

Memorandum

To: CHAIR AND COMMISSIONERS

CTC Meeting: May 21-22, 2003

Reference No.: 2.2c.(4)
Action Item

From: ROBERT L. GARCIA
Chief Financial Officer

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Environmental Analysis

Ref: **APPROVAL OF PROJECT FOR FUTURE CONSIDERATION OF FUNDING, 12-Ora-22, KP R1.1/21.2 (PM 0.66/13.17), RESOLUTION NUMBER E-03-14**

ISSUE:

The attached resolution proposes to approve for future consideration of funding the following project for which a Final Environmental Impact Report has been completed:

- Widen and construct high occupancy vehicle (HOV) lanes from the City of Seal Beach to the City of Orange.

This project is divided into three segments. Two of the segments are construction of major interstate and freeway connections, and one is construction on the mainline of Route 22. The total cost of the entire project is approximately \$499,000,000. The project is not fully funded. However, the segment that is the mainline work on Route 22 is fully funded for a total of \$392,900,000. The breakdown in the funding for this segment is shown below:

- \$203,000,000 in Measure M funding
- \$3,500,000 in City of Orange funding
- \$3,000,000 in City of Garden Grove funding
- \$173,400,000 in Traffic Congestion Relief Program (TCRP) funding – main project
- \$10,000,000 in TCRP funding – replacement planting

The Department will work with local agencies, the Federal Highway Administration, and the Orange County Transportation Authority to secure the additional funds for the other two segments.

The Final Environmental Impact Report has been transmitted to California Transportation Commission staff.

The Department of Transportation has approved the project for construction. This approval and the resulting filing of the Notice of Determination with the Office of Planning and Research will satisfy the environmental requirements for this stage of the project planning process.

RECOMMENDATION:

The Department recommends that the California Transportation Commission, as a responsible agency, approve the attached Resolution E-03-14.

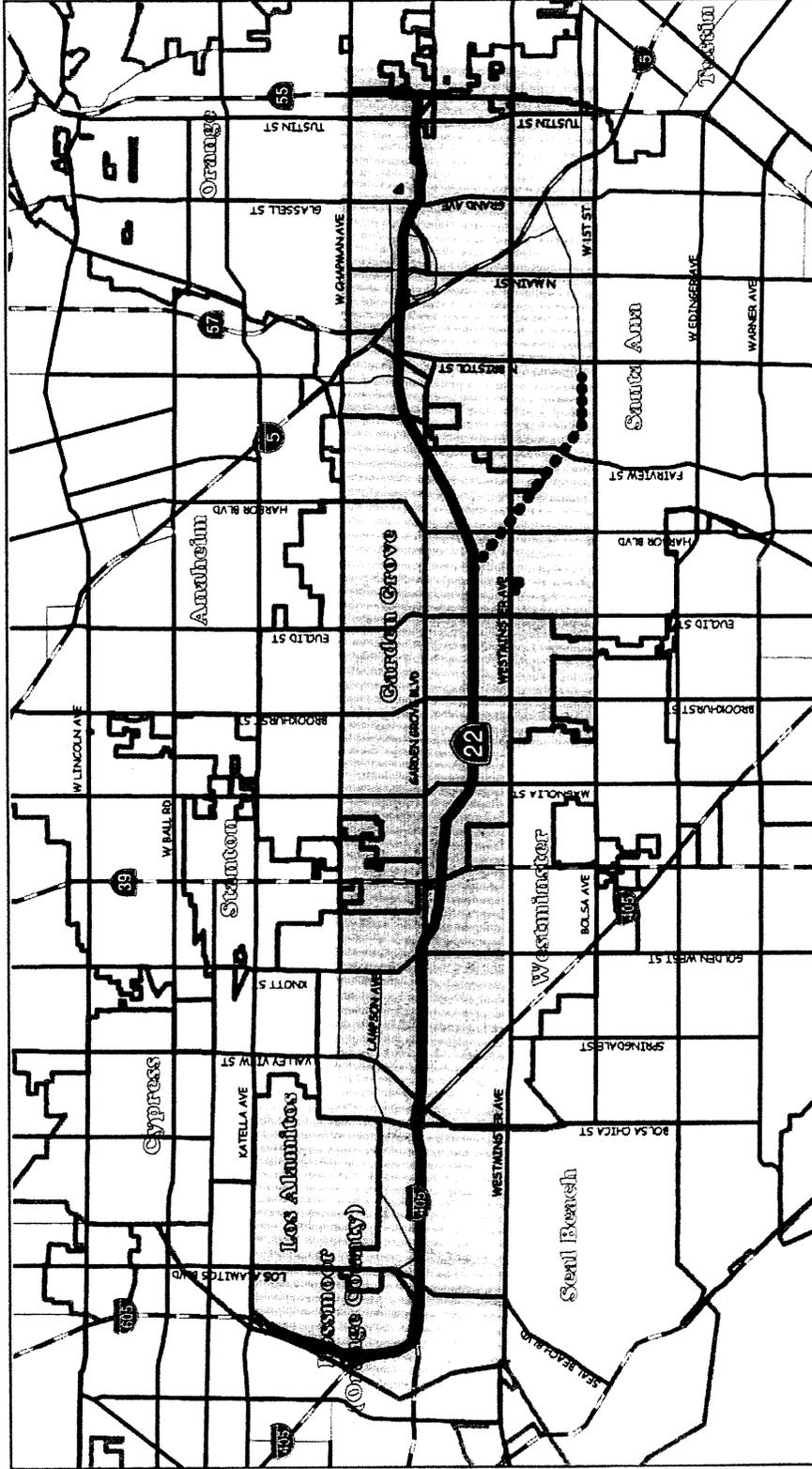
Attachment(s)

CALIFORNIA TRANSPORTATION COMMISSION

**Resolution for Future Consideration of Funding
12-Ora-22, KP R1.1/21.2 (PM 0.66/13.17)**

Resolution E-03-14

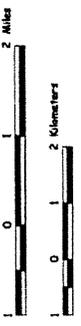
- 1.1 **WHEREAS**, the California Department of Transportation (Department) has completed a Final Environmental Impact Report in compliance with the California Environmental Quality Act and the CEQA Guidelines for the following project:
 - Widen and construct high occupancy vehicle (HOV) lanes from the City of Seal Beach to the City of Orange.
- 1.2 **WHEREAS**, the Department has certified that the Final Environmental Impact Report has been completed in compliance with the California Environmental Quality Act (CEQA) and the State CEQA Guidelines for its implementation; and
- 1.3 **WHEREAS**, the California Transportation Commission, as a responsible agency, has considered the information contained in the Environmental Impact Report; and
- 1.4 **WHEREAS**, the Final Environmental Impact Report did not identify any significant effects that were not mitigated to a level less than significant;
- 2.1 **NOW, THEREFORE, BE IT RESOLVED** that the California Transportation Commission does hereby adopt the Final Environmental Impact Report that supports approval of this recommended project to allow for future consideration of funding.



Source: ESRI 1988.

LEGEND

- Freeway Improvements
- Pacific Electric Right-of-way
- Federal or State Highway
- Primary Arterial
- City Boundary
- Study Area



**SR-22 / West Orange County Connection Project
Project Study Area Map**

Figure 1:2-2

S.0 EXECUTIVE SUMMARY

S.1 INTRODUCTION

This Final Environmental Impact Statement/Environmental Impact Report (FEIS/EIR) identifies the purpose and need for the State Route 22/West Orange County Connection Project (SR-22/WOCC). This document describes the alternatives that were considered, and identifies a Preferred Alternative. The proposed project would widen and construct high occupancy vehicle (HOV) lanes on SR-22 from the Interstate 405/605 (I-405/605) interchange to SR-55, along with other improvements. The other improvements include direct HOV connectors to the I-405/605 and SR-22/I-405. The ranges of improvements were examined through two build alternatives. The impacts of the alternatives are presented. This document was prepared pursuant to the National Environmental Policy Act (NEPA), Section 4(f), and California Environmental Quality Act (CEQA). This FEIS/EIR is divided into four volumes: Volume I, which includes the analyses, Volumes II & III, which include the comments received during the public review period of the August 2001 Draft Environmental Impact Report/Environmental Impact Statement (DEIR/EIS) and the responses to them, and Volume IV, which includes comments and their responses that were received after October 30, 2001, and documentation of public notices and other appendices that are part of the supplemental technical reports. The technical reports are under separate covers and are available for review at the same locations as the FEIS/EIR (See Table of Contents in this FEIS/EIR).

S.2 SUMMARY OF CHANGES TO THE PROJECT FOLLOWING CIRCULATION OF THE DEIR/EIS

The following sections briefly describe the changes that have been made to the project as a result of comments received on the DEIR/EIS and other refinements to the project features.

S.2.1 (Enhanced) Reduced Build Alternative

The Reduced Build Alternative, as presented in the DEIR/EIS, has been modified and renamed the (Enhanced) Reduced Build Alternative. For more information, see Section S.6.3.1 and 2.2 (A).

S.2.2 Changes in Right-of-Way Acquisitions

The following displacements/acquisitions previously identified in the August 2001 DEIR/EIS would now be AVOIDED. These changes are from either the Reduced Build or Full Build alternatives as presented in the DEIR/S resulting in the identified Preferred Alternative, the (Enhanced) Reduced Build Alternative:

Residential Displacements

11032 Trask Avenue (Garden Grove)
 11062 Trask Avenue (Garden Grove)
 *12841 Lewis St. (Garden Grove)
 12771 Lewis St. (Garden Grove)
 *13401 El Prado Ave. (Garden Grove)
 3541 Rose Circle (Seal Beach)
 3510 Oleander St (Seal Beach)
 3521 Pansy Circle (Seal Beach)
 3520 Pansy Circle (Seal Beach)
 3531 Primrose Circle (Seal Beach)
 3530 Primrose Circle (Seal Beach)

*These two addresses have been changed to partial acquisitions under the Full Build, and it was added to the (Enhanced) Reduced Build Alternative, under partial acquisitions.

