DEL AMO BOULEVARD EXTENSION PROJECT

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RECIRCULATED
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ENVIRONMENTAL IMPACT REPORT / ENVIRONMENTAL ASSESSMENT

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DEL AMO BOULEVARD EXTENSION PROJECT
TORRANCE, LOS ANGELES COUNTY, CALIFORNIA

ENVIRONMENTAL IMPACT REPORT / ENVIRONMENTAL ASSESSMENT

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U.S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration, and
THE STATE OF CALIFORNIA
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Federal Highway Administration

DEL AMO BOULEVARD EXTENSION PROJECT RECIRCULATED DRAFT ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL ASSESSMENT

The Del Amo Boulevard Extension Project Draft Environmental Impact Report/Environmental Assessment (EIR/EA) was originally circulated for public review from December 2, 2002, initiating a 45-day public review period. The document is being recirculated in conformance with the California Department of Transportation's (Caltrans) and the Federal Highway Administration's (FHWA) National Environmental Policy Act (NEPA) guidelines. Comments received during the 45-day public review period have been addressed and are included in Section 11.0.

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EXECUTIVE SUMMARY

INTRODUCTION

This Environmental Impact Report/Environmental Assessment (EIR/EA) has been prepared by the City of Torrance (City), the California Department of Transportation (Caltrans), and the Federal Highway Administration (FHWA) to evaluate the potential environmental effects of the proposed extension of Del Amo Boulevard. This document has been prepared jointly by the City (local lead agency) and FHWA (federal lead agency) in accordance with the California Environmental Quality Act of 1970 (CEQA) Statutes and implementing guidelines; the National Environmental Policy Act of 1969 (NEPA); the Council on Environmental Quality (CEQ) regulations implementing NEPA; and FHWA Guidelines for applying NEPA. The main purpose of this EIR/EA is to inform governmental decision makers and the public about potential environmental impacts of the proposed action.

PROJECT LOCATION

The proposed roadway extension site is located in the City between the intersections of Del Amo Boulevard at Maple Avenue to the west and Del Amo Boulevard at Crenshaw Boulevard to the east. Most of the project site is currently a vacant right-of-way (ROW), surrounded by industrial land uses. The Exxon-Mobil Refinery is located immediately north of the project site, and the Dow Chemical manufacturing plant is located immediately south. Single-family residences are located on Del Amo Boulevard east of Crenshaw Boulevard and multiple residential and office/commercial uses west of Madrona Avenue/Prairie Avenue.

PROJECT PURPOSE AND NEED

Del Amo Boulevard is a principal arterial in the City of Torrance and is discontinuous between Crenshaw Boulevard, on the east, and Maple Avenue, on the west. The purpose of the proposed project is to construct the missing segment of Del Amo Boulevard and make it a continuous east-west arterial, as set forth in the City's Circulation Element of the General Plan. Del Amo Boulevard is also designated as a major highway in the Los Angeles County Master Plan of Highways. Additionally, the proposed project is programmed into the Southern California Association of Government's (SCAG) approved Regional Comprehensive Plan and Guide (RCPG) and Regional Transportation Plan (RTP) and the approved Federal Statewide Transportation Improvement Program and the Federal Transportation Improvement Plan (FSTIP/FTIP).

The project is needed as it would relieve existing and future congestion along adjacent east-west streets in the City, and would improve air quality and decrease noise pollution by improving traffic circulation. It also would improve the level of service (LOS) at several intersections in the project vicinity. Many intersections would remain at or reach an unacceptable LOS, as forecasted in the year 2020, unless the existing circulation system is improved.

ALTERNATIVES

Four alternatives are analyzed at an equal level of detail in this document. The No Action Alternative is required by CEQA and NEPA and is analyzed as Alternative 1. Three other action alternatives are analyzed in this Draft EIR/EA, all of which would extend and widen Del Amo Boulevard but would have varying design speeds or retaining wall properties.

Alternative 1: No Action Alternative

The No Action Alternative would maintain the current local and regional circulation system. The extension of Del Amo Boulevard between Maple Avenue and Crenshaw Boulevard would not be constructed; thus, the proposed alternate east-west route between 190th Street and Torrance Boulevard would not be established. The project alignment would remain as an industrial ROW, and the railroad ROW would be undisturbed. East-west traffic in the area would continue to use either 190th Street to the north or Torrance Boulevard to the south as alternatives to Del Amo Boulevard.

Alternative 2: 55 MPH Design Speed with MSE Retaining Wall (Proposed Action)

Alternative 2 entails a 0.7-mile extension of Del Amo Boulevard between Crenshaw Boulevard and Maple Avenue, and 0.5 mile of road widening between Maple Avenue and Madrona Avenue/Prairie Avenue. The eastern segment of Del Amo Boulevard currently terminates just west of Crenshaw Boulevard near the entrance to the Dow Chemical manufacturing plant; the western segment terminates at Maple Avenue. The proposed action would connect these two segments of Del Amo Boulevard to provide a continuous road through an industrial ROW. The extension and widening of Del Amo Boulevard would include the following components:

- construction of a new four-lane roadway;
- construction of a new bridge over the Burlington Northern Santa Fe (BNSF) railroad tracks;
- realignment of a portion of a railroad spur along the southern boundary of the Exxon-Mobil property;
- construction of mechanically stabilized embankment (MSE) retaining walls;
- drainage improvements;
- relocation of affected utilities;
- relocation/reconstruction of affected off-site facilities;
- modification of the traffic signal at the intersections of Madrona Avenue/Prairie Avenue at Del Amo Boulevard and Crenshaw Boulevard at Del Amo Boulevard;
- installation of a new traffic signal at Maple Avenue; and
- optional bicycle lane and pedestrian facility on the south side of Del Amo Boulevard only.

Alternative 3: 55 MPH Design Speed with Type 1 Retaining Wall

The project components under this alternative would be the same as those identified above for Alternative 2. However, a Type 1 retaining wall would be used for structural support of the elevated roadway instead of an MSE retaining wall as indicated above. (Type 1 retaining walls generally consist of cantilever or stem walls, which are comprised of reinforced concrete and are the most common type of gravity wall.) The alignment for this alternative would be the same as Alternative 2; however, this alternative would have a slightly larger footprint and would require approximately 43,800 cubic yards of additional fill material.

2.3.4 Alternative 4: 50 MPH Design Speed with MSE Retaining Wall

The project components under this alternative would be the same as those identified above for Alternative 2; however, a design speed of 50 mph would be applied. The vertical profile alignment would be the main design feature affected by a reduction in design speed. This alternative would allow the use of shorter vertical curves, which would slightly reduce roadway fill requirements and lower retaining wall heights. Motorists would experience slightly "tighter" curves with a smaller turn radius.

