Cedar	1,199	4.0	18.0	11.0	13,189	Cut	Edge of Shoulder
RW 1986	Mainline/Ramp	EB I-11	Cedar	5,319	4.0	12.0	8.0	42,552	Cut	Edge of Shoulder
RW 1971	Mainline	WB I-10	Cedar	525	4.0	20.0	12.0	6,300	Cut	Edge of Shoulder

Table B-3. Alternative 3 Proposed Retaining Walls

Wall No.	Facility	Location	Nearest Interchange	Retaining Wall Quantities						
				Length (Ft)	Min Height (Ft)	Max Height (Ft)	Avg Height (Ft)	Area (Sq Ft)	Cut/Fill Wall	Wall Location
RW 1975	Mainline	WB I-10	Cedar	145	16.0	20.0	18.0	2,610	Cut	Edge of Shoulder
RW 1977	Mainline	WB I-10	Cedar	330	4.0	16.0	10.0	3,300	Cut	Edge of Shoulder
RW 1983	Mainline/Ramp	WB I-10	Cedar	1,008	4.0	18.0	11.0	11,088	Cut	Edge of Shoulder
RW 2049	Mainline	WB I-10	Riverside	424	4.0	12.0	8.0	3,392	Cut	Edge of Shoulder
RW 2055	Mainline	WB I-10	Riverside	345	4.0	12.0	8.0	2,760	Cut	Edge of Shoulder
RW 2040	Mainline	EB I-10	Riverside	355	4.0	8.0	6.0	2,130	Fill	Edge of Shoulder
RW 2048	Mainline	EB I-10	Riverside	567	4.0	12.0	8.0	4,536	Cut	Edge of Shoulder
RW 2056	Mainline	EB I-10	Riverside	481	4.0	16.0	10.0	4,810	Cut	Edge of Shoulder
RW 2061	Mainline/Ramp	Riverside WB Off-Ramp / WB I-10	Riverside	832	4.0	8.0	6.0	4,992	Fill	Edge of Shoulder
RW 2064	Mainline/Ramp	Riverside EB On-Ramp / EB I-10	Riverside	1,350	4.0	12.0	8.0	10,800	Fill	Edge of Shoulder
RW 2073	Mainline	WB I-10	Pepper	2,811	4.0	20.0	12.0	33,732	Cut	Edge of Shoulder
RW 2111	Ramp	Pepper WB Off-Ramp	Pepper	337	4.0	6.0	5.0	1,685	Fill	Edge of Shoulder
RW 2018	Mainline/Ramp	Pepper EB On-Ramp / EB I-10	Pepper	2,599	4.0	14.0	9.0	23,391	Fill	Edge of Shoulder
RW 2137	Mainline	WB I-10	Rancho	877	4.0	8.0	6.0	5,262	Fill	Edge of Shoulder
RW 2157	Mainline	WB I-10	Rancho	144	4.0	12.0	8.0	1,152	Cut	Edge of Shoulder
RW 2159	Mainline	WB I-10	Rancho	72	8.0	8.0	8.0	576	Cut	Edge of Shoulder
RW 2161	Mainline	WB I-10	Rancho	670	4.0	16.0	10.0	6,700	Cut	Edge of Shoulder
RW 2134	Mainline	EB I-10	Rancho	979	4.0	16.0	10.0	9,790	Fill	Edge of Shoulder