Non-Residential Displacements

13511 Euclid St (Garden Grove)
 13512 Euclid St (Garden Grove)

Residential Partial Acquisitions

11801 Martha Ann Dr. (Rossmoor)
 11821 Martha Ann Dr. (Rossmoor)
 11831 Martha Ann Dr. (Rossmoor)
 11841 Martha Ann Dr. (Rossmoor)
 11861 Martha Ann Dr. (Rossmoor)
 11871 Martha Ann Dr. (Rossmoor)
 9141 Enloe Way (Garden Grove)
 9151 Enloe Way (Garden Grove)
 9161 Enloe Way (Garden Grove)
 9171 Enloe Way (Garden Grove)

Non-Residential Partial Acquisitions

3101 Seal Beach Blvd. (Seal Beach)
 13261 Garden Grove Blvd. (Garden Grove)

10932 Trask Ave. (Garden Grove)
 10932 Trask Ave. (Garden Grove)
 11162 Trask Ave. (Garden Grove)
 11162 Trask Ave. (Garden Grove)
 11088 Trask, Ste. 100 (Garden Grove)
 11088 Trask, Ste. 210A (Garden Grove)
 11088 Trask, Ste. 106 (Garden Grove)
 11088 Trask, Ste. 106 (Garden Grove)
 11088 Trask, Ste. 200 (Garden Grove)
 11088 Trask, Ste. 206 (Garden Grove)
 11088 Trask, Ste. 210B (Garden Grove)
 11088 Trask, Ste. 210C (Garden Grove)
 11088 Trask, Ste. 210D (Garden Grove)
 11088 Trask, Ste. 210E (Garden Grove)
 11088 Trask, Ste. 210F (Garden Grove)
 11088 Trask, Ste. 210G (Garden Grove)
 11122 Trask Ave. (Garden Grove)

The following are NEW acquisitions that have been identified in this FEIS/EIR. They are applicable to the Full Build and (Enhanced) Reduced Build Alternatives:

Residential Displacements

None

Residential Partial Acquisitions

8692 Gloria Ave. (Garden Grove)
 8802 Trask Ave. (Garden Grove)
 13452 Sorrell Dr. (Garden Grove)
 13332 Dunklee Ave (Garden Grove)
 13322 Dunklee Ave (Garden Grove)
 13312 Dunklee Ave (Garden Grove)
 13306 Dunklee Ave (Garden Grove)
 13302 Dunklee Ave (Garden Grove)
 13292 Dunklee Ave (Garden Grove)
 13282 Dunklee Ave (Garden Grove)
 13272 Dunklee Ave (Garden Grove)
 13262 Dunklee Ave (Garden Grove)
 13252 Dunklee Ave (Garden Grove)
 13242 Dunklee Ave (Garden Grove)
 13421 El Prado Ave (Garden Grove)
 *13401 El Prado Ave (Garden Grove)
 *12841 Lewis St. (Garden Grove)

*These two addresses have been changed to partial acquisitions under the Full Build, and it was added to the (Enhanced) Reduced Build Alternative, under partial acquisitions.

Non-Residential Displacements

595* City Dr, Ste. 201 (Garden Grove)
 595* City Dr, Ste. 205 (Garden Grove)
 595* City Dr, Ste. 206 (Garden Grove)

Non-Residential Partial Acquisitions

SCE Substation (Garden Grove)
 SCE Substation (Garden Grove)
 3400 Metropolitan Dr. (Orange)
 Bixby/Montecito Channel (Los Alamitos)
 U.S. Naval Weapons Station (Seal Beach)

*Addresses listed as 505 City Dr. in the August 2001 DEIR/EIS Reduced and Full Build alternatives were erroneously listed. They should be 595 City Dr., as shown in this FEIS/R. Also, Suites 201, 205, and 206 should have been listed in the August 2001 DEIR/EIS, but they were also erroneously left out.

See tables S.6-2 and S.6-3, and Section 4.6 for more information regarding right-of-way acquisition requirements.

S.2.3 Other Project Changes

Following the public comment period, modifications were made to the design plans and they led to changes to some project elements.

S.2.3.1 Pearce Street Overcrossing

The DEIR/EIS stated that the overcrossing would be replaced in-kind. The FEIS/EIR proposes to replace the overcrossing approximately 360 ft. (110 meters) east of the existing structure, with a structure that is compliant with the Americans with Disabilities Act. See Section 2.2 (A) for more information.

S.2.3.2 I-405/605 HOV Connector

In response to public comments, the alignment of the connector has been shifted south, and the height of the connector has been reduced. See Section 2.2 (A) for more information.

S.2.3.3 Access Changes at Trask Avenue/Sorrell Drive Intersection

Design refinements show that the widening of the SR-22 overcrossing of Trask Avenue would require additional bridge columns in the median of Trask Avenue, through the intersection with Sorrell Drive. Extension of the existing median on Trask Avenue westerly to protect the new columns would result in limiting access at Sorrell Drive. See Section 2.2 (A) for more information.

S.3 PROJECT DESCRIPTION

SR-22 is an existing six-lane freeway in the north and central Orange County region that provides connections to five major freeways: Interstate 605 (I-605), Interstate 405 (I-405), Interstate 5 (I-5), State Route 57 (SR-57) and State Route 55 (SR-55). Built in the 1960s, SR-22 is one of only two east/west freeways in Orange County. As a result of its unique orientation, it crosses most of the major north/south arterial corridors in the central county and has consequently become a vital link in providing mobility to Orange County residents, workers and visitors.

The SR-22/WOCC project length is approximately 21 kilometers (13 miles) and extends from I-405 to approximately SR-55. The SR-22/WOCC passes through seven jurisdictions. From west to east along SR-22, these jurisdictions are: Los Alamitos, Orange County (unincorporated community of Rossmoor), Seal Beach, Westminster, Garden Grove, Santa Ana, and Orange. The study area is also located immediately adjacent to the City of Tustin.

The following are the locations of the proposed SR-22 WOCC project study area (See Figures 2.2-3 & 2.2-6 for the location map of each build alternative):

Location shown as Freeway Kilopost (Postmile)	Location in General Terms
12 ORA-5 KP/(PM) R53.6/54.5(33.32/33.85)	I-5 and SR-22 interchange
12 ORA-22 KP/(PM) R1.1/21.2(0.66/13.17)	SR-22 from Valley View to approx. SR-55
12 ORA-55 KP/(PM) R20.5/22.0(12.71/13.70)	SR-22 and SR-55 interchange
12 ORA-405 KP/(PM) R33.1/38.6(20.56/23.98)	I-405 from SR-22 junction to I-405/I-605 junction
12 ORA-605 KP/(PM) R0.0/1.6(0.0/1.0)	I-605 and I-405 interchange

The lead agencies for this environmental document are the Federal Highway Administration (FHWA) for the NEPA documentation (EIS) and the California Department of Transportation (the Department) for the CEQA documentation (EIR). The Orange County Transportation Authority (OCTA) is a responsible agency under CEQA, and is a co-applicant with the Department for Transportation Congestion Relief Program (TCRP) funding. In addition, OCTA has contributed with Measure M local funds for the Mainline HOV portion of the proposed project.

The SR-22/WOCC build alternatives involve transportation improvements to the SR-22 corridor, including portions of I-405 and I-605. During the early phases of the planning process, a Major Investment Study

(MIS) was initiated by OCTA to identify numerous ways to best alleviate traffic congestion on SR-22. After preliminary review of these alternatives and options, three alternatives were carried forward from the MIS process for detailed analysis in the administrative internal version of the DEIR/EIS. The three alternatives under initial consideration were: No Build Alternative, Transportation System Management/Expanded Bus Service Alternative, and the Build Alternative. In January 2000, prior to publicly releasing the DEIR/EIS for comments, the impacts to residential and non-residential properties, as well as potential economic impacts from the Build Alternative, were recognized as potential adverse impacts to the surrounding communities. Consequently, a fourth alternative was added. The Build Alternative became the Full Build and the newly identified alternative was named the Reduced Build Alternative. The publicly circulated DEIR/EIS included the four alternatives for consideration: No Build Alternative, Transportation System Management/Expanded Bus Service Alternative, Full Build Alternative, and Reduced Build Alternative. The August 2001 DEIR/EIS and the FEIS/EIR are available on the web at: www.dot.ca.gov/dist12, Department and OCTA Headquarters offices, and various libraries. See the Table of Contents for their physical locations.

After public circulation of the DEIR/EIS and extensive input from the public, other agencies, and groups, the local communities, and the Project Development Team, the Preferred Alternative was identified. The identified Preferred Alternative is the (Enhanced) Reduced Build Alternative. Section 2.0 of this document provides further detail on the identification of the Preferred Alternative and briefly describes all of the alternatives considered in the DEIR/EIS. Table S.7-1 summarizes the impacts and their proposed mitigation measures. Upon public circulation/review of the FEIS/EIR, the Record of Decision/Notice of Determination (ROD/NOD) will identify the Selected Alternative.

S.4 CURRENT OPERATING HOV FACILITIES IN ORANGE COUNTY

HOV lanes are currently available on portions of all freeways in Orange County with the exception of SR-22.