AREAS OF KNOWN CONTROVERSY

Several comments were received in response to the Notice of Preparation (NOP)/Initial Study for this Draft EIR/EA and at the public scoping meeting for the project. Copies of the comment letters are provided in Appendix A. The primary areas of controversy identified by the public and agencies involved increased traffic volumes on Del Amo Boulevard and related safety issues. In particular, nearby residents were concerned with existing vehicle speeds on Del Amo Boulevard between Crenshaw Boulevard and Van Ness Avenue and suggested the City consider a pedestrian crossing and traffic calming measures. Also suggested were bike lanes along Del Amo Boulevard and consideration of alternative routes/alignments to complete missing segments of Del Amo Boulevard. These issues will be addressed a Vehicle/Pedestrian/Bicycle Circulation and Management Study (see Section 3.5, Transportation and Circulation, 3.5.4, Mitigation Measures), to be prepared by the City during the design phase of the proposed project.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

In addition, public agencies, when approving a project, must also adopt a mitigation monitoring and reporting program (MMRP) describing the changes that were incorporated into the project or made a condition of project approval in order to mitigate or avoid significant effects on the environment (Pub. Res. Code § 21081.6). The MMRP is adopted at the time of project approval and is designed to ensure compliance during project implementation. Upon approval of the proposed project, the City will be responsible for the implementation of the proposed project's MMRP.

Table ES-1 provides a summary of the impacts associated with the project alternatives. Also included in this table are the recommended mitigation measures and a determination of the level of significance of the impacts after incorporation of the mitigation measures (Residual Impacts).

Table ES-1. Summary of Environmental Impacts and Mitigation Measures

ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4
Land Use And Planning			
Impact: Implementation of this alternative would result in the continued use of the site in its existing condition. Although the roadway would not be constructed, as programmed in the City's General Plan, the No Action Alternative would not substantially conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Accordingly, no impacts to land use would occur under this alternative. **Mitigation:** None required. **Residual Impact:** None.	**Impact:** This alternative would be compatible with surrounding land uses, comply with relevant plans, and require land acquisition from neighboring properties. Land use impacts would be less than significant. **Mitigation:** None required. **Residual Impact:** None.	**Impact:** This alternative would be compatible with surrounding land uses, comply with relevant plans, and require land acquisition from neighboring properties. Land use impacts would be less than significant. **Mitigation:** None required. **Residual Impact:** None.	**Impact:** This alternative would be compatible with surrounding land uses, comply with relevant plans, and require land acquisition from neighboring properties. Land use impacts would be less than significant. **Mitigation:** None required. **Residual Impact:** None.
Aesthetics, Light, and Glare			
Impact: Under this alternative, no visual changes would occur at the project site; however, the existing visual character of the ROW would not be improved. The unsightly patches of ruderal and unmaintained vegetation and deteriorating drainage channels would remain. Potential benefits of uniformed landscaping would not be realized. **Mitigation:** None required. **Residual Impact:** None.	**Impact:** Given the industrial nature of the surrounding premises, the proposed extension under this alternative would be visually compatible with its surroundings and, therefore, would result in a less than significant impact to aesthetics, light, and glare. **Mitigation:** None required. **Residual Impact:** None.	**Impact:** With the exception of the appearance of the retaining wall, this alternative would appear identical to Alternative 2. Therefore, this alternative would have a less than significant impact on aesthetics, visual quality, and light and glare. **Mitigation:** None required. **Residual Impact:** None.	**Impact:** This alternative would have slightly tighter curves than Alternative 2, but the change in roadway design would not be perceptible to viewers. Aesthetics, visual quality, and light and glare impacts associated with this alternative would be the same as those identified for Alternative 2. Therefore, this alternative would have a less than significant impact on aesthetics, visual quality, and light and glare. **Mitigation:** None required. **Residual Impact:** None.

Table ES-1. Summary of Environmental Impacts and Mitigation Measures (Continued)

ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4
Geology And Soils			
Impact: This alternative would result in the continued use of the site in its existing condition. Since the proposed bridge and roadway extension would not be constructed, no new structures would be exposed to seismic or other geological hazards. Impacts to geology and soils would not occur under this alternative. **Mitigation:** None required. **Residual Impact:** None.	**Impact:** This alternative would require approximately 74,800 cubic yards of fill material. Under this alternative, impacts associated with ground stability during earthquake events and expansive soils would be potentially significant, but impacts related to fault rupture, landslides, soil erosion, liquefaction, and seismically induced flooding would be less than significant. **Mitigation:** • A professional civil/geotechnical engineer shall prepare a geotechnical report for the proposed project. The report, to be submitted to the Engineering Director prior to design approval, shall examine the type and degree of earthwork required for the project. This report shall concentrate on issues of geologic stability and may include but is not limited to determining the presence, depth, and texture of unconsolidated sediments. The geotechnical report shall include analysis to determine the presence, depth, and lateral extent of expansive soils at the site, and recommend techniques for reducing the impact of expansive soils. If expansive soils are encountered, mitigation measures may include excavation and replacement of expansive soils, lime-stabilization, or other proven engineering practices. • The final design of the proposed roadway shall be approved by a professional civil/geotechnical engineer prior to construction, to ensure that it meets all state and city specifications	**Impacts:** Impacts associated with this alternative would be similar to those identified for Alternative 2. This alternative would require approximately 118,600 cubic yards of fill material, 43,800 cubic yards more than required for Alternative 2. Additionally, because a Type 1 retaining wall would require more space than the MSE retaining wall, the footprint of the support structures would be slightly larger. Soil disturbance would be slightly greater for this alternative; however, the level of significance of impacts associated with this alternative would be the same as those identified for Alternative 2. **Mitigation:** A professional civil/geotechnical engineer shall prepare a geotechnical report for the proposed project. The report, to be submitted to the Engineering Director prior to design approval, shall examine the type and degree of earthwork required for the project. This report shall concentrate on issues of geologic stability and may include but is not limited to determining the presence, depth, and texture of unconsolidated sediments. The geotechnical report shall include analysis to determine the presence, depth, and lateral extent of expansive soils at the site, and recommend techniques for reducing the impact of expansive soils. If expansive soils are encountered, mitigation measures may include excavation and replacement of expansive soils, lime-stabilization, or other proven engineering practices.	**Impact:** Overall, impacts associated with this alternative would be similar to those identified for Alternative 2. Because the 50 mph design speed would allow the use of shorter vertical curves, this alternative would reduce roadway fill. This alternative would require approximately 72,000 cubic yards of fill material, 2,800 cubic yards less than required for Alternative 2. Additionally, retaining wall heights would also be slightly reduced. Soil disturbance would be slightly less for this alternative; however, the level of significance of impacts associated with this alternative would be the same as described for Alternative 2. **Mitigation:** Same as Alternative 2. **Residual Impact:** None.