Table B-3. Alternative 3 Proposed Retaining Walls

Wall No.	Facility	Location	Nearest Interchange	Retaining Wall Quantities						
				Length (Ft)	Min Height (Ft)	Max Height (Ft)	Avg Height (Ft)	Area (Sq Ft)	Cut/Fill Wall	Wall Location
RW 2156	Mainline	EB I-10	Rancho	513	4.0	24.0	14.0	7,182	Cut	Edge of Shoulder
RW 2160	Mainline	EB I-10	Rancho	72	8.0	8.0	8.0	576	Cut	Edge of Shoulder
RW 2162	Mainline	EB I-10	Rancho	545	4.0	24.0	14.0	7,630	Cut	Edge of Shoulder
RW 2163	Ramp	Rancho WB Off-Ramp	Rancho	563	4.0	12.0	8.0	4,504	Fill	Edge of Shoulder
RW 2150	Ramp	Rancho EB Off-Ramp	Rancho	169	4.0	8.0	6.0	1,014	Cut	Edge of Shoulder
RW 2154	Ramp	Rancho EB Off-Ramp	Rancho	451	4.0	10.0	7.0	3,157	Fill	Edge of Shoulder
RW 2169	Mainline	WB I-10	9th/La Cadena	1,234	4.0	26.0	15.0	18,510	Fill	Edge of Shoulder
RW 2178	Mainline	EB I-10	9th/La Cadena	224	4.0	12.0	8.0	1,792	Fill	Edge of Shoulder
RW 2186	Mainline	EB I-10	9th/La Cadena	805	4.0	30.0	17.0	13,685	Fill	Edge of Shoulder
RW 2194	Mainline	EB I-10	9th/La Cadena	378	4.0	14.0	9.0	3,402	Fill	Edge of Shoulder
RW 2200	Mainline	EB I-10	9th/La Cadena	580	4.0	16.0	10.0	5,800	Fill	Edge of Shoulder
RW 2196	Ramp	9th EB Off-Ramp	9th/La Cadena	323	4.0	22.0	13.0	4,199	Fill	Edge of Shoulder
RW 2202	Ramp	9th EB On-Ramp	9th/La Cadena	746	4.0	28.0	16.0	11,936	Fill	Edge of Shoulder
RW 2208	Mainline/Ramp	9th EB On-Ramp	9th/La Cadena	972	4.0	22.0	13.0	12,636	Fill	Edge of Shoulder
RW 2209	Mainline	WB I-10	Mt. Vernon	656	4.0	4.0	4.0	2,624	Fill	Edge of Shoulder
RW 2223	Mainline	WB I-10	Mt. Vernon	400	4.0	16.0	10.0	4,000	Cut	Edge of Shoulder
RW 2227	Mainline	WB I-10	Mt. Vernon	79	8.0	12.0	10.0	790	Cut	Edge of Shoulder
RW 2229	Mainline	WB I-10	Mt. Vernon	1,062	4.0	8.0	6.0	6,372	Cut	Edge of Shoulder

Table B-3. Alternative 3 Proposed Retaining Walls

Wall No.	Facility	Location	Nearest Interchange	Retaining Wall Quantities						
				Length (Ft)	Min Height (Ft)	Max Height (Ft)	Avg Height (Ft)	Area (Sq Ft)	Cut/Fill Wall	Wall Location
RW 2218	Mainline	EB I-10	Mt. Vernon	1,079	4.0	8.0	6.0	6,474	Cut	Edge of Shoulder
RW 2219	Ramp	Mt. Vernon WB On-Ramp	Mt. Vernon	556	4.0	10.0	7.0	3,892	Cut	Edge of Shoulder
RW 2241	Ramp	Sperry WB Off-Ramp	Mt. Vernon	587	4.0	16.0	10.0	5,870	Fill	Edge of Shoulder
RW 2240	Mainline/Ramp	Mt. Vernon EB On-Ramp/EB I-10	Mt. Vernon	617	4.0	12.0	8.0	4,936	Fill	Edge of Shoulder
RW 2250	Mainline	EB I-10	Route 215	578	4.0	4.0	4.0	2,312	Cut	Edge of Shoulder
RW 2269	Connector	S215-W10 Connector	Route 215	150	4.0	8.0	6.0	900	Fill	Edge of Shoulder
RW 2297	Mainline	WB I-10	I-215	190	4.0	4.0	4.0	760	Cut	Edge of Shoulder
RW 2293	Ramp	Sunwest Ln WB On-Ramp	I-215	438	4.0	10.0	7.0	3,066	Cut	Edge of Shoulder
RW 2300	Connector	S215-E10	I-215	748	4.0	12.0	8.0	5,983	Fill	Edge of Shoulder
RW 2327	Mainline	WB I-10	Waterman	557	4.0	14.0	9.0	5,013	Fill	Edge of Shoulder
RW 2335	Mainline/Ramp	Carnegie Dr WB On-Ramp/WB I-10	Waterman	857	4.0	20.0	12.0	10,284	Fill	Edge of Shoulder
RW 2345	Mainline	WB I-10	Waterman	182	4.0	8.0	6.0	1,091	Fill	Edge of Shoulder
RW 2347	Mainline	WB I-10	Waterman	253	4.0	12.0	8.0	2,021	Fill	Edge of Shoulder
RW 2309	Ramp	Waterman WB On-Ramp	Waterman	944	4.0	10.0	7.0	6,608	Fill	Edge of Shoulder
RW 2349	Ramp	Carnegie WB Off-Ramp	Waterman	127	4.0	4.0	4.0	510	Cut	Edge of Shoulder