In November 1985, SR-55 became the first freeway in Orange County to dedicate one lane of traffic in each direction to high occupancy vehicles (HOVs). The HOV lanes extend 18.7 Km (11.6 miles) in each direction for a total of 36.4 Km (22.6 miles) on SR-55.

On SR-57, there are a total of 37.7 Km (23.4 miles) of dedicated HOV lanes, which were opened in two phases. The portion extending from the I-5/SR-22/SR-57 interchange to Lambert Road opened in June 1992. In August 1997 the HOV lanes in each direction were extended to the Los Angeles County Line.

On I-405, four phases of HOV lanes have been opened over a span of nine years. The first segment from I-5 to SR-73 opened in May 1989. Three months later, the second segment from SR-73 to the I-405/I-605 separation opened. By the time the fourth segment was completed in October 1998, a total of 78.2 Km (48.6 miles) of HOV lanes had been added to I-405.

In October 1992, drivers of HOV vehicles began taking advantage of HOV lanes on I-5. A seven-mile HOV lane in each direction remained the only segment on the Interstate for four years until subsequent segments opened in May and July 1996. Two more segments followed and the HOV lanes were completed in September 2000. I-5 has a total of 112.0 Km (69.6 miles) of HOV lanes.

S.5 PURPOSE AND NEED FOR THE PROJECT

The purpose of the proposed project, the SR-22/WOCC, is to improve both existing and future mobility and enhance safety throughout the corridor while minimizing environmental and economic impacts. The study area includes SR-22 bounded by SR-55 and the Los Angeles County line, and the interchanges between SR-22 and the connecting freeways within these same boundaries.

Under existing conditions, SR-22 does not meet either the existing or projected (Year 2020) capacity needs of the area. Congestion, high accident rates and reduced travel speeds currently experienced on SR-22 are a result of several contributing factors. The most significant causative factors stem from the limited number of lanes to handle vehicle volumes, closely spaced on-and off-ramps, merging of multiple

freeways, non-standard lane and shoulder widths, and non-standard weaving distances/auxiliary lanes. Five key areas of concern are: 1) limited lane availability on SR-22 and the lack of continuity between HOV and non-HOV facilities; 2) inadequate weaving distances along the freeway due to the close proximity of on/off-ramps along the mainline; 3) high traffic volumes at the interchange where the I-5, SR-57 and SR-22 meet; 4) an outdated four-quadrant cloverleaf interchange configuration at Beach Boulevard that creates a low-speed, low-capacity condition with short weave sections; and 5) non-standard lane and shoulder widths at spot locations along the corridor. In addition, there is little incentive or opportunity for individual drivers to switch from single-occupancy vehicles (SOVs) to carpooling or transit without dedicated facilities for this purpose.

The project seeks to accomplish the following goals:

- Improve mobility and reduce congestion in the SR-22/WOCC study area
- Maximize cost-effectiveness of the SR-22/WOCC improvements
- Minimize adverse and maximize beneficial environmental impacts to SR-22/WOCC communities
- Minimize negative and maximize positive economic impacts to SR-22/WOCC communities

Currently, the SR-22 corridor has insufficient capacity on both the freeway and major adjacent surface streets to handle existing and projected 2020 travel demand between the SR-55 interchange and the Los Angeles County line, and to and from destinations within the proposed project area. The situation is aggravated by a lack of continuous parallel arterial routes and available arterial/intersection capacity, with the exception of Westminster Avenue/2nd Street at the extreme western end of the project study area. There is little incentive or opportunity for individual drivers to switch from single-occupancy vehicles (SOVs) to carpooling or transit without dedicated facilities for this purpose. That is, if SOV drivers cannot decrease their commute times because there are no dedicated lanes for high-occupancy vehicles (HOVs) or buses only, they are more likely to forego carpooling or using transit in favor of driving alone. In addition, there are no other major programs in the SR-22 corridor to implement Transportation System Management (TSM), Transportation Demand Management (TDM) and Intelligent Transportation System (ITS) strategies.

With projected population and employment growth trends indicating increased transportation volumes, this situation is expected to worsen. The proposed SR-22/WOCC improvements are anticipated to provide a higher level of operation for existing and forecast traffic volumes by incorporating up-to-date technological traffic control systems and other transportation improvements, and offering additional travel mode choices. Section 1.0 of this document includes additional information about the SR-22/WOCC purpose and need.

S.6 PROJECT ALTERNATIVES

S.6.1 Alternatives Presented in the August 2001 DEIR/EIS

During the Major Investment Study (MIS) process for the SR-22/WOCC project, a broad number and variety of potential transportation strategies for addressing the project's purpose and needs were evaluated and screened until the remaining four alternatives were carried forward for analysis in the August 2001 DEIR/EIS. These four alternatives are briefly described below and are described in more detail in Section 2.0 of the August 2001 DEIR/EIS, which also covers the alternative screening process. The entire alternative screening process is documented in the MIS (available at Caltrans, OCTA, and major libraries).

S.6.1.1 No Build Alternative

Both CEQA and NEPA require environmental documents to consider a no-action or no-project alternative. This alternative represents the status quo, or what would happen if none of the project elements included in the other alternatives were implemented. The No Build Alternative for the SR-22/WOCC project represents the future baseline condition in the year 2020. The No Build Alternative encompasses only improvements to the transportation network that have already been approved and funded. No capital improvements for SR-22 are included under this alternative.

S.6.1.2 TSM/Expanded Bus Service Alternative

The TSM/Expanded Bus Service Alternative includes all of the improvements in the No Build Alternative (outlined in Chapter 2 of this FEIS/EIR), such as OCTA's *FastForward* Long-Range Transportation Plan (FFTP) Baseline Scenario. In conjunction with these improvements, the TSM/Expanded Bus Service Alternative incorporates additional TSM and transit service strategies in the SR-22 corridor, such as more buses, extended routes, and shorter headways (less time between buses). The TSM alternative represents implementation of lower-cost capital improvements, such as increased bus service with associated arterial improvements. The TSM/Expanded Bus Service Alternative does not include any capital improvements to SR-22.

S.6.1.3 Full Build Alternative

The Full Build Alternative includes all of the elements contained in the No Build and TSM/Expanded Bus Service Alternatives, as well as specific elements that address HOV system connectivity. This alternative would add an HOV lane in each direction on SR-22. This alternative would also provide an additional HOV lane in each direction on I-405 between I-605 and SR-22. It would provide direct freeway-to-freeway HOV connectors between I-605 and I-405, between I-405 and SR-22, between SR-22 and I-5, and between SR-22 and SR-55. HOV connectors would allow the system to accommodate long distance travel for carpools and buses, while enabling the smooth flow of vehicles between freeways to avoid chokepoints at major interchanges. The Full Build Alternative would also construct a new arterial in the former Pacific Electric right-of-way in Garden Grove and Santa Ana, on right-of-way currently owned by OCTA. This arterial, which would connect SR-22 with both Santa Ana Boulevard and Civic Center Drive, would provide direct access to and from SR-22 and downtown Santa Ana. The Full Build Alternative also includes selected design improvements to enhance the operational characteristics of the SR-22 facility in certain locations that currently create bottlenecks for motorists. Under the Full Build Alternative, the freeways within the SR-22/WOCC project would be improved to full geometric design standards with some exceptions, such as interchange spacing, weaving lengths, lane widths, shoulder widths, and median widths, that must be approved by the Department.

S.6.1.4 Reduced Build Alternative

The Reduced Build Alternative includes all of the elements contained in the No Build and TSM/Expanded Bus Service Alternatives, as well as some of the elements of the Full Build Alternative. The Reduced Build Alternative was created by eliminating certain elements of the Full Build Alternative from the project design. These elements were eliminated to reduce environmental impacts related primarily to right-of-way acquisition. The Reduced Build Alternative would include adding an HOV lane in each direction on SR-22, and it would also provide an additional HOV lane in each direction on I-405 between I-605 and SR-22. It would provide direct freeway-to-freeway HOV connectors between I-605 and I-405, and between I-405 and SR-22. The HOV connectors allows the system to accommodate long distance travel for carpools and buses, while enabling the smooth flow of vehicles between freeways to avoid chokepoints at major interchanges. The Reduced Build Alternative also includes selected design improvements to enhance the operational characteristics of the SR-22 facility in certain locations as described in the Full Build Alternative.

S.6.2 Concerns Raised During the DEIR/EIS Process

The public comment/review period for the DEIR/EIS afforded the opportunity for governmental agencies and concerned citizens to provide feedback on ways to improve and/or express their concerns on environmental impacts resulting from the proposed SR-22/WOCC project. Approximately 1,100 comment letters were received during the 60-day public comment/review period of the DEIR/EIS; about half of the comments were non-duplicative. The comments consisted of a range of concerns for environmental impacts resulting from the project, including air quality, noise, right-of-way, traffic and visual. The comments along with the Department's responses are attached as Appendix A (Volumes II & III). The comments and their responses that were received after October 30, 2001 are included in Volume IV.

Comments were received from various governmental agencies such as the United States Environmental Protection Agency (USEPA); County of Orange; Cities of Garden Grove, Orange, Seal Beach and Tustin; school districts; and concerned citizens from the cities along the SR-22 corridor. The comments consisted of a range of concerns for environmental impacts resulting from the project. These included air quality, noise, potential depreciation of property values, right-of-way, traffic and visual impacts. Many residents were concerned with air quality and noise impacts to sensitive receptors such as schools, loss of property value due in part to the project proposal to extend the freeway closer to their communities, potential acquisitions, and visual impacts.