Table ES-1. Summary of Environmental Impacts and Mitigation Measures (Continued)

ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4
	applicable to the project site, including but not limited to local grading standards, engineering codes, and Title 24 of the California Building Code requirements. • The MSE retaining walls shall be constructed in accordance with applicable Caltrans requirements. In particular, design and construction of the roadway shall conform with the Caltrans' Division of Structures' Mechanically Stabilized Embankment Details No. 1 through 9. **Residual Impact:** None.	The final design of the proposed roadway shall be approved by a professional civil/geotechnical engineer prior to construction, to ensure that it meets all state and city specifications applicable to the project site, including but not limited to local grading standards, engineering codes, and Title 24 of the California Building Code requirements. **Residual Impact:** None.	
Floodplain/Water Resources/Hydrology			
Impact: This alternative would result in continued use of the site in its existing condition. Surface drainage patterns would remain the same, and water quality impacts from construction activities would not occur. Impacts to flooding, hydrology, and water resources would not occur under this alternative. **Mitigation:** None required. **Residual Impact:** None.	**Impact:** Temporary water quality impacts during construction would occur. However, implementation of the required Storm Water Pollution Prevention Plan (SWPPP) would ensure that water quality impacts are less than significant. **Mitigation:** None required. **Residual Impact:** None.	**Impact:** Temporary water quality impacts during construction would be slightly greater for this alternative and the amount of impervious surface would be slightly larger than those for Alternative 2; however, the level of significance for impacts would be the same as those described for Alternative 2. **Mitigation:** None required. **Residual Impact:** None.	**Impact:** Temporary water quality impacts during construction would be similar to those for Alternative 2 and would be less than significant **Mitigation:** None required. **Residual Impact:** None.
Transportation and Circulation			
Impact: Of the 28 analyzed intersections analyzed, 21 are projected to operate at LOS E or F during one or both of the peak hours. Traffic volumes along local roadway segments would also continue to increase. Traffic impacts at these locations would be significant and unavoidable. These traffic impacts would not be a direct result of the No Action	**Impact:** Of the 28 intersections analyzed, 15 are projected to operate at LOS E or F during one or both of the peak hours. 10 of the 28 residential street segments would also be significantly impacted by the traffic diversion resulting from the proposed extension. **Mitigation:** Specific mitigation measures	**Impact:** Of the 28 intersections analyzed, 15 are projected to operate at LOS E or F during one or both of the peak hours. 10 of the 28 residential street segments would also be significantly impacted by the traffic diversion resulting from the proposed extension. **Mitigation:** Specific mitigation measures	**Impact:** Of the 28 intersections analyzed, 15 are projected to operate at LOS E or F during one or both of the peak hours. 10 of the 28 residential street segments would also be significantly impacted by the traffic diversion resulting from the proposed extension. **Mitigation:** Specific mitigation measures

Table ES-1. Summary of Environmental Impacts and Mitigation Measures (Continued)

ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4
Alternative; rather, these impacts would result due to projected growth in the City and surrounding communities. **Mitigation:** None proposed. **Residual Impact:** Significant and unavoidable.	are proposed for 7 of the 15 significantly impacted intersections, as presented in Section 3.5 of this Draft EIR/EA. No mitigation measures were proposed for significantly impacted residential street segments. **Residual Impact:** Significant and unavoidable impacts at eight of the 28 study intersections and on 10 of the 28 study street segments.	are proposed for 7 of the 15 significantly impacted intersections, as presented in Section 3.5 of this Draft EIR/EA. No mitigation measures were proposed for significantly impacted residential street segments. **Residual Impact:** Significant and unavoidable impacts at eight of the 28 study intersections and on 10 of the 28 study street segments.	are proposed for 7 of the 15 significantly impacted intersections, as presented in Section 3.5 of this Draft EIR/EA. No mitigation measures were proposed for significantly impacted residential street segments. **Residual Impact:** Significant and unavoidable impacts at eight of the 28 study intersections and on 10 of the 28 study street segments.
Air Quality			
Impact: No short-term project emissions associated with construction and diesel exhaust would be generated; however, long-term emissions associated with local traffic in the project area may create significant air quality impacts. Local roadways and intersections, including those intersections along 190th Street and Torrance Boulevard, would continue to deteriorate, experience unacceptable levels of service, and remain heavily congested. Consequently, as these roadways and intersections become more congested and traffic queues become longer, local pollutant concentrations at these locations may be exacerbated and contribute to the creation of pollutant hot spots, particularly CO and PM_{10}. **Mitigation:** None proposed. **Residual Impact:** Significant and unavoidable.	**Impact:** Short-term impacts associated with project construction would be significant under this alternative as the SCAQMD daily NO_x emissions threshold would be temporarily exceeded. Long-term emissions would be less than significant as air pollution concentrations at congested intersections would be improved. **Mitigation:** • Gasoline fuel instead of diesel fuel shall be used to power heavy construction equipment, whenever feasible. • All equipment shall be properly tuned and maintained. • General contractors shall maintain and operate construction equipment so as to minimize exhaust emissions. During construction, trucks and vehicles in loading or unloading queues shall have their engines off, when not in use, to reduce vehicle emissions. • Construction activities shall be phased and scheduled to avoid emissions peaks and shall be discontinued during second-stage smog alerts. • Land disturbance shall be minimized to	**Impact:** Short-term impacts associated with project construction would be significant under this alternative as the SCAQMD daily NO_x emissions threshold would be temporarily exceeded. Long-term emissions would be less than significant as air pollution concentrations at congested intersections would be improved. **Mitigation:** Same as Alternative 2. **Residual Impact:** None.	**Impact:** Short-term impacts associated with project construction would be significant under this alternative as the SCAQMD daily NO_x emissions threshold would be temporarily exceeded. Long-term emissions would be less than significant as air pollution concentrations at congested intersections would be improved. **Mitigation:** Same as Alternative 2. **Residual Impact:** None. .

Table ES-1. Summary of Environmental Impacts and Mitigation Measures (Continued)

ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4
	the extent feasible. • Haul trucks shall be covered when loaded with fill. • Surface of dirt piles shall be stabilized if not removed immediately. • Paved streets shall be swept at least once per day where there is evidence of dirt that has been carried onto the roadway. • Disturbed areas that will not be paved as part of the proposed action shall be revegetated to prevent soil erosion. • Cease all earth moving activities or apply water to soil not more than 15 minutes prior to moving such soil. • For disturbed surfaces to be left inactive for several days apply water with a chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of six months; or apply chemical stabilizers prior to wind event; or apply water to all unstabilized disturbed areas 3 times per day; or utilize a combination of these actions. • For unpaved roads, apply chemical stabilizers prior to wind event, or apply water once per hour during active operation, or stop all vehicular traffic. • For open storage piles, apply water once per hour, or install temporary coverings. • For paved road track-out, cover all haul vehicles, or comply with vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both public and private roads. **Residual Impact:** None.		