Table B-3. Alternative 3 Proposed Retaining Walls

Wall No.	Facility	Location	Nearest Interchange	Retaining Wall Quantities						
				Length (Ft)	Min Height (Ft)	Max Height (Ft)	Avg Height (Ft)	Area (Sq Ft)	Cut/Fill Wall	Wall Location
RW 2346	Ramp	Waterman EB On-Ramp	Waterman	365	4.0	8.0	6.0	2,190	Fill	Edge of Shoulder
RW 2353	Mainline/Ramp	Carnegie WB Off-Ramp/WB I-10	Tippecanoe	2,618	4.0	8.0	6.0	15,708	Fill	Edge of Shoulder
RW 2405	Mainline	WB I-10	Tippecanoe	1,011	4.0	12.0	8.0	8,086	Fill	Edge of Shoulder
RW 2388	Mainline	EB I-10	Tippecanoe	780	4.0	10.0	7.0	5,458	Fill	Edge of Shoulder
RW 2372	Ramp	Tippecanoe EB Off-Ramp	Tippecanoe	631	8.0	10.0	9.0	5,675	Fill	Edge of Shoulder
RW 2383	Ramp	Tippecanoe WB Loop On-Ramp	Tippecanoe	321	4.0	6.0	5.0	1,603	Fill	Edge of Shoulder
RW 2415	Mainline/Ramp	WB I-10	Mountain View	1,356	6.0	10.0	8.0	10,848	Fill	Edge of Shoulder
RW 2431	Mainline	WB I-10	Mountain View	891	4.0	10.0	7.0	6,237	Fill	Edge of Shoulder
RW 2443	Mainline	WB I-10	Mountain View	779	4.0	10.0	7.0	5,453	Fill	Edge of Shoulder
RW 2445	Mainline/Ramp	WB I-10	Mountain View	1,352	10.0	14.0	12.0	16,224	Fill	Edge of Shoulder
RW 2461	Mainline	WB I-10	Mountain View	1,502	14.0	16.0	15.0	22,530	Fill	Edge of Shoulder
RW 2422	Mainline	EB I-10	Mountain View	665	4.0	8.0	6.0	3,990	Fill	Edge of Shoulder
RW 2434	Mainline	EB I-10	Mountain View	877	4.0	10.0	7.0	6,139	Fill	Edge of Shoulder
RW 2442	Mainline	EB I-10	Mountain View	721	4.0	12.0	8.0	5,768	Fill	Edge of Shoulder
RW 2444	Mainline/Ramp	EB I-10	Mountain View	1,587	8.0	16.0	12.0	19,044	Fill	Edge of Shoulder
RW 2429	Ramp	Mountain View WB On-Ramp	Mountain View	1,115	4.0	6.0	5.0	5,575	Fill	Edge of Shoulder
RW 2432	Ramp	Mountain View EB Off-Ramp	Mountain View	534	10.0	14.0	12.0	6,409	Fill	Edge of Shoulder