The majority of the comments were drawn from the western portions of the project limits such as the Los Alamitos/Community of Rossmoor and the City of Seal Beach. The primary concerns of citizens in the Los Alamitos/Rossmoor area were the proposed I-405/I-605 direct HOV connector and the environmental impacts associated with it. Comments received from residents in the Los Alamitos/Community of Rossmoor included exploring the option to shift the I-405/I-605 HOV connector to west of the I-605 near the Los Alamitos Channel and the San Gabriel River. To address these and other concerns, multiple sections of the EIR/EIS were reanalyzed to investigate ways to minimize harm. Among them, the air quality, Historic Property Survey Report/Historic Architectural Survey Report (HPSR/HASR), noise, relocation impacts, traffic and visual impact sections were reanalyzed to avoid and minimize environmental impacts to the surrounding communities along the SR-22 corridor. Please see Section 4.0 (Environmental Consequences) to review the appropriate sections.

The City of Seal Beach's residents were primarily concerned with the proposed displacements of six residential properties along Almond Avenue. Many had requested shifting the centerline to south of I-405 towards the United States Naval Weapons Station. Prior to September 11, 2001, the United States Department of the Navy allowed periodic public tours of the Seal Beach Wildlife Refuge, which is located in the military base. Due to the events of September 11, 2001, the United States Department of the Navy tightened security and temporarily ceased public tours of the Wildlife Refuge, but has since resumed the tours as of October 26, 2002. A portion of the Naval Weapons Station was leased to a private entity for use as farmland. The Navy contracts with entities to conduct farming activities in the outer perimeter of the weapons station to provide a safety shield to the public. As a result of farming activities the area south of I-405 was designated as prime farmland; however, the primary purpose of the farming activities is to provide and maintain the safety shield area for public safety, and prevention of fires, and rodents. Due to the overwhelming number of comments pertaining to the shifting of the centerline towards the United States Naval Weapons Station, the Department solicited comments from the Department of the Navy requesting permission to use this option to avoid impacts to the City of Seal Beach. Other comments also received from residents in the City of Seal Beach included exploring the option to shift the I-405/I-605 HOV connector to west of the I-605 Los Alamitos Channel and the San Gabriel River. The City of Seal Beach also sent comments regarding the SR-22 WOC proposed project. The City hired a consultant firm to review the DEIR/EIS, and it resulted in approximately 180 pages of comments.

The residents from the City of Garden Grove were primarily concerned with SR-22 freeway noise and its impacts to school children. Approximately 188 petitions were received regarding the area near Euclid Street and the need for noise barriers to reduce the noise levels at nearby elementary schools.

Since the Full and Reduced Build Alternatives were the only two build options with potential right-of-way impacts, they were both analyzed during the final environmental documentation phase. In refining the engineering plans, some of the proposed right-of-way displacements and acquisitions were avoided. The refined engineering plans also helped to determine the location of possible landscaping and preliminary determination of noise barriers.

The Federal Highway Administration (FHWA), the Department and its partnering agency, the Orange County Transportation Authority (OCTA), researched various methods to operationally improve the corridor and enhance safety. This effort resulted in the addition of minor features to the Reduced Build Alternative. The Reduced Build Alternative, together with these minor operational features, was renamed the "(Enhanced) Reduced Build Alternative."

S.6.3 Modifications to the Build Alternatives After Circulation of August 2001 DEIR/EIS

The following are discussions on the modifications to the build alternatives that occurred following the public circulation of the August 2001 DEIR/EIS. A summary of the changes, including the impacted areas, is provided (for more detailed information, refer to Section 4 of this FEIS/EIS) for each respective impacted area. A more detailed description of the alternatives can be found in Section 2 of this FEIS/EIR. The modifications to the build alternatives are shown in Table S.6-1 with added detail. Also, see Table S.6-2 for a summary of the August DEIR/EIS and March 2003 FEIS/EIR residential displacements and partial acquisitions addresses by alternative, and Table S.6-3 for a summary of the August 2001 DEIR/EIS and March 2003 FEIS/EIR non-residential displacements and partial acquisitions addresses by alternative.

S.6.3.1 Identified Preferred Alternative/(Enhanced) Reduced Build Alternative

The Reduced Build Alternative, as presented in the DEIR/EIS, has been modified and renamed the (Enhanced) Reduced Build Alternative. The (Enhanced) Reduced Build Alternative includes all of the Reduced Build Alternative's project features, as presented in the August 2001 DEIR/EIS, and two project components from the Full Build Alternative: one is the freeway mainline section of the SR-22/SR-55 direct HOV connector from the Full Build Alternative, without the freeway to freeway connecting structure, and two: an auxiliary lane from Glassell Street to Tustin Avenue in the eastbound direction (approximately 1.8 Km [1.1 mile]). The extended portion of the Mainline is approximately 1.9 Km (1.2 miles) at the eastern terminus of the project limits, which was analyzed as part of the Full Build Alternative. Further, the geometrics of the project plans for the (Enhanced) Reduced Build Alternative were refined as a result of the comments generated during the public review and comment period of the DEIR/EIS, resulting in reduced impacts throughout the project limits. The added feature to the (Enhanced) Reduced Build alternative extends the eastern terminus improvements in both directions from Glassell Street to approximately SR-55, resulting in the modification of the Reduced Build Alternative.

Note, the modifications in the project limits to create the (Enhanced) Reduced Build Alternative would not contribute to any new environmental impacts because all of the improvements are within the existing roadway. Potential environmental impacts from this added portion have been previously analyzed as part of the Full Build Alternative (SR-22/SR-55 HOV connector) in the August 2001 DEIR/EIS and determined not to be substantial. See Figure 2.2.3 for the (Enhanced) Reduced Build Alternative map.

The (Enhanced) Reduced Build Alternative is divided into three segments for analysis purposes:

- I-405/I-605 Connector – Katella Avenue south to Seal Beach Boulevard a distance of 3.7 kilometers (2.3 miles) [Modified from original proposed alignment]
- I-405/SR-22 Connector – Seal Beach Boulevard east to Valley View Street, a distance of 3.7 kilometers (2.3 miles)
- SR-22 Mainline – Valley View Street east to approximately Glassell Street, including The City Drive improvements, a distance of 17.9 kilometers (11.1 miles). [Refer to the previous text regarding extension to SR-55]

During the development of the final document, and comments received on the DEIR/EIS, the Department further analyzed multiple sections of the SR-22 corridor to refine right-of-way limits and reduce environmental impacts for the proposed project. Additional design modifications to the Reduced Build Alternative, as presented in the August 2001 DEIR/EIS, were made to avoid right-of-way acquisitions and to reduce environmental impacts while maintaining the design standards. These efforts resulted in avoidance of acquisitions at the following locations:

- The partial acquisitions of six homes along Martha Ann Drive in the Rossmoor Community as well as utility relocation were avoided by tightening the curvature of the S405/N605 connector while shortening the gore area further to the south;
- The I-405/605 HOV connector was realigned and lowered from the original DEIR/EIS proposal to reduced impacts to the communities of Rossmoor and City of Seal Beach;
- The right-of-way impact at the City of Seal Beach's reservoir was avoided by tightening the curvature of the Seal Beach Boulevard off-ramp while shifting the exit nose further to the south;

- The full acquisitions of six homes along Almond Avenue in the City of Seal Beach as well as the relocation of overhead power lines and reconstruction of existing noise barriers were avoided by: 1) shifting the I-405 freeway centerline toward the south; 2) tightening the curvature; and 3) shifting the S405/E22 connector gore (divergence point) area further to the east. This was achieved without changing the impacts to the United States Naval Weapons Station (USNWS) utility easement or facility on the south side of I-405;
- The partial acquisitions of four homes along Enloe Way in the City of Garden Grove were avoided by shifting the ramp alignment closer to the freeway mainline and shifting the gore area (convergence point) further to the west; and
- The displacements of two residential units (along Trask Avenue) and eighteen businesses (along Euclid and Trask Avenue) at the Euclid interchange in the City of Garden Grove are no longer necessary due to design refinements.

In refining the engineering plans and with the availability of more detailed design level surveys, a total of seventeen new residential parcels have been identified for partial acquisition in this FEIS/EIR that were not previously included in the August 2001 DEIR/EIS. These include partial acquisitions at Yockey Bridge, along Dunklee Avenue on the north side of the freeway, and at El Prado Avenue on the south side of the freeway in the City of Garden Grove. A comprehensive listing of displacements and partial acquisitions can be found in Section 4.6. Please see Figure 2.2-6 for the Full Build Alternative features, as presented in this FEIS/EIR and Figure 2.2-7 for the Full Build Alternative features, as presented in the August 2001 DEIR/EIS.

In addition, further engineering studies identified potential conflicts with the location of proposed bridge columns and existing traffic conditions, primarily in left-turn lanes. One involves Sorrel Drive in the City of Garden Grove local streets. As result, the traffic team met with the City of Garden Grove to discuss these issues.

Due to further design refinements following the August 2001 DEIR/EIS, it was noted that the widening of the existing SR-22 overcrossing of Trask Avenue, west of Harbor Boulevard, would require additional bridge columns in the median of Trask Avenue. These additional columns in the median supporting the westerly bridge widening will extend through the intersection of Sorrell Drive. Sorrell Drive, a north-south residential street, one block long, presently forms a "T-intersection" with Trask Avenue, an east-west arterial. Extension of the existing median on Trask Avenue westerly through the intersection to protect the new columns will result in limiting access at Sorrell Drive. Access would be limited to westbound right turns from Trask to Sorrell, and southbound right turns from Sorrell to Trask. At this time, the Department is recommending a right-turn only access from Sorrell Drive to westbound Trask Avenue design; a final decision will be made at the design stage. A public meeting was held at the City of Garden Grove City Hall with the City Traffic Engineer and one of his assistants to solicit public input on how best to modify Sorrell Drive. The Department and OCTA will continue its coordination with the City and the affected residents.