Table ES-1. Summary of Environmental Impacts and Mitigation Measures (Continued)

ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4
Noise			
Impact: No temporary increases in noise levels due to project construction would occur under this alternative. This alternative would result in increases in noise levels along all of the analyzed roadway segments. These increases would range from 1 to 4 dBA, L_{eq} and would primarily be attributable to the growth of the surrounding community. Although traffic noise impacts are identified because of the exceedance of the Noise Abatement Criteria (NAC), the noise increases would not exceed existing noise levels by 12 dBA, L_{eq}; therefore, no significant impacts to ambient noise levels would result from the No Action Alternative since no substantial noise increases would occur. **Mitigation:** None required. **Residual Impact:** None.	**Impact:** Short-term noise impacts associated with project construction would be considered adverse but not significant under this alternative. Although predicted noise levels would exceed the NAC to create a traffic noise impact, the noise increases would not exceed existing noise levels by 12 dBA, L_{eq}. No substantial increases in noise levels are anticipated for the 36 locations analyzed; therefore, significant traffic noise impacts would not occur. Although no significant noise impacts are anticipated during project construction, the following noise abatement measures should be incorporated into the project to minimize the adverse noise impacts on sensitive receptors in the project area: **Mitigation:** • Staging areas for the storage and maintenance of construction equipment shall be arranged so that the noisiest activities will be located at the furthest practicable distance from residences. Where feasible, stockpiled materials should be located to provide noise barriers between noisy activities and nearby residential receptors. Equipment maintenance and other noisy activities shall not be undertaken in staging areas near residential receptors. • Contractors shall comply with Caltrans Standard Specifications Sections 7 and 42 and Standard Special Provisions for limits on construction noise levels. • Contractors shall comply with all local noise level standards, regulations, and ordinances that apply to any work	**Impact:** Short-term noise impacts associated with project construction would be considered adverse but not significant under this alternative. Although predicted noise levels would exceed the NAC to create a traffic noise impact, the noise increases would not exceed existing noise levels by 12 dBA, L_{eq}. No substantial increases in noise levels are anticipated for the 36 locations analyzed; therefore, significant traffic noise impacts would not occur. **Mitigation:** Same as Alternative 2. **Residual Impact:** None.	**Impact:** Short-term noise impacts associated with project construction would be considered adverse but not significant under this alternative. Although predicted noise levels would exceed the NAC to create a traffic noise impact, the noise increases would not exceed existing noise levels by 12 dBA, L_{eq}. No substantial increases in noise levels are anticipated for the 36 locations analyzed; therefore, significant traffic noise impacts would not occur. **Mitigation:** Same as Alternative 2. **Residual Impact:** None.

Table ES-1. Summary of Environmental Impacts and Mitigation Measures (Continued)

ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4
	performed pursuant to the contract. • Each internal combustion engine shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the project without said muffler. **Mitigation to be discussed at public hearing:** The City will consider noise abatement for the residences on Del Amo Boulevard east of Crenshaw Avenue. While noise abatement would not be feasible, it is the preliminary decision of the City of Torrance to consider noise abatement measures if requested by the affected homeowners during the 45-day for public review period of this EIR/EA. Although a noise barrier would not achieve a 5 dBA noise reduction, the City will also consider noise abatement measures for the exterior use area of the residence at 3402 Del Amo Boulevard if requested by the property owner during the 45-day public review period of this EIR/EA. **Residual Impact:** None.		
Hazards and Hazardous Materials			
Impact: Implementation of this alternative would result in the continued use of the site in its existing condition. The soil and groundwater contamination that occurs at various locations on site would remain, and the potential exposure to hazardous materials during construction activities would not occur. Impacts related to hazards or hazardous materials would not occur under this	**Impact:** Impacts related to soil contamination, risk or upset, driver distraction, and emergency evacuation under this alternative would be potentially significant, while impacts to groundwater contamination, heat flux, and schools would be less than significant. **Mitigation:** • The City shall prepare and implement a	**Impact:** Impacts related to soil contamination, risk or upset, driver distraction, and emergency evacuation under this alternative would be potentially significant, while impacts to groundwater contamination, heat flux, and schools would be less than significant. **Impact:** Impacts related to soil contamination, risk or upset, driver	**Impact:** Impacts related to soil contamination, risk or upset, driver distraction, and emergency evacuation under this alternative would be potentially significant, while impacts to groundwater contamination, heat flux, and schools would be less than significant. **Impact:** Impacts related to soil contamination, risk or upset, driver

Table ES-1. Summary of Environmental Impacts and Mitigation Measures (Continued)

ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4
alternative. **Mitigation:** None required. **Residual Impact:** None.	soil remediation plan for the project. This plan shall incorporate the results and recommendations provided in the Phase II Soil Investigation Report prepared for this EIR/EA. The plan shall characterize the extent of soil contamination in the project area and identify appropriate methods for on-site remediation and/or removal and disposal of contaminated soil. Additional testing may be required to determine the extent of contamination within the areas of excavation. In areas of suspected contamination, surface samples shall be analyzed using appropriate collection and sampling techniques. During excavation, soils shall be segregated, sampled, and tested to determine the appropriate disposal and treatment options. If the soils exceed the applicable screening criteria established by the RWQCB or are classified as hazardous (according to Resource Conservation and Recovery Act [RCRA] and Cal. Code Regs. Title 22), soils shall be hauled to a Class I landfill or other appropriate soil treatment and recycling facility. • The City shall enter into an agreement with both Dow Chemical and Exxon-Mobil regarding disposal of any contaminated soil encountered during roadway work. This agreement shall be included in the ROW agreement for the project. The construction contractor shall hire a certified industrial hygienist to prepare a worker health and safety plan for the project. This plan must conform to U.S. Occupational Health and Safety Administration (OSHA) requirements for construction sites with hazardous materials present during	distraction, and emergency evacuation under this alternative would be potentially significant, while impacts to groundwater contamination, heat flux, and schools would be less than significant. **Mitigation:** Same as Alternative 2. **Residual Impact:** None.	distraction, and emergency evacuation under this alternative would be potentially significant, while impacts to groundwater contamination, heat flux, and schools would be less than significant. **Mitigation:** Same as Alternative 2. **Residual Impact:** None.