Table B-3. Alternative 3 Proposed Retaining Walls

Wall No.	Facility	Location	Nearest Interchange	Retaining Wall Quantities						
				Length (Ft)	Min Height (Ft)	Max Height (Ft)	Avg Height (Ft)	Area (Sq Ft)	Cut/Fill Wall	Wall Location
RW 2483	Mainline	WB I-10	California	1,082	4.0	12.0	8.0	8,656	Fill	Edge of Shoulder
RW 2495	Mainline	WB I-10	California	528	6.0	16.0	11.0	5,808	Fill	Edge of Shoulder
RW 2499	Mainline/Ramp	WB I-10	California	2,167	6.0	14.0	10.0	21,670	Fill	Edge of Shoulder
RW 2464	Mainline	EB I-10	California	2,072	4.0	12.0	8.0	16,576	Fill	Edge of Shoulder
RW 2486	Mainline	EB I-10	California	723	4.0	8.0	6.0	4,338	Fill	Edge of Shoulder
RW 2496	Mainline	EB I-10	California	664	4.0	10.0	7.0	4,648	Fill	Edge of Shoulder
RW 2498	Mainline/Ramp	EB I-10	California	2,153	4.0	10.0	7.0	15,071	Fill	Edge of Shoulder
RW 2484	Ramp	California EB Off-Ramp	California	339	6.0	12.0	9.0	3,051	Fill	Edge of Shoulder
RW 2481	Ramp	California WB On-Ramp	California	1,328	4.0	12.0	8.0	10,624	Fill	Edge of Shoulder
RW 2521	Mainline	WB I-10	Alabama	697	4.0	12.0	8.0	5,576	Fill	Edge of Shoulder
RW 2522	Mainline/Ramp	EB I-10	Alabama	1,903	4.0	12.0	8.0	15,224	Fill	Edge of Shoulder
RW 2562	Ramp	Tennessee EB Off-Ramp	Tennessee	132	4.0	6.0	5.0	659	Cut	Edge of Shoulder
RW 2578	Ramp	Tennessee EB On-Ramp	Tennessee	708	4.0	4.0	4.0	2,832	Fill	Edge of Shoulder
RW 2598	Mainline	EB I-10	Texas	571	4.0	4.0	4.0	2,284	Fill	Edge of Shoulder
RW 2606	Mainline	EB I-10	Texas	307	4.0	4.0	4.0	1,228	Fill	Edge of Shoulder
RW 2729	Mainline/Ramp	WB I-10	Ford	1,495	4.0	12.0	8.0	11,960	Cut	Edge of Shoulder
RW 2745	Mainline	WB I-10	Ford	260	4.0	8.0	6.0	1,560	Fill	Edge of Shoulder
RW 2751	Mainline	WB I-10	Ford	639	4.0	8.0	6.0	3,834	Fill	Edge of Shoulder

Table B-3. Alternative 3 Proposed Retaining Walls

Wall No.	Facility	Location	Nearest Interchange	Retaining Wall Quantities						
				Length (Ft)	Min Height (Ft)	Max Height (Ft)	Avg Height (Ft)	Area (Sq Ft)	Cut/Fill Wall	Wall Location
RW 2761	Mainline	WB I-10	Ford	125	4.0	4.0	4.0	500	Fill	Edge of Shoulder
RW 2728	Mainline	EB I-10	Ford	1,221	4.0	8.0	6.0	7,326	Fill	Edge of Shoulder
RW 2746	Mainline	EB I-10	Ford	309	4.0	8.0	6.0	1,854	Fill	Edge of Shoulder
RW 2754	Mainline	EB I-10	Ford	110	4.0	4.0	4.0	440	Fill	Edge of Shoulder
RW 2744	Ramp	Ford EB Off-Ramp	Ford	287	4.0	4.0	4.0	1,148	Fill	Edge of Shoulder
Total Retaining Wall Quantities for Alternative 3				179,871				1,731,131		