I-405/605 HOV connector

The I-405/605 HOV connector alignment presented in the DEIR/EIS was proposed over three existing facilities: the I-405 freeway, the connector from eastbound SR-22 to northbound I-405, and the connector from southbound I-405 to northbound I-605. The peak elevation of the proposed connector occurred at approximately 95 ft. (29 meters) high where the minimum vertical clearance is required over the existing southbound I-405 to northbound I-605 connector. During the public review period of the August 2001 DEIR/EIS, which included a 60-day public comment period and two Public Hearings, concerns from the Rossmoor residents arose regarding traffic noise, visual, air quality, and traffic issues. In an effort to address these concerns, several different design variations have been studied. Among them, one design solution significantly reduced the height of the HOV connector by shifting the previous alignment southerly such that the revised alignment runs parallel between the eastbound SR-22 and the southbound I-605 to southbound I-405 connectors at the same elevations. The peak elevation of this alignment occurs at approximately 72 ft. (22 meters) high where the minimum vertical clearance is required over the eastbound SR-22 connector. See Figure 2.2-1 for more detail on the I-405/605 HOV connector realignment.

Pearce Street Pedestrian Overcrossing

Refined engineering plans and the availability of more detailed design level surveys have identified that the Pearce Street pedestrian overcrossing is in need of replacement since it would conflict with the proposed widening of the SR-22/WOCC project. The original Preliminary Engineering plans for the SR-22/WOCC pedestrian overcrossing assumed it would be replacement in kind. The Pearce Street pedestrian overcrossing is located between the Fairview Street and Harbor Boulevard exits on SR-22, just east of Harbor Boulevard. The Pearce Street pedestrian overcrossing is an existing pedestrian overcrossing that is not compliant with the Americans with Disabilities Act (ADA). The replacement of the pedestrian overcrossing would have to comply ADA standards. The refined engineering plans also allowed determination of the proximity of setback for possible landscaping and determination of preliminary noise barriers. The plans for the Pearce Street pedestrian overcrossing will be finalized at the design stage of the project. The August 2001 DEIR/EIS assumed the Pearce Street pedestrian overcrossing would be replaced in-kind at the same location as the existing facility. The replacement Pearce Street pedestrian overcrossing proposed in this FEIS/EIR is ADA compliant, and would be 110 meters (360 ft.) east of the existing overcrossing. Please refer to Figure 2.2-2 b for a schematic of the replacement proposal.

S.6.3.2 Full Build Alternative

The Full Build Alternative, the "build" alternative identified by the OCTA Board on November 9, 1998, includes all of the elements contained in the No Build and TSM/Expanded Bus Service Alternatives, as well as specific elements that address HOV system connectivity. This alternative would provide HOV lanes on SR-22, thus furthering the countywide HOV system and fulfilling an important transportation goal. The SR-22 HOV connectors were added in September 1997 with the expansion of the project, which included the West Orange County Connection. This element was incorporated in response to public outreach, which identified completion of the HOV system as a high priority. In particular, HOV connectors were perceived as important, especially in regards to the safety and efficiency of the system. The HOV connectors allow the system to accommodate long distance travel for carpools and buses, while enabling the smooth flow of vehicles between freeways and avoiding chokepoints at major interchanges. The Full Build Alternative's route was divided into six segments for analysis purposes. This was done to enable separate consideration of the impacts of each segment and facilitate subsequent planning and implementation decisions. These segments are as follows:

1. I-405/I-605 Connector – Katella Avenue south to Seal Beach Boulevard a distance of 3.7 kilometers (2.3 miles) [Modified from original proposed alignment]
2. I-405/SR-22 Connector – Seal Beach Boulevard east to Valley View Street, a distance of 3.7 kilometers (2.3 miles)
3. SR-22 Mainline – Valley View Street east to Glassell Street, including The City Drive improvements, a distance of 17.9 kilometers (11.1 miles)
4. I-5/SR-22 Connector – SR-22 and The City Drive to I-5 and Broadway, a distance of 2.3 kilometers (1.4 miles)
5. SR-22/SR-55 Connector – SR-22 and Glassell Street to SR-55 and Chapman Avenue to the north and Fairhaven Street to the south, a distance of 3.9 kilometers (2.4 miles)
6. Pacific Electric Arterial – Taft Avenue at SR-22, southeast to where it joins Santa Ana Boulevard at Raitt Street, a distance of 5.1 kilometers (3.2 miles)

In addition to the improvements outlined in the No Build and TSM/Expanded Bus Service Alternatives, the Full Build Alternative includes the elements listed in Table 2.2-4.

During the final documentation phase, and as a result of comments received during the public review and comment of the DEIR/EIS, the Department further analyzed multiple sections of the SR-22 corridor to refine right-of-way limits and reduce environmental impacts for the proposed project. Additional design modifications to the Full Build Alternative, as presented in the August 2001 DEIR/EIS, were made to avoid right-of-way acquisitions and to reduce environmental impacts while maintaining the design standards. These efforts resulted in avoidance of acquisitions at the following locations:

- The partial acquisitions of six homes along Martha Ann Drive in the Rossmoor Community as well as utility relocation were avoided by tightening the curvature of the S405/N605 connector while shortening the gore area (divergence point) further to the south;
- The right-of-way impact at the City of Seal Beach's reservoir was avoided by tightening the curvature of the Seal Beach Boulevard off-ramp while shifting the exit nose further to the south;
- The I-405/605 HOV connector has been realigned and lowered from the DEIR/EIS proposal to reduce impacts to the community of Rossmoor and the City of Seal Beach (Please refer to Figure 2.2-1 for the modified plan);
- The full acquisitions of six homes along Almond Avenue in the City of Seal Beach as well as the relocation of overhead power lines and reconstruction of existing soundwalls were avoided by: 1) shifting the I-405 freeway centerline toward the south; 2) tightening the curvature; and 3) shifting the southbound I-405 to eastbound SR-22 connector gore area (divergence point) further to the east. This was achieved without changing the impacts to the United States Naval Weapons Station (USNWS) utility easement or facility on the south side of I-405; and
- The partial acquisitions of four homes along Enloe Way in the City of Garden Grove were avoided by shifting the SR-22 eastbound Magnolia on-ramp alignment closer to the freeway mainline and shifting the gore area (convergence point) further to the west.

S.6.4 Identification of the Preferred Alternative

The formulation of the identified Preferred Alternative took into consideration multiple forms of feedback: 1) refined engineering for the project plans; 2) comments received during the public review period of the DEIR/EIS from Federal and local agencies, community associations, and concerned citizens; and 3) planning analysis to determine operational and cost effectiveness of the alternatives under consideration. With modifications to maximize operational and cost efficiency, the (Enhanced) Reduced Build Alternative was identified as the Preferred Alternative. See Section 2.1.3 for further discussion on the formulation and identification of the Preferred Alternative.

As discussed in S.4.1, the two "build" alternatives along with the no build and TSM/Expanded Bus Service alternatives were considered in the DEIR/EIS and were the subject of the public review and comment process. Additional analyses were conducted on the "build" options along with the TSM/Expanded Bus Service Alternative to determine the maximum benefits to the SR-22 corridor while reducing the environmental and economic impacts to the surrounding communities. Through these analyses, the Reduced Build Alternative was determined to meet this criterion.

During the final documentation phase, and as a result of comments received during the public review and comments of the DEIR/EIS, the Department re-analyzed multiple sections of the SR-22 corridor to refine right-of-way limits for the proposed project. Since the Full and Reduced Build Alternatives were the only two build options with potential right-of-way impacts, they were both analyzed. In refining the engineering plans, some of the proposed right-of-way displacements and acquisitions were avoided. The refined engineering plans also allowed determination of the proximity of setback for possible landscaping and determination of preliminary noise barriers.

During the development of the final environmental document, additional planning efforts were utilized in the process to find the best solution in alleviating traffic congestion and improving safety on the SR-22 corridor. The Department, and its partnering agency, the OCTA, in conjunction with the Federal Highway Administration (FHWA), examined various methods to operationally improve the corridor and enhance safety. These methods included incorporating a component of the SR-22/SR-55 direct HOV connector, which was previously analyzed under the Full Build Alternative during the August 2001 DEIR/EIS. The SR-22/SR-55 direct HOV connector feature of the Full Build Alternative included the extension of HOV lanes on the Mainline (in both directions) from Glassell Street to the eastern terminus of SR-22 at Tustin Avenue/SR-55. The added feature to the Reduced Build Alternative extends the improvements (in both directions) from Glassell Street to approximately SR-55, resulting in the (Enhanced) Reduced Build Alternative. In addition, there are other improvements that were made to the (Enhanced) Reduced Build Alternative: these include realignment of the I-405/605 HOV connector, replacement/realignment of the Pearce Street pedestrian overcrossing to comply with the Americans with Disabilities Act (ADA) standards, and modifications of Sorrel Street. Please refer to Section 2.2 for a discussion on the

identified Preferred Alternative, (Enhanced) Reduced Build Alternative, and the Full Build Alternative for specific discussion on how they affect each of the build alternatives.