Table ES-1. Summary of Environmental Impacts and Mitigation Measures (Continued)

ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4
	construction. An independent consultant shall be hired to monitor compliance with the plan. • No Loitering signs shall be installed on the southern fenceline of the Exxon-Mobil Refinery; sign posting shall require permission from and coordination with Exxon-Mobil. • Traffic signalization for the proposed roadway, or equivalent safety measure, shall be implemented so that traffic, even during rush hour, is not backed up and "stalled" at the point closest to the elevated flare towers and the LPG storage area. • The frequency of testing and inspection of equipment in the LPG storage area shall be increased to further minimize the likelihood of a potential hydrocarbon release. • Ambient hydrocarbon detectors shall be installed on the southern perimeter of the South Oil Movements LPG Storage Area. A total of four detectors, the exact locations to be determined by the Exxon-Mobil Refinery, shall be installed. • Fire hydrants shall be required every 300 feet along the proposed Del Amo Boulevard extension. • Sidewalks or bicycle paths shall not be permitted on the north side of Del Amo Boulevard between Crenshaw Boulevard and Maple Avenue. • Signage shall be placed along both ends of the Del Amo Boulevard extension suggesting that motorists focus on their driving, even while a flaring event is in progress. • A brief article regarding the proposed project shall be prepared and presented		

Table ES-1. Summary of Environmental Impacts and Mitigation Measures (Continued)

ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4
	in the Community Report prepared by Exxon-Mobil. The article, meant to minimize the potential for driver distraction, shall inform the community of the potential for flaring events to occur while driving on the new roadway segment. • Remotely operated physical barriers (e.g., crossing gates) shall be constructed on both ends of the Del Amo Boulevard extension. The operation of these barriers shall be integrated with the operation of the existing barrier on Crenshaw Boulevard south of 190th Street. The City and Exxon-Mobil shall prepare a joint activation protocol for the barriers. • Traffic signalization shall include emergency traffic light sequencing capabilities for Del Amo Boulevard. • A median break similar to the ones installed on Crenshaw Boulevard between Del Amo Boulevard and 190th Street shall be provided in the final design of the roadway improvements. • The traffic flow diagrams in the Safety Advisor's Evaluation of Traffic Control Systems shall be updated to include the Del Amo Boulevard extension. Familiarization training shall be provided to Torrance Police Department personnel regarding the changes in traffic flow and the project's safety features (e.g., remotely operated barriers, etc.). • A physical barrier shall be considered along the north side of the proposed roadway to resist the potential overpressure from an explosion and to mitigate potential radiation from such		

Table ES-1. Summary of Environmental Impacts and Mitigation Measures (Continued)

ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4
	an explosion and flares. **Residual Impact:** None.		
Cultural Resources			
Impact: This alternative would result in the continued use of the site in its existing condition. Since the proposed bridge and roadway extension would not be constructed, no ground disturbance, which could result in the uncovering of archaeological resources, would occur. As such, no impacts to cultural resources would occur under this alternative. **Mitigation:** None required. **Residual Impact:** None.	**Impact:** There are no historic resources located near the Del Amo Boulevard Extension project site. Accordingly, this alternative would not impact any historic resources. The project site has been altered by previous construction activities that destroyed evidence of past human occupation within the Areas of Potential Effect (APE). However, it is possible that subsurface archaeological artifacts may be discovered during construction of the roadway extension. Although the probability of encountering buried archaeological resources is low, impacts to archaeological resources are considered to be potentially significant. **Mitigation:** • The City will be responsible for providing an archaeological monitor during excavation. If any cultural resources are found during site excavation and other ground-disturbing activities, work shall be halted in the area immediately until the resource can be assessed by a qualified archaeologist and recommendations for treatment can be made. • In the event that archaeological artifacts are recovered, the disposition of those artifacts will be undertaken in consultation with culturally affiliated Native Americans. • In the event that human remains are found during the excavation process, the City shall immediately halt all	**Impact:** There are no historic resources located near the Del Amo Boulevard Extension project site. Accordingly, this alternative would not impact any historic resources. The project site has been altered by previous construction activities that destroyed evidence of past human occupation within the Areas of Potential Effect (APE). However, it is possible that subsurface archaeological artifacts may be discovered during construction of the roadway extension. Although the probability of encountering buried archaeological resources is low, impacts to archaeological resources are considered to be potentially significant. **Mitigation:** Same as Alternative 2. **Residual Impact:** None.	**Impact:** There are no historic resources located near the Del Amo Boulevard Extension project site. Accordingly, this alternative would not impact any historic resources. The project site has been altered by previous construction activities that destroyed evidence of past human occupation within the Areas of Potential Effect (APE). However, it is possible that subsurface archaeological artifacts may be discovered during construction of the roadway extension. Although the probability of encountering buried archaeological resources is low, impacts to archaeological resources are considered to be potentially significant. **Mitigation:** Same as Alternative 2. **Residual Impact:** None.

Table ES-1. Summary of Environmental Impacts and Mitigation Measures (Continued)

ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4
	excavation and comply with the provisions of Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98, which mandates the process to be followed in the event of an accidental discovery of human remains in a location other than a dedicated cemetery. **Residual Impacts:** None.		
Biological Resources			
Impact: Implementation of this alternative would result in the continued use of the site in its existing condition. The existing land uses on site would remain, and impacts to biological resources would not occur. **Mitigation:** None required. **Residual Impacts:** None.	**Impact:** This alternative would not affect sensitive species, wetlands, or wildlife, and would not conflict with preservation policies and ordinances. Potentially significant impacts to nesting migratory nongame native bird species would be less than significant. **Mitigation:** • All tree and shrub removal shall occur outside of the nesting bird season (April 1- October 1) for migratory nongame native bird species, in accordance with the federal Migratory Bird Treaty Act. If nesting season cannot be avoided, a pre-construction nesting bird survey shall be conducted to determine the presence/absence of nesting birds. Any positive findings of presence of nesting birds shall be followed by consultation with the California Department of Fish and Game. **Residual Impacts:** None.	**Impact:** This alternative would not affect sensitive species, wetlands, or wildlife, and would not conflict with preservation policies and ordinances. Potentially significant impacts to nesting migratory nongame native bird species would be less than significant. **Mitigation:** Same as Alternative 2. **Residual Impacts:** None.	**Impact:** This alternative would not affect sensitive species, wetlands, or wildlife, and would not conflict with preservation policies and ordinances Potentially significant impacts to nesting migratory nongame native bird species would be less than significant. **Mitigation:** Same as Alternative 2. **Residual Impacts:** None.