Table B-4. Anticipated Sound Wall Locations and Heights for Alternatives 2 and 3

Sound-Wall No.	Side of Freeway		Soundwall Location and Side of Highway	Alternative		Approx. Wall Height, (Feet)	Approx. Wall Length, (Feet)
	EB	WB		2	3		
SW634	X		Along edge of pavement on I-10 mainline, Top of retaining wall and structure of the Towne Avenue Over-Crossing		X	14	1,120
SW635		X	Along edge of pavement on I-10 mainline, Top of retaining wall of the Towne Avenue Over-Crossing		X	14	336
SW636	X		Along edge of pavement of off-ramp from Towne Avenue, then transitions on top of retaining wall along I-10 mainline before San Antonio Avenue		X	14	1,028
SW639		X	Along edge of pavement of off-ramp to Towne Avenue, Before San Antonio Avenue		X	14	1,056
SW648	X		Along edge of pavement on I-10 mainline, in the area of San Antonio Avenue		X	14	193
SW649		X	Along edge of pavement on I-10 mainline, in the area of San Antonio Avenue		X	14	189
SW650	X		Along edge of pavement on I-10 mainline, Between San Antonio Avenue and Indian Hill Blvd		X	12,14	2,703
SW651		X	Along edge of pavement on I-10 mainline, Between San Antonio Avenue and Indian Hill Blvd		X	14	4,690
S699	X		Along edge of pavement on I-10 mainline, Between Bucknell Avenue and Indian Hill Blvd		X	16,18 and 20	450
SW708	X		At edge of ROW line, between Indian Hill Avenue and College Avenue		X	16	794
SW716	X		At edge of ROW line, in the area of College Avenue		X	14	133
SW715		X	Along edge of pavement on I-10 mainline, Between Indian Hill Avenue and approximately Cumberland Place		X	14	913
SW725		X	Along edge of pavement on I-10 mainline, Between Cumberland Place and Mills Avenue		X	14	691
SW1		X	Along edge of pavement on I-10 mainline, Between Mills Avenue and approximately Felipe Avenue		X	14	1,830
SW2	X		Along edge of pavement on I-10 mainline, in the area of Mills Avenue		X	14	508
SW6	X		Along edge of pavement on I-10 mainline, in the area of Ramona Avenue		X	14	440

Table B-4. Anticipated Sound Wall Locations and Heights for Alternatives 2 and 3

Sound-Wall No.	Side of Freeway		Soundwall Location and Side of Highway	Alternative		Approx. Wall Height, (Feet)	Approx. Wall Length, (Feet)
	EB	WB		2	3		
SW10	X		Along edge of pavement on I-10 mainline, Between Ramona Avenue and approximately Camulos Avenue		X	14	986
SW22	X		At edge of ROW line, Between Helena Avenue and Monte Vista Avenue		X	12	1,356
SW30	X		Along edge of pavement on I-10 mainline, Between Tudor Avenue and Monte Vista Avenue		X	12	655
SW29		X	Along edge of pavement of on-ramp from Monte Vista Avenue		X	16	197
SW23		X	Along edge of pavement of on-ramp from Monte Vista Avenue		X	16	1,162
SW66	X		Along edge of pavement on I-10 mainline, in area of Central Avenue		X	14	452
SW68	X		Along edge of pavement on I-10 mainline, in the area of Central Avenue		X	10	334
SW94	X		Along edge of pavement on I-10 mainline, Between Central Avenue and approximately Mountain Avenue		X	8,12 and 14	4,596
S1117		X	At edge of ROW line, in the area of Mountain Avenue		X	12	222
SW136	X		At edge of ROW line, Between Palmetto Avenue and Barlow Way		X	14	350
SW140	X		At edge of ROW line, Between Palmetto Avenue and San Antonio Avenue		X	14	1,378
SW143		X	At edge of ROW line, Between Barlow Way and San Antonio Avenue		X	10	1,121
SW154	X		At edge of ROW line, Between San Antonio Avenue and Euclid Avenue		X	8,12 and 14	2,800
SW157		X	At edge of ROW line, Between San Antonio Avenue and approximately White Avenue		X	8,10	2,176
S1190		X	At edge of ROW line, Between Euclid Avenue and Sultana Avenue		X	8,10 and 12	873
SW198	X		At edge of ROW line, Between Sultana Avenue and Campus Avenue		X	13	1,373
SW201		X	At edge of ROW line, Between Sultana Avenue and Campus Avenue		X	13	1,362
SW212	X		At edge of ROW line, Between Campus Avenue and 6th Street		X	14	1,241
SW213		X	At edge of ROW line, Between Campus Avenue and 6th Street		X	13	1,716
SW230	X		At edge of ROW line, Between Allyn Avenue and La Paloma Avenue		X	14,16	1,317
S1244	X		Along edge of pavement on I-10 mainline, in area of La Paloma Avenue		X	14	175