The identified Preferred Alternative, (Enhanced) Reduced Build Alternative, was determined to be the environmentally preferred option due to its lessened impacts to residential and non-residential properties, the local economy, and preservation of a historic resource. Specifically, the (Enhanced) Reduced Build Alternative has fewer right-of-way impacts, when compared to the Full Build Alternative. The identification of the (Enhanced) Reduced Build as the Preferred Alternative would result in fewer right-of-way impacts, when compared to the Full Build. The large number of right-of-way impacts for the Full Build Alternative can be attributed to the Pacific Electric Arterial and direct HOV connector features at I-5 and SR-55. Due to fewer right-of-way acquisitions, the local economy would not be as negatively impacted with the (Enhanced) Reduced Build Alternative. This would result in the affected jurisdictions' ability to retain existing property and sales tax revenues, when compared to the Full Build Alternative. With the proposed Pacific Electric Arterial included as a feature of the Full Build Alternative, the former Pacific Electric Bridge (eligible for listing on the National Register of Historic Places) would be eliminated.

The absence of HOV lanes on the SR-22 freeway is a missing link in the Orange County HOV system. The (Enhanced) Reduced Build Alternative would provide for HOV system continuity and connectivity, tying to I-605 and I-405, thereby helping to improve congestion locally. The traveling public has little incentive or opportunity to switch from single-occupancy vehicles to carpooling or transit, as there are no dedicated facilities for this purpose on SR-22. The identified Preferred Alternative, by providing connectivity for the HOV system while meeting the goals and objectives of the project, would provide the infrastructure needed to encourage high vehicle occupancy on the region's roads. This would indirectly relieve traffic congestion in the region, both by removing HOVs from general-purpose lanes and by encouraging single occupant vehicles ("SOV") to shift their modal choice from drive-alone to carpool.

**Table S.6-1
Description of Alternatives**

<p>(Enhanced) Reduced Build Alternative (Identified Preferred Alternative)</p>	<p>The Reduced Build Alternative, as presented in the DEIR/EIS, has been modified and renamed the (Enhanced) Reduced Build Alternative. The (Enhanced) Reduced Build Alternative includes all of the Reduced Build Alternative's project features, as presented in the August 2001 DEIR/EIS, and two project components from the Full Build Alternative: one is the freeway mainline section of the SR-22/SR-55 direct HOV connector from the Full Build Alternative, without the freeway to freeway connecting structure, and two: an auxiliary lane from Glassell Street to Tustin Avenue in the eastbound direction (approximately 1.8 Km [1.1 mile]). The extended portion of the Mainline is approximately 1.9 Km (1.2 miles) at the eastern terminus of the project limits, which was analyzed as part of the Full Build Alternative. Further, the geometrics of the project plans for the (Enhanced) Reduced Build Alternative were refined as a result of the comments generated during the public review and comment period of the DEIR/EIS, resulting in reduced impacts throughout the project limits. The added feature to the (Enhanced) Reduced Build alternative extends the eastern terminus improvements in both directions from Glassell Street to approximately SR-55, resulting in the modification of the Reduced Build Alternative.</p> <p>Note, the modifications in the project limits to create the (Enhanced) Reduced Build Alternative would not contribute to any new environmental impacts because all of the improvements are within the existing roadway. Potential environmental impacts from this added portion have been previously analyzed as part of the Full Build Alternative (SR-22/SR-55 HOV connector) in the August 2001 DEIR/EIS and determined not to be substantial. See Figure 2.2.3 for the (Enhanced) Reduced Build Alternative map.</p> <p>As presented in the DEIR/EIS, the Reduced Build Alternative was created by eliminating the following elements of the Full Build Alternative from the project design: the new arterial in the former Pacific Electric right-of-way, the HOV connectors between SR-22 and I-5, and the HOV connectors between SR-22 and SR-55. These dismissed features, if included, would have resulted in substantial right of way, costs, and adverse operational impacts to I-5 and SR-55 absent additional capital improvements on these freeways to relieve added traffic demand. Thus, these features would not meet the goals and objectives of the proposed WOCC project.</p> <p>All of the elements contained in the No Build and TSM/Expanded Bus Service Alternatives are included in the (Enhanced) Reduced Build Alternative. This alternative also includes design features to improve the operational characteristics of the SR-22 facility in certain locations, such as interchange spacing, shoulder widths and median widths that must be approved by the Department. The Reduced Build Alternative also includes the following design modifications to improve the operational characteristics of the facility in certain locations that currently create bottlenecks (choke-points) for motorists:</p> <ul style="list-style-type: none"> • Continuous lane in each direction from Beach Boulevard to I-5. • Auxiliary lanes between interchanges at various locations • Interchange improvements at Beach Boulevard and Brookhurst Street <p>A collector/distributor road along the eastbound SR-22 at the SR-22/I-5/SR-57 confluence</p>
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Table S.6-1 (continued) Description of Alternatives	
<p>(Enhanced) Reduced Build Alternative (continued)</p> <p>(Identified Preferred Alternative)</p>	<p>The (Enhanced) Reduced Build Alternative is divided into three segments for analysis purposes:</p> <ul style="list-style-type: none"> • I-405/I-605 Connector – Katella Avenue south to Seal Beach Boulevard a distance of 3.7 kilometers (2.3 miles) [Modified from original proposed alignment] • I-405/SR-22 Connector – Seal Beach Boulevard east to Valley View Street, a distance of 3.7 kilometers (2.3 miles) • SR-22 Mainline – Valley View Street east to approximately Glassell Street, including The City Drive improvements, a distance of 17.9 kilometers (11.1 miles). [Refer to the previous text regarding extension to SR-55] <p>During the development of the final document, and as a result of comments received during the public review and comment of the DEIR/EIS, the Department further analyzed multiple sections of the SR-22 corridor to refine right-of-way limits and reduce environmental impacts for the proposed project. Additional design modifications to the Reduced Build Alternative, as presented in the August 2001 DEIR/EIS, were made to avoid right-of-way acquisitions and to reduce environmental impacts while maintaining the design standards. These efforts resulted in avoidance of acquisitions at the following locations:</p> <ul style="list-style-type: none"> • The partial acquisitions of six homes along Martha Ann Drive in the Rossmoor Community as well as utility relocation were avoided by tightening the curvature of the S405/N605 connector while shortening the gore area further to the south; • The I-405/605 HOV connector was realigned and lowered from the original DEIR/EIS proposal to reduced impacts to the communities of Rossmoor and City of Seal Beach; • The right-of-way impact at the City of Seal Beach's reservoir was avoided by tightening the curvature of the Seal Beach Boulevard off-ramp while shifting the exit nose further to the south; • The full acquisitions of six homes along Almond Avenue in the City of Seal Beach as well as the relocation of overhead power lines and reconstruction of existing noise barriers were avoided by: 1) shifting the I-405 freeway centerline toward the south; 2) tightening the curvature; and 3) shifting the S405/E22 connector gore area further to the east. This was achieved without changing the impacts to the United States Naval Weapons Station (USNWS) utility easement or facility on the south side of I-405; • The partial acquisitions of four homes along Enloe Way in the City of Garden Grove were avoided by shifting the ramp alignment closer to the freeway mainline and shifting the gore area further to the west; and • The displacements of two residential units (along Trask Avenue) and eighteen businesses (along Euclid and Trask Avenue) at the Euclid interchange in the City of Garden Grove are no longer necessary because the Pacific Electric connection would not be part of this alternative, and the ramp alignments would be shifted toward the freeway mainline. <p>In refining the engineering plans and with the availability of more detailed design level surveys, a total of seventeen new residential parcels have been identified for partial acquisition in this FEIS/EIR that were not previously included in the August 2001 DEIR/EIS. These include partial acquisitions at Yockey Bridge, along Dunklee Avenue on the north side of the freeway, and at El Prado Avenue on the south side of the freeway in the City of Garden Grove.</p>

Table S.6-1 (continued)

<p>(Enhanced) Reduced Build Alternative (continued) (Identified Preferred Alternative)</p>	<p>A comprehensive listing of displacements and partial acquisitions can be found in Section 4.6. Please see Figure 2.2-6 for the Full Build Alternative features, as presented in this FEIS/EIR, and Figure 2.2-7 for the Full Build Alternative features, as presented in the August 2001 DEIR/EIS.</p>
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Table S.6-1 (continued)