Table ES-1. Summary of Environmental Impacts and Mitigation Measures (Continued)

ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4
Public Services and Utilities			
Impact: Implementation of this alternative would result in the continued use of the site in its existing condition. The existing land uses on site would remain; therefore, no foreseeable disturbance to under- and aboveground utilities would occur. This alternative would not provide the benefits associated with the roadway extension, such as improved emergency response times and improved traffic circulation. Impacts to public services and utilities would be less than significant under this alternative. **Mitigation:** None required. **Residual Impact:** None.	**Impact:** Potentially significant impacts associated with utility relocations would occur, and impacts to fire protection, police protection, schools, electricity, solid waste and storm water drainage would be less than significant. **Mitigation:** • Prior to excavation activities, a detailed utility relocation plan shall be prepared by a Registered Civil Engineer, which outlines the proposed relocation of all utilities along the roadway alignment. This plan shall be submitted to the City Fire Department, Engineering Department, and other City departments for review and approval. All utility relocation activities will be undertaken in accordance with the approved plan prior to construction of the Del Amo Boulevard extension. • Prior to construction, the construction contractor shall coordinate with all utility providers and provide advance notice to adjacent property owners to minimize disruptions to utility services from utility relocations. • Solid waste shall be disposed of at recycling facilities and certified landfills, at the discretion of the hired contractor. The project specifications and special provisions shall include guidelines for asphalt and concrete materials to be sent to an appropriate recycling facility and, for proper disposal of non-recyclable solid waste generated during project construction. **Residual Impact:** None.	**Impact:** Potentially significant impacts associated with utility relocations would occur, and impacts to fire protection, police protection, schools, electricity, solid waste and storm water drainage would be less than significant. **Mitigation:** Same as Alternative 2. **Residual Impact:** None.	**Impact:** Potentially significant impacts associated with utility relocations would occur, and impacts to fire protection, police protection, schools, electricity, solid waste and storm water drainage would be less than significant. **Mitigation:** Same as Alternative 2. **Residual Impact:** None.

Table ES-1. Summary of Environmental Impacts and Mitigation Measures (Continued)

ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3	ALTERNATIVE 4
Socioeconomics and Environmental Justice			
Impact: This alternative would not have any impact on the population size or housing stock within or near the project area. Consequently, this alternative would result in less than significant impacts to population and housing in the region. Socioeconomic and environmental justice impacts would be less than significant. **Mitigation:** None required. **Residual Impact:** None.	**Impact:** This alternative would not disproportionately impact minority or low-income populations, or children. Accordingly, this alternative would result in less than significant impacts to socioeconomic and environmental justice. **Mitigation:** None required. **Residual Impact:** None.	**Impact:** This alternative would not disproportionately impact minority or low-income populations, or children. Accordingly, this alternative would result in less than significant impacts to socioeconomic and environmental justice. **Mitigation:** None required. **Residual Impact:** None.	**Impact:** This alternative would not disproportionately impact minority or low-income populations, or children. Accordingly, this alternative would result in less than significant impacts to socioeconomic and environmental justice. **Mitigation:** None required. **Residual Impact:** None.

CHAPTER 1.0
INTRODUCTION/PURPOSE AND NEED

The City of Torrance (City), the California Department of Transportation (Caltrans), and the Federal Highway Administration (FHWA) have prepared this Environmental Impact Report/Environmental Assessment (EIR/EA) to evaluate the potential environmental effects of the proposed extension of Del Amo Boulevard. This document has been prepared jointly by the City (local lead agency) and FHWA (federal lead agency) in accordance with the California Environmental Quality Act of 1970 (CEQA) Statutes (Cal. Pub. Res. Code §2100 et seq., as amended) and implementing guidelines (Cal. Code Regs., Title 14, §15000 et. seq., 1998); the National Environmental Policy Act of 1969 (NEPA) (U.S.C. §4332 (1994)); the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 C.F.R. §§1500-1508); and FHWA Guidelines for applying NEPA (FHWA Technical Advisory T6640.8A).

The study area for evaluation extends from the intersection of Del Amo Boulevard at Crenshaw Boulevard on the east to the intersection at Prairie Avenue/Madrona Avenue on the west. Prairie Avenue becomes Madrona Avenue south of Del Amo Boulevard.

1.1 PROJECT BACKGROUND

A Project Report for the extension of Del Amo Boulevard was prepared and approved by the City in June 1993. A number of factors have changed since the approval of the Project Report. These factors include the traffic conditions in the City, increase in rail traffic along the corridor, and technical advances in the use of different types of retaining walls. Consequently, the 1993 Project Report was updated with a Project Study Report in September 1999.

1.2 INTRODUCTION

The City plans to extend Del Amo Boulevard 0.7 mile between Crenshaw Boulevard and Maple Avenue to allow Del Amo Boulevard to become a continuous roadway, as shown in the Circulation Element of the City's General Plan; this would involve constructing a bridge over the Burlington Northern Santa Fe (BNSF) railroad tracks. The proposed action also includes widening Del Amo Boulevard from a two-lane roadway to a four-lane roadway between Maple Avenue and Prairie Avenue/Madrona Avenue, a distance of approximately 0.5 mile. Federal funding for the proposed improvements will be provided by FHWA. The funding will be coordinated through the Caltrans, District 7, in Los Angeles.

The project site is located entirely within the City of Torrance (Figure 1.2-1) between the intersection of Del Amo Boulevard at Crenshaw Boulevard on the east and the intersection of Del Amo Boulevard at Prairie Avenue/Madrona Avenue on the west, as shown in Figure 1.2-2. The proposed alignment for the Del Amo Boulevard extension crosses over the BNSF railroad tracks, whose right-of-way (ROW) is owned by the Southern California Regional Rail Authority (SCRRA). The proposed alignment is generally located between the Mobil (now known as Exxon-Mobil) Refinery to the north and the Dow