Table B-4. Anticipated Sound Wall Locations and Heights for Alternatives 2 and 3

Sound-Wall No.	Side of Freeway		Soundwall Location and Side of Highway	Alternative		Approx. Wall Height, (Feet)	Approx. Wall Length, (Feet)
	EB	WB		2	3		
SW246	X		Along edge of pavement on I-10 mainline, in the area of Cucamonga Avenue		X	14	599
SW231		X	At edge of ROW line, in the area of 6th Street		X	14	1,178
SW245		X	At edge of ROW line, in the area of 6th Street to Grove Avenue		X	14	1,474
S1262	X		Along edge of pavement on I-10 mainline, in the area of Grove Avenue		X	14	297
S1266	X		Along edge of pavement on I-10 mainline, in the area of 4th Street		X	12	484
SW259		X	Along edge of pavement on I-10 mainline, and on the on-ramp of 4th Street		X	14	854
SW275		X	Along edge of pavement on I-10 mainline, in the area of 4th Street		X	14	899
S1285		X	At edge of ROW line, in the area of 4th Street		X	14	407
S1276	X		Along edge of pavement on I-10 mainline, in the area of 4th Street		X	8	216
SW278	X		Along edge of pavement on I-10 mainline, Between Glen Ave and I Street		X	14,16	1,840
S1306	X		Along edge of pavement on I-10 mainline, Between I Street and Vineyard Avenue		X	8,10,12 and 14	2,448
SW296		X	At edge of ROW, Between Mariposa Avenue and approximately Vineyard Avenue		X	14	2,256
S21		X	Along Vineyard Avenue on-ramp		X	12	464
SW334	X		Along edge of pavement on I-10 mainline, in the area of Vineyard Avenue		X	14	580
SW697		X	At edge of ROW line, between Cherry Avenue to approximately Beech Avenue	X		14	4,651
SW697		X	At edge of ROW line and then in runs into properties along ROW line, between Cherry Avenue to approximately Beech Avenue		X	14	4,649
S1749		X	At edge of ROW, in area of Beech Avenue	X		12	200
S1819		X	At edge of ROW line, between Citrus off-ramp to approximately Cypress Avenue	X		12,14 and 16	1,898

Table B-4. Anticipated Sound Wall Locations and Heights for Alternatives 2 and 3

Sound-Wall No.	Side of Freeway		Soundwall Location and Side of Highway	Alternative		Approx. Wall Height, (Feet)	Approx. Wall Length, (Feet)
	EB	WB		2	3		
S1819		X	At edge of ROW line, between Citrus off-ramp to approximately Cypress Avenue		X	12,14	2,055
S1833		X	At edge of ROW line, between Cypress Avenue and west of Juniper Avenue	X		14,16	691
S1833		X	At edge of ROW line, between Cypress Avenue and west of Juniper Avenue		X	12,14	810
S1877		X	At edge of ROW, immediately east of Sierra Avenue WB off-ramp	X		16	1,502
S1877		X	At edge of ROW, immediately east of Sierra Avenue WB off-ramp		X	14	1,502
S1907		X	At edge of ROW, from approximately west of Alder Avenue to approximately Linden Avenue	X		12,14,and 16	5,359
S1907		X	At edge of ROW, from approximately west of Alder Avenue to approximately Linden Avenue		X	12,14,and 16	5,288
SW1		X	At edge of ROW, from approximately east of Locus Avenue to approximately Linden Avenue	X	X	16	1,811
S1969		X	At edge of ROW and then transitions to edge of shoulder, from approximately Orchard Street to east of Magnolia Street	X		12	354
S1969		X	At edge of ROW, from approximately Orchard Street to east of Magnolia Street		X	12	279
SW4		X	At edge of ROW, from Vine Street to Larch Avenue	X	X	14	635
S2023		X	At edge of ROW, in area of Willow Avenue	X	X	20	444
S2079		X	At edge of ROW, in area of Acacia Avenue	X		16	729
S2079		X	At edge of ROW, in area of Acacia Avenue		X	18	851
SW-B5		X	From off-ramp at Rancho Avenue to approximately Colton Spur RR UC of I-10 mainline	X	X	13	1,787
S2382	X		On top of retaining wall along off-ramp on Tippecanoe Avenue	X		12	792
S2382	X		On top of retaining wall along off-ramp on Tippecanoe Avenue		X	12	837
S2384	X		At edge of ROW, Along Tippecanoe Avenue off-ramp	X		16	394
S2384	X		At edge of ROW, Along Tippecanoe Avenue off-ramp		X	14	394