<p>(Enhanced) Reduced Build Alternative (continued) (Identified Preferred Alternative)</p>	<p>Pearce Street Pedestrian Overcrossing Refined engineering plans and the availability of more detailed design level surveys have identified that the Pearce Street pedestrian overcrossing is in need of replacement since it would conflict with the proposed widening of the SR-22/WOCC project. The original Preliminary Engineering plans for the SR-22/WOCC pedestrian overcrossing assumed it would be replacement in kind. The Pearce Street pedestrian overcrossing is located between the Fairview Street and Harbor Boulevard exits on SR-22, just east of Harbor Boulevard. The Pearce Street pedestrian overcrossing is an existing pedestrian overcrossing that is not compliant with the Americans with Disabilities Act (ADA). The replacement of the pedestrian overcrossing would have to comply ADA standards. The refined engineering plans also allowed determination of the proximity of setback for possible landscaping and determination of preliminary noise barriers. The plans for the Pearce Street pedestrian overcrossing will be finalized at the design stage of the project. The August 2001 DEIR/EIS assumed the Pearce Street pedestrian overcrossing would be replaced in-kind at the same location as the existing facility. The replacement Pearce Street pedestrian overcrossing proposed in this FEIS/EIR is ADA compliant, and would be approximately 360 ft. (110 meters) east of the existing overcrossing. Please refer to Figure 2.2-2 b for a schematic of the replacement proposal.</p>
<p>No Build Alternative</p>	<p>The National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) require environmental documents consider a no-action or no-project alternative. This alternative represents the status quo, or what would happen if none of the project elements included in the other alternatives were implemented. The No Build Alternative for the SR-22/WOCC project represents the future baseline condition in the 2020 planning year. No new capital improvements for SR-22 are included under this alternative. The OCTA 1998 <i>FastForward</i> Long-Range Transportation Plan (FFTP) Baseline Scenario also includes the 1995 Combined Transportation Funding Program (CTFP) data. In addition, the No Build Alternative includes all city or developer projects not in the 1995 CTFP that have been approved and funded. Throughout this document, the other project alternatives are compared to this No Build Alternative as a baseline condition.¹</p>
<p>TSM/Expanded Bus Service</p>	<p>The TSM/Expanded Bus Service Alternative includes all of the improvements outlined in the No Build Alternative, such as OCTA's FFTP Baseline Scenario. In conjunction with these improvements, the TSM/Expanded Bus Service Alternative incorporates additional TSM and transit service strategies in the SR-22 corridor, such as more buses, extended routes, and shorter headways (less time between buses). The TSM alternative represents implementation of lower-cost capital improvements such as increased bus service with associated arterial improvements. The TSM/Expanded Bus Service Alternative does not include any capital improvements to SR-22.</p>

¹ Both the FFTP and CTFP are available at OCTA.

² The Full Build Alternative is referred to as the "Build Alternative" in the technical reports, which were prepared before the development of the Reduced Build Alternative. The Reduced Build Alternative is addressed in addenda to each technical report.

Table S.6-1 (continued)

Full Build Alternative

²The Full Build Alternative, the "build" alternative identified by the OCTA Board on November 9, 1998, includes all of the elements contained in the No Build and TSM/Expanded Bus Service Alternatives, as well as specific elements that address HOV system connectivity. This alternative would provide HOV lanes on SR-22, thus furthering the countywide HOV system and fulfilling an important transportation goal. The SR-22 HOV connectors were added in September 1997 with the expansion of the project, which included the West Orange County Connection. This element was incorporated in response to public outreach, which identified completion of the HOV system as a high priority. In particular, HOV connectors were perceived as important, especially in regards to the safety and efficiency of the system. The HOV connectors allow the system to accommodate long distance travel for carpools and buses, while enabling the smooth flow of vehicles between freeways and avoiding chokepoints at major interchanges. The Full Build Alternative's route was divided into six segments for analysis purposes. This was done to enable separate consideration of the impacts of each segment and facilitate subsequent planning and implementation decisions. These segments are as follows:

7. I-405/I-605 Connector – Katella Avenue south to Seal Beach Boulevard a distance of 3.7 kilometers (2.3 miles) [Modified from original proposed alignment]
8. I-405/SR-22 Connector – Seal Beach Boulevard east to Valley View Street, a distance of 3.7 kilometers (2.3 miles)
9. SR-22 Mainline – Valley View Street east to Glassell Street, including The City Drive improvements, a distance of 17.9 kilometers (11.1 miles)
10. I-5/SR-22 Connector – SR-22 and The City Drive to I-5 and Broadway, a distance of 2.3 kilometers (1.4 miles)
11. SR-22/SR-55 Connector – SR-22 and Glassell Street to SR-55 and Chapman Avenue to the north and Fairhaven Street to the south, a distance of 3.9 kilometers (2.4 miles)
12. Pacific Electric Arterial – Taft Avenue at SR-22, southeast to where it joins Santa Ana Boulevard at Raitt Street, a distance of 5.1 kilometers (3.2 miles)

In addition to the improvements outlined in the No Build and TSM/Expanded Bus Service Alternatives, the Full Build Alternative includes the elements listed in Table 2.2-4.

During the final documentation phase, and as a result of comments received during the public review and comment of the DEIR/EIS, the Department further analyzed multiple sections of the SR-22 corridor to refine right-of-way limits and reduce environmental impacts for the proposed project. Additional design modifications to the Full Build Alternative, as presented in the August 2001 DEIR/EIS, were made to avoid right-of-way acquisitions and to reduce environmental impacts while maintaining the design standards. These efforts resulted in avoidance of acquisitions at the following locations:

- The partial acquisitions of six homes along Martha Ann Drive in the Rossmoor Community as well as utility relocation were avoided by tightening the curvature of the S405/N605 connector while shortening the gore area further to the south;
- The I-405/605 HOV connector realigned and lowered from the DEIR/EIS proposal to reduced impacts to the communities of Rossmoor and City of Seal Beach;

Table S.6-1 (continued)

<p>Full Build Alternative (continued)</p>	<ul style="list-style-type: none"> • The right-of-way impact at the City of Seal Beach's reservoir was avoided by tightening the curvature of the Seal Beach Boulevard off-ramp while shifting the exit nose further to the south; • The full acquisitions of six homes along Almond Avenue in the City of Seal Beach as well as the relocation of overhead power lines and reconstruction of existing soundwalls were avoided by: 1) shifting the I-405 freeway centerline toward the south; 2) tightening the curvature; and 3) shifting the S405/E22 connector gore area further to the east. This was achieved without changing the impacts to the United States Naval Weapons Station (USNWS) utility easement or facility on the south side of I-405; • The partial acquisitions of four homes along Enloe Way in the City of Garden Grove were avoided by shifting the ramp alignment closer to the freeway mainline and shifting the gore area further to the west; and <p>Refined engineering plans and the availability of more detailed design level surveys have identified that the Pearce Street pedestrian overcrossing is in need of replacement since it would conflict with the proposed widening of the SR-22/WOCC project just west of the Haster Street exit. The original Preliminary Engineering Plans assumed it would be replacement in kind, however, since the existing Pearce Street pedestrian overcrossing is not Americans with Disabilities Act (ADA) compliant, it may require different access points. The refined engineering plans also allowed determination of the proximity of setback for possible landscaping and determination of preliminary noise barriers.</p> <p>In refining the engineering plans and with the availability of more detailed design level surveys, a total of seventeen new residential parcels have been identified for partial acquisition in this FEIS/EIR that were not previously included in the August 2001 DEIR/EIS. These include partial acquisitions at Yockey Bridge, along Dunklee Avenue on the north side of the freeway, and at El Prado Avenue on the south side of the freeway in the City of Garden Grove. Please see Figure 2.2-4 for the features of the Full Build Alternative.</p>
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Table S.6-1 (continued)	
Description of Alternatives	
Full Build Alternative (continued)	In addition, further engineering studies identified potential conflicts with the location of proposed bridge columns and existing traffic conditions, primarily in left-turn lanes. One involves Sorrel Drive in the City of Garden Grove local streets. As result, the traffic team met with the City to discuss these issues.

**Table S. 6-2
Summary of Addresses of Residential Displacements & Partial Acquisitions*
By Alternative**

City	Reduced Build (August 2001)		Full Build (August 2001)		(Enhanced) Reduced Build** (March 2003)		Full Build (March 2003)		
	Displacement	Partial Acquisition	Displacement	Partial Acquisition	Displacement	Partial Acquisition	Displacement	Partial Acquisition	
Orange	592 S. Devon Rd.	None	802 N. Fairview St.	334 S. Jennifer Lane 350 S. Jennifer Lane 358 S. Jennifer Lane 372 S. Jennifer Lane 380 S. Jennifer Lane 394 S. Jennifer Lane 404 S. Jennifer Lane 416 S. Jennifer Lane 426 S. Jennifer Lane 438 S. Jennifer Lane 450 S. Jennifer Lane 458 S. Jennifer Lane 2144 Deborah Lane	592 S. Devon Rd.		802 N. Fairview St. 3821 W. Park Balboa 3825 W. Park Balboa 3811 W. Park Balboa 3815 W. Park Balboa 3803 W. Park Balboa 3807 W. Park Balboa 3743 W. Park Balboa 3747 W. Park Balboa 3735 W. Park Balboa 3739 W. Park Balboa 3725 W. Park Balboa 3729 W. Park Balboa 3717 W. Park Balboa 3721 W. Park Balboa 3707 W. Park Balboa 3711 W. Park Balboa 3647 W. Park Balboa 3701 W. Park Balboa 3639 W. Park Balboa 3643 W. Park Balboa 3629 W. Park Balboa 3633 W. Park Balboa 3621 W. Park Balboa 3625 W. Park Balboa 3611 W. Park Balboa 3615 W. Park Balboa 3603 W. Park Balboa 3607 W. Park Balboa 3543 W. Park Balboa 3547 W. Park Balboa 3533 W. Park Balboa 592 S. Devon Rd. 2026 E. Fairway Dr. 2024 E. Fairway Dr. 2022 E. Fairway Dr. 2043 Palmyra Ave. 2045 Palmyra Ave 1925 E. La Veta Ave Units 22A-38,		334 S. Jennifer Lane 350 S. Jennifer Lane 358 S. Jennifer Lane 372 S. Jennifer Lane 380 S. Jennifer Lane 394 S. Jennifer Lane 404 S. Jennifer Lane 416 S. Jennifer Lane 426 S. Jennifer Lane 438 S. Jennifer Lane 450 S. Jennifer Lane 458 S. Jennifer Lane 2144 Deborah Lane

**Table S. 6-2
Summary of Addresses of Residential Displacements & Partial Acquisitions*
By Alternative**

City	Reduced Build (August 2001)		Full Build (August 2001)		(Enhanced) Reduced Build** (March 2003)		Full Build (March 2003)		
	Displacement	Partial Acquisition	Displacement	Partial Acquisition	Displacement	Partial Acquisition	Displacement	Partial Acquisition	
Los Alamitos/ Rossmoor	None	11801 Martha Ann Dr.	None	11801 Martha Ann Dr.	None	None	None	None	
		11821 Martha Ann Dr.		11821 Martha Ann Dr.					
		11831 Martha Ann Dr.		11831 Martha Ann Dr.					
		11841 Martha Ann Dr.		11841 Martha Ann Dr.					
		11861 Martha Ann Dr.		11861 Martha Ann Dr.					
11871 Martha Ann Dr.	11871 Martha Ann Dr.								
Seal Beach	3541 Rose Circle 3510 Oleander St 3521 Pansy Circle 3520 Pansy Circle 3531 Primrose Circle 3530 Primrose Circle	None	3541 Rose Circle 3510 Oleander St 3521 Pansy Circle 3520 Pansy Circle 3531 Primrose Circle 3530 Primrose Circle	None	None	None	None	None	
									11801 Martha Ann Dr.
									11821 Martha Ann Dr.
									11831 Martha Ann Dr.
									11841 Martha Ann Dr.
11861 Martha Ann Dr.									
11871 Martha Ann Dr.									