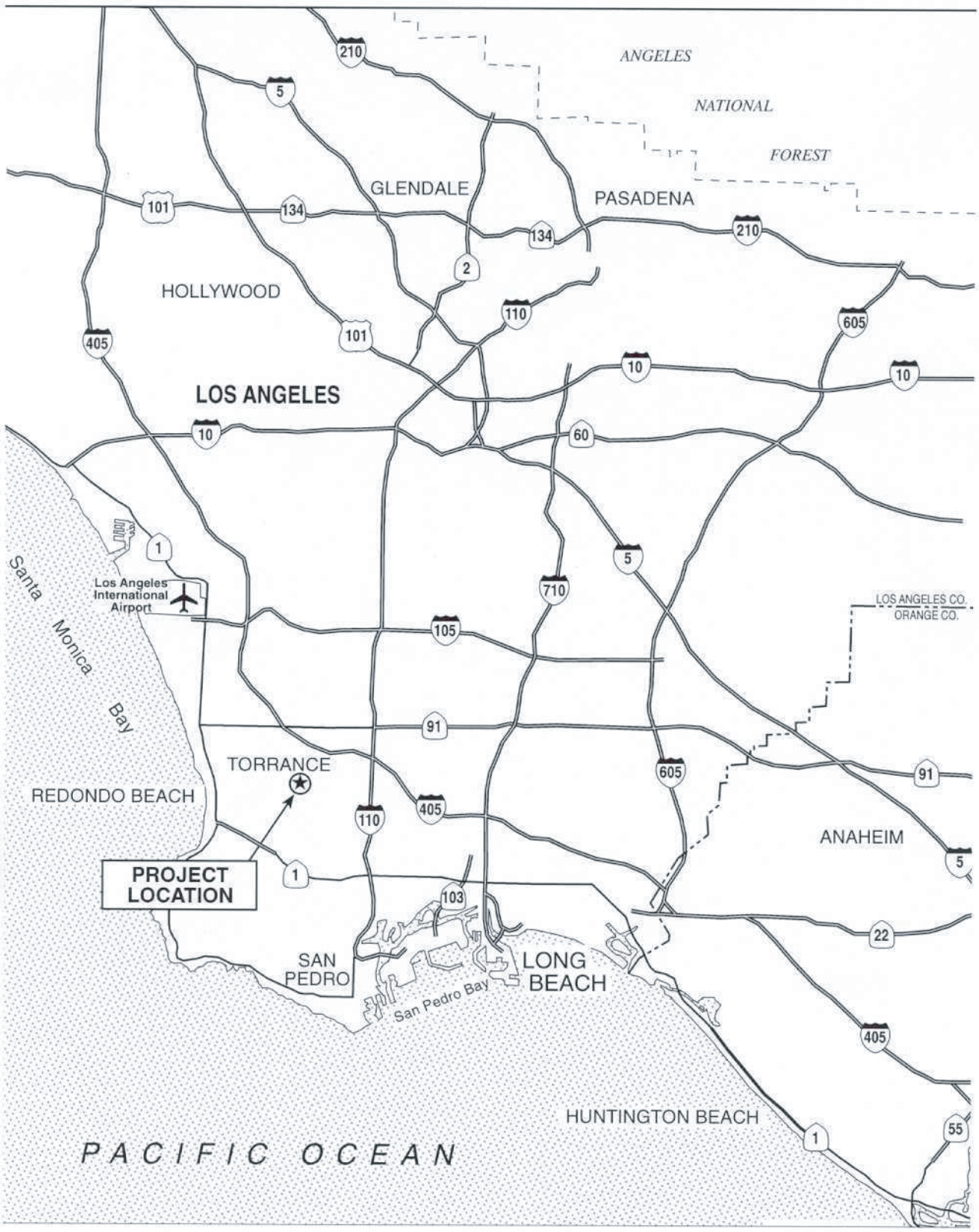
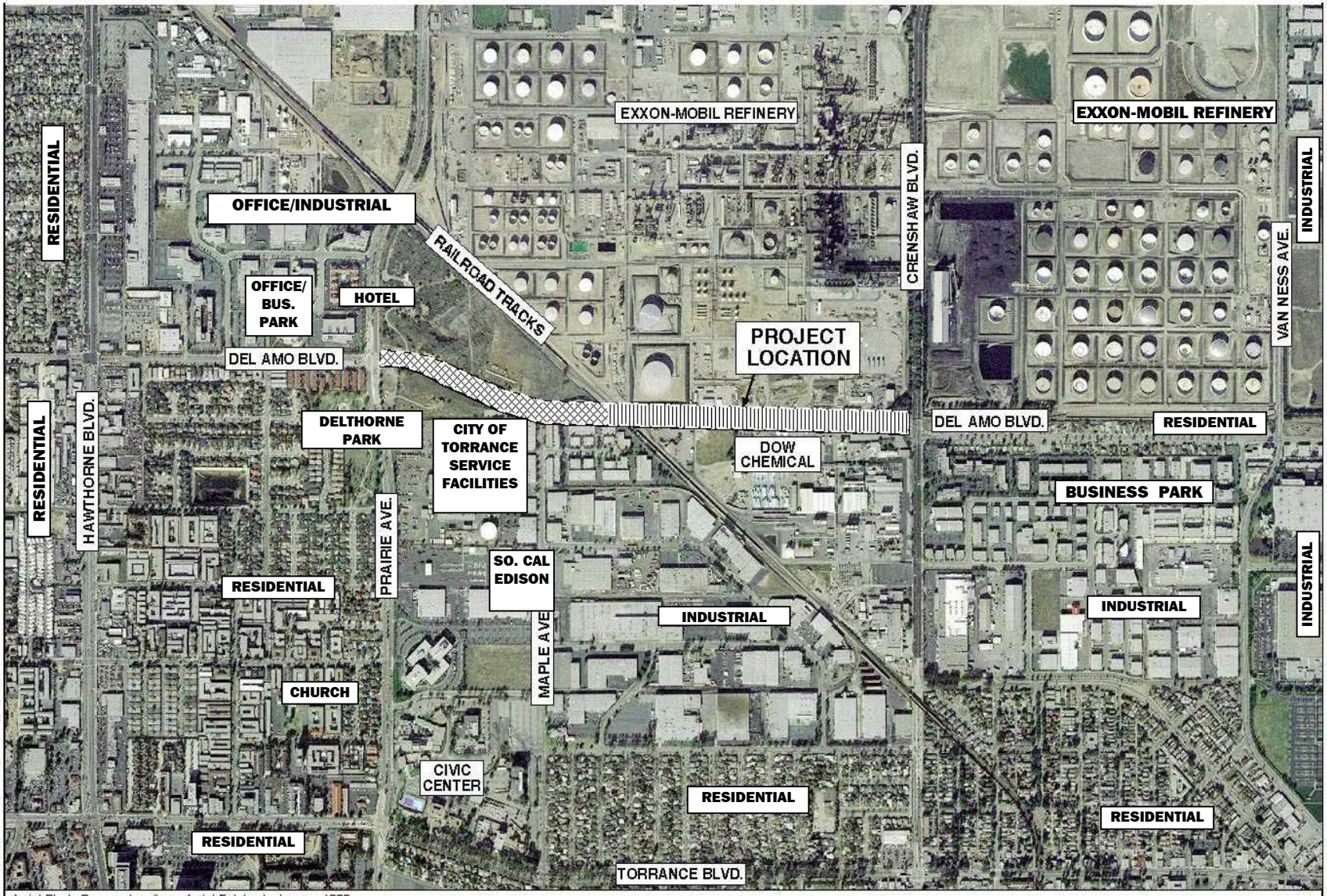


Figure 1.2-1
Regional Location Map



Aerial Photo Source: Landiscor Aerial Fotobank, January 1999

NORTH

0 1000 Feet
Approximate Scale

Widening of Existing Roadway

New Roadway Alignment

Figure 1.2-2
Project Location and Surrounding Land Uses

Chemical manufacturing plant to the south. The proposed alignment encompasses portions of both of these properties and also traverses the SCRRA ROW.