Table B-4. Anticipated Sound Wall Locations and Heights for Alternatives 2 and 3

Sound-Wall No.	Side of Freeway		Soundwall Location and Side of Highway	Alternative		Approx. Wall Height, (Feet)	Approx. Wall Length, (Feet)
	EB	WB		2	3		
SW241		X	Along edge of property line, approximately South Tippecanoe Avenue and West of South Richardson Street	X	X	14	694
SW264		X	Along edge of property line, approximately South Richardson Street to Elm Avenue	X	X	16	1,845
S2435		X	At edge of ROW, Between Elm Avenue and Mountain View Avenue	X		10	469
S2435		X	At edge of ROW, Between Elm Avenue and Mountain View Avenue	X	X	14	469
S2437		X	Along edge of pavement on I-10 mainline, in the area of Mountain View Avenue	X		14	1,016
S2437		X	Along edge of pavement on I-10 mainline, in the area of Mountain View Avenue		X	14	971
S2438	X		Along edge of pavement on I-10 mainline, in the area of Mountain View Avenue	X		12,14	1,262
S2438	X		Along edge of pavement on I-10 mainline, in the area of Mountain View Avenue		X	12	1,201
S2434A	X		At edge of ROW, in the area of Mountain View Avenue	X		12,14 and 16	1,418
S2434A	X		At edge of ROW, in the area of Mountain View Avenue		X	12,14 and 16	1,418
S2476	X		At edge of shoulder, approximately west of Bryn Mawr Avenue to west of California Street		X	12,14	1,957
S2476	X		At edge of shoulder, approximately west of Bryn Mawr Avenue to west of California Street	X		12,14	2,098
S2619		X	At edge of shoulder, along Orange Street on-ramp and I-10 mainline		X	10,12 and 14	2,300
S2638	X		Along edge of pavement on I-10 mainline, between the Orange Street OC and 6th Street on-ramp	X	X	12	1,241
S2654	X		Along edge of pavement on I-10 mainline, from the 6th Street on-ramp to SW158	X	X	10,12	2,804
SW149		X	Along edge of pavement on I-10 mainline, from the 6th Street off-ramp to Church Street OC	X	X	14	1,495

Table B-4. Anticipated Sound Wall Locations and Heights for Alternatives 2 and 3

Sound-Wall No.	Side of Freeway		Soundwall Location and Side of Highway	Alternative		Approx. Wall Height, (Feet)	Approx. Wall Length, (Feet)
	EB	WB		2	3		
SW499		X	Along edge of pavement on I-10 mainline, Church Street OC	X	X	14	224
SW153		X	Along edge of pavement on I-10 mainline, from Church Street OC to Park Avenue	X	X	14	558
SW509		X	Along edge of pavement on I-10 mainline, over-crossing between SW153 and SW157	X	X	14	472
SW157		X	Along edge of pavement on I-10 mainline, from Park Avenue to University Street on-ramp	X	X	14	1,106
SW158	X		Along edge of pavement on I-10 mainline and University Street off-ramp	X	X	12	1,274
SW159		X	Along edge of pavement on I-10 mainline, from University Street on-ramp gore to University Street OC	X	X	14	257
SW523		X	Along edge of pavement on I-10 mainline, University Street OC	X	X	14	216
SW161		X	Along edge of pavement on I-10 mainline, from University Street OC to Citrus Avenue OC	X	X	14	537
SW531		X	Along edge of pavement on I-10 mainline, Citrus Avenue OC	X	X	14	321
SW163		X	Along edge of pavement on I-10 mainline, from Citrus Avenue OC to Cypress Avenue OC	X	X	14	264
SW537		X	Along edge of pavement on I-10 mainline, Cypress Avenue OC	X	X	14	196
SW165		X	Along edge of pavement on I-10 mainline, Cypress Avenue OC to Cypress Avenue off-ramp gore	X	X	14	405
SW160	X		Along edge of pavement on I-10 mainline, from University Street OC to Citrus Avenue OC	X	X	14	202
SW530	X		Along edge of pavement on I-10 mainline, Citrus Avenue OC	X	X	14	376
SW162	X		Along edge of pavement on I-10 mainline, from Citrus Avenue OC to Cypress Avenue OC	X	X	14	379
SW536	X		Along edge of pavement on I-10 mainline, Cypress Avenue OC	X	X	14	198