Note: *Some of the Displacements and Partial Acquisitions from the August 2001 DEIR/S are no longer applicable in this March 2003 FEIS/R due to design refinements and/or in response to comments received from the DEIR/S. Refer to Section 4.6 for details.

**The (Enhanced) Reduced Build is the identified Preferred Alternative. Please refer to S.4.3.1 for discussions on the identified Preferred Alternative.

***13591 Barnett Way was erroneously listed as 13581 Barnett Way in the August 2001 DEIR/EIS

**Table S. 6-3
Summary of Addresses of Non-Residential Displacements & Partial Acquisitions
By Alternative**

City	Reduced Build ¹ (August 2001)		Full Build (August 2001)		Enhanced Reduced Build ⁵ (March 2003)		Full Build (March 2003)	
	Displacement	Partial Acquisition	Displacement	Partial Acquisition	Displacement	Partial Acquisition	Displacement	Partial Acquisition
Orange ³	505 City Dr, Ste. 203 505 City Dr, Ste. 204 505 City Dr, Ste. 100	1 City Blvd W. #1010 1 City Blvd W. #1010 601 S. Lewis St.	505 City Dr, Ste. 203 505 City Dr, Ste. 204 505 City Dr, Ste. 100 700 S. Tustin St Ste. C 700 S. Tustin St Ste. D 700 S. Tustin St Ste. A 700 S. Tustin St Ste. E 700 S. Tustin St Ste. B	1 City Blvd. W. #1010 1 City Blvd. W. #1010 601 S. Lewis St	595 City Dr, Ste. 201 595 City Dr, Ste. 202 595 City Dr, Ste. 203 595 City Dr, Ste. 204 595 City Dr, Ste. 205 595 City Dr, Ste. 206	601 S. Lewis St. 3400 W. Metropolitan Dr. SCE Substation SCE Substation	595 City Dr, Ste. 201 595 City Dr, Ste. 202 595 City Dr, Ste. 203 595 City Dr, Ste. 204 595 City Dr, Ste. 205 595 City Dr, Ste. 206 700 S. Tustin St Ste. C 700 S. Tustin St Ste. D 700 S. Tustin St Ste. A 700 S. Tustin St Ste. E 700 S. Tustin St Ste. B	1 City Blvd. W. #1010 1 City Blvd. W. #1010 601 S. Lewis Street 3400 W. Metropolitan Dr. SCE Substation SCE Substation
Los Alamitos/Rossmoor	None	None	None	None	None	Bixby Channel/ Montecito Channel	None	Bixby Channel/ Montecito Channel
Seal Beach	None.	3101 Seal Beach Blvd.	None	3101 Seal Beach Blvd.	None	U.S. Naval Weapons Station ²	None	U.S. Naval Weapons Station ²

Note: 1. Some of the Displacements and Partial Acquisitions from the August 2001 DEIR/S are no longer applicable in this March 2003 FEIS/R due to design refinements and/or in response to comments received from the DEIR/S. Refer to Section 4.6 for details.
 2. The U.S. Naval Weapons Station is shown because the proposed project would require a utility easement on their property.
 3. Addresses listed as 505 City Dr. in the August 2001 DEIR/EIS Reduced and Full Build alternatives were erroneously listed. They should be 595 City Dr., as shown in this FEIS/R. Also, Suites 201, 205, and 206 should have been listed in the August 2001 DEIR/EIS, but they were also erroneously left out.
 4. 561 & 591 City Dr. were listed as "The City Drive South" in the August 2001 DEIR/EIS.
 5. The (Enhanced) Reduced Build is the identified Preferred Alternative. Please refer to S.4.3.1 for discussions on the identified Preferred Alternative.

S.7 PROJECT IMPACTS/MITIGATION

Table S.7-1 summarizes the potential environmental impacts anticipated for the identified Preferred Alternative, organized by topic. The impacts discussed in this Table are meant as a quick reference guide, these topics are fully discussed in Sections 3.0 and 4.0, and in the technical analyses. The proposed SR-22/West Orange County Connection project has potential impacts, including those related to cultural and biological resources, community cohesion, residential and non-residential displacements, transportation and circulation, noise, parks, and visual resources. The community impacts would generally be addressed with relocation assistance. Noise barriers are proposed to abate the impacts of increased highway traffic noise. The removal of existing vegetation would be associated with visual impacts, and all efforts would be made to preserve existing landscaping. Where possible, new landscaping would be placed where it can be sufficiently maintained and irrigated. These impacts and their mitigation measures are further discussed in Section 4.0 of the FEIS/EIR and the technical reports for the identified Preferred Alternative.

The other alternatives not identified as the Preferred Alternative are briefly summarized, and they are discussed in detail in Section 4.0 of the August 2001 DEIR/EIS. Additional supplemental analyses that accompany this FEIS/EIR are air quality, historical properties, initial site assessment, natural environment study report, noise, traffic, relocation and visual impacts. These supplemental reports are summarized in Section 4.0 of the FEIS/EIR.

S.8 PERMITS/COORDINATION WITH RESOURCE AGENCIES

During the early phase of the SR-22/WOCC proposed project, the Department initiated coordination with several resource agencies to determine the possible required permits. The regulatory agencies were contacted as part of the coordination and consultation efforts:

- A. U.S. Fish and Wildlife Service (USFWS): As part of the coordination and consultation efforts, in June 2000 the Department contacted USFWS requesting information on sensitive/listed species that may occur within the limits of the SR-22/WOCC study area. The "Federally Listed and Proposed Species and Critical Habitat" list provided by USFWS was used as an inventory list for surveying the project study area to determine if any of these species were present. Upon surveying the project study area, it was determined that none of these species was present at the time of the surveys.
- B. California Department of Fish and Game (CDFG): A Section 1601 Streambed/Lake Alteration Agreement from CDFG will be required if there is diversion or obstruction in the natural flow or change of the bed, channel or bank of any river, stream or lake, or use of any material from a streambed designated by CDFG as an existing fish or wildlife resource. The appropriate permit, if required, would be obtained following approval of the FEIS/EIR by the lead agency.
- C. U.S. Army Corps of Engineers (ACOE): the Department, OCTA and the SR-22/WOCC consultants have informally consulted with the Corps regarding permitting for the various project elements. Specifically, a draft NEPA/Section 404 Permit Process Determination Preliminary Information Package was prepared. The Section 404 Memorandum of Understanding (MOU) process was not applied because of the anticipated applicability of a Nationwide 404 permit.
- D. State Historic Preservation Office (SHPO): the Department has provided the Historic Property Survey Report (HPSR), Historic Architectural Survey Report (HASR), and the Negative Archaeological Survey Report to FHWA for transmittal to the State Historic Preservation Officer (SHPO). The SHPO concurrence on the HPSR and Determination of Effect Finding of Adverse Effect (DOE/FOE) documentation is as follows:
 - SHPO concurs that the Reduced Build Alternative, if selected as the Preferred Alternative, would have no effect on properties eligible for listing on the National Register of Historic Places. SHPO also concurred with the finding that the Full Build Alternative (with the

proposed Pacific Electrical Arterial component) would have an adverse effect on the Pacific Electric/Santa Ana River Bridge.

- As part of the (Enhanced) Reduced Build Alternative, a Supplemental Historic Property Survey Report (HPSR) was prepared to ensure all of the properties identified in the FEIS/EIR are not eligible for listing on the National Register of Historic Places. The potential displacement of properties (residential and non-residential) will not be finalized until the approval of final design. The properties identified in the FEIS/EIR are preliminary and are subject to change. SHPO concurs that the (Enhanced) Reduced Build Alternative properties are not eligible for listing on the National Register of Historic Places. See Appendix B (Volume IV) of the FEIS/EIR to review the SHPO concurrence letter.
- E. During the public review period of the DEIR/EIS, the California Air Resources Board was solicited for comments on the environmental document. Although not required by the California Environmental Quality Act (CEQA), a letter was sent to CARB on October 22, 2001 in accordance with Chapter 3, section 21104 (b) of the CEQA Statute: "the state lead agency shall consult with, and obtain comments from, the State Air Resources Board in preparing an environmental impact report on a highway or freeway project, as to the air pollution impact of the potential vehicular use of the highway or freeway." However, no comments were received from CARB on the SR-22/WOCC proposed project's DEIR/EIS.
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