Table B-4. Anticipated Sound Wall Locations and Heights for Alternatives 2 and 3

Sound-Wall No.	Side of Freeway		Soundwall Location and Side of Highway	Alternative		Approx. Wall Height, (Feet)	Approx. Wall Length, (Feet)
	EB	WB		2	3		
SW164	X		Along edge of pavement on I-10 mainline, from Cypress Avenue OC to Cypress Avenue on-ramp gore	X	X	14	497
SW166	X		Along edge of pavement of the Cypress Avenue on-ramp and I-10 mainline to the Palm Avenue OC	X	X	14	757
SW550	X		Along edge of pavement on I-10 mainline, Palm Avenue OC	X	X	14	180
SW170	X		Along edge of pavement on I-10 mainline, from the Palm Avenue OC to the Highland Avenue OC	X	X	14	1,145
SW564	X		Along edge of pavement on I-10 mainline, Highland Avenue OC	X	X	14	179
SW172	X		Along edge of pavement on I-10 mainline, from the Highland Avenue OC	X	X	14	322
SW167		X	Along edge of pavement of the Cypress Avenue off-ramp and I-10 mainline to the Palm Avenue OC	X	X	14	973
SW551		X	Along edge of pavement on I-10 mainline, Palm Avenue OC	X	X	14	176
SW169		X	Along edge of pavement on I-10 mainline, from the Palm Avenue OC to the Highland Avenue OC	X	X	14	1,144
SW563		X	Along edge of pavement on I-10 mainline, Highland Avenue OC	X	X	14	175
SW171		X	Along edge of pavement on I-10 mainline, from the Highland Avenue OC	X	X	14	349
SW187		X	Along edge of pavement on I-10 mainline, Between Ford Street and Wabash Avenue	X	X	16	2,408
SWXX1*	X		**Railyard Landscape Unit** Along the edge of pavement between Valley Boulevard and the EB lanes of I-10, east of N. Rancho Avenue		X	14	2,000
SWXX2*	X		**Railyard Landscape Unit** Along the edge of pavement for the EB lanes of I-10, west of N. Rancho Avenue		X	14	2,400

Table B-4. Anticipated Sound Wall Locations and Heights for Alternatives 2 and 3

Sound-Wall No.	Side of Freeway		Soundwall Location and Side of Highway	Alternative		Approx. Wall Height, (Feet)	Approx. Wall Length, (Feet)
	EB	WB		2	3		
SWXX3*	X		**Railyard Landscape Unit** Along the edge of pavement for the EB lanes of I-10, between N. Mount Vernon Avenue and N. Sperry Drive		X	14	1,800
SWXX4*	X		**Redlands Landscape Unit** An extension of an existing sound wall (SW171) from west of Highlands Avenue to Ford Street at Crestview Road, along the edge of the ROW	X	X	14	950
SWXX5*		X	**Redlands Landscape Unit** Along the edge of ROW In the area of Marshall Street, west of Highlands Avenue	X	X	14	700
SWXX6*	X		**Redlands Landscape Unit** Along the edge of pavement for EB I-10, between the Redlands Boulevard overcrossing and Devonshire Drive	X	X	14	1,500

*These walls are currently still under study and are included here under the assumption that they will eventually be included as part of the project.