The decision to prepare an EIR/EA is based upon the Preliminary Environmental Study (PES) prepared for this project in conjunction with Caltrans, and the CEQA Initial Study prepared by the City. A copy of the PES form and the Initial Study are included in Appendices A and B. The analysis contained in this Draft EIR/EA has been prepared at a project level of detail.

1.3 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.3.1 Purpose of the Proposed Action

The primary purpose of the proposed action includes the following:

- to provide an additional east-west route between Hawthorne Boulevard and Western Avenue to relieve existing and future congestion along adjacent east-west streets in the City, including 190th Street, 182nd Street, and Torrance Boulevard between Hawthorne Boulevard and Western Avenue;
- to improve air quality and decrease noise pollution by improving traffic circulation within the City along east-west corridors, including 190th Street, 182nd Street, and Torrance Boulevard between Hawthorne Boulevard and Western Avenue;
- to complete Del Amo Boulevard as programmed in the Southern California Association of Government's (SCAG) approved Regional Comprehensive Plan and Guide (RCPG) and Regional Transportation Plan (RTP), and the approved Federal Statewide Transportation Improvement Program and the Federal Transportation Improvement Plan (FSTIP/FTIP);
- to complete Del Amo Boulevard as a major arterial as designated in the City's Circulation Element of the General Plan; and
- to improve Del Amo Boulevard as a major highway, as designated in the Los Angeles County Master Plan of Highways, from the Pacific Ocean to the Orange County line.

1.3.2 Need for the Proposed Action

Currently, Del Amo Boulevard terminates on either side of the BNSF railroad tracks in the City of Torrance. With the exception of this segment and two other short breaks to the east (between Denker Street and Vermont Avenue and the overpass across the San Diego Freeway [I-405], which is currently under construction), Del Amo Boulevard currently runs continuously from the City of Redondo Beach to the Orange County line. As a result, east-west traffic in the project vicinity uses either 190th Street to the north or Torrance Boulevard to the south of the project site as detours to Del Amo Boulevard. This causes a number of intersections in the project vicinity to operate at unacceptable levels of service (LOS); those intersections that are currently operating at acceptable LOS are forecasted to operate at unacceptable levels in the year 2020 unless the existing circulation system is improved.

Existing Traffic Conditions

A traffic study prepared by Holmes and Narver (now known as DMJM + Harris) for the City, dated September 20, 1999, analyzed existing and future traffic circulation, and evaluated the impacts of the proposed action on local traffic. Traffic congestion is based upon a Level of Service (LOS) calculation. The definition of LOS categories is included in Table 1.3-1.

Table 1.3-1 Intersection Level of Service Definitions

LOS	Interpretation	Signalized Intersection Volume to Capacity Ratio (V/C)
A	Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	0.000 - 0.600
B	Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized and traffic queues start to form.	0.601 - 0.700
C	Good operation. Occasionally backups may develop behind turning vehicles. Most drivers feel somewhat restricted.	0.701 - 0.800
D	Fair operation. There are no long-standing traffic queues. This level is typically associated with design practice for peak periods.	0.801 - 0.909
E	Poor operation. Some long standing vehicular queues develop on critical approaches.	0.910 - 1.000
F	Forced flow. Represents jammed conditions. Backups from locations downstream or on the cross street may restrict or prevent movements of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop and go type traffic flow.	Over 1.000

Source: Transportation Research Board 1997; City of Torrance 2002.

Using the LOS method of determining traffic congestion, the traffic report studied 28 intersections surrounding the proposed action and their current LOS. This data is presented in Table 1.3-2. The proposed action is needed to improve local circulation, primarily by allowing existing and projected future traffic to remain on Del Amo Boulevard across the railroad tracks instead of diverting to Torrance Boulevard and 190th Street. The extension of Del Amo Boulevard to become a continuous roadway throughout the City would alleviate traffic congestion at local intersections, particularly at the major intersections along the two alternate routes between Hawthorne Boulevard and Western Avenue. The proposed action is also needed to complete the planned roadway project, which is programmed in the City's General Plan and the County's Master Plan of Highways.

Table 1.3-2. Existing Conditions Level of Service Summary

Intersection	AM Peak Hour			PM Peak Hour		
	V/C	Delay[1]	LOS	V/C	Delay[1]	LOS
1 Hawthorne Boulevard at 182nd Street	0.78	32	C	0.97	72	E
2 Prairie Avenue at 182nd Street	0.65	14	B	0.83	40	D
3 Crenshaw Boulevard at 182nd Street	0.74	25	C	1.35	200	F
4 Hawthorne Boulevard at 190th Street	0.86	46	D	1.03	88	F
5 Prairie Avenue at 190th Street	0.96	69	E	1.25	164	F
6 Crenshaw Boulevard at 190th Street	0.80	35	C	0.98	75	E
7 Van Ness Avenue at 190th Street	0.83	40	D	0.91	57	E
8 Western Avenue at 190th Street	1.07	100	F	1.33	198	F
9 Hawthorne Boulevard at Del Amo Boulevard	0.82	39	D	0.98	75	E
10 Madrona Avenue at Del Amo Boulevard	0.63	12	B	0.87	48	D
11 Maple Avenue at Del Amo Boulevard[2]	n/a	n/a	n/a	n/a	n/a	n/a
12 Crenshaw Boulevard at Del Amo Boulevard	0.67	16	B	0.77	30	C
13 Van Ness Avenue at Del Amo Boulevard	0.48	5	A	0.61	11	B
14 Western Avenue at Del Amo Boulevard	0.73	24	C	0.96	69	E
15 Hawthorne Boulevard at Torrance Boulevard	0.75	27	C	1.14	123	F
16 Madrona Avenue at Torrance Boulevard	0.62	12	B	1.03	88	F
17 Maple Avenue at Torrance Boulevard	0.57	8	A	0.76	28	C
18 Crenshaw Boulevard at Torrance Boulevard	0.93	62	E	1.13	120	F
19 Van Ness Avenue at Torrance Boulevard	0.52	6	A	0.69	19	B
20 Western Avenue at Torrance Boulevard	0.73	24	C	0.95	67	E
21 Maple Avenue at Maricopa Avenue	0.50	5	A	0.58	9	A
22 Crenshaw Boulevard at Maricopa Avenue	0.58	9	A	0.85	44	D
23 Anza Avenue at 190th Street	0.85	44	D	0.91	57	E
24 Anza Avenue at Del Amo Boulevard	0.76	28	C	0.98	75	E
25 Anza Avenue at Torrance Boulevard	0.73	24	C	0.85	44	D
26 Prospect Avenue at Anita Street	0.57	8	A	0.77	30	C
27 Prospect Avenue at Del Amo Boulevard	0.63	12	B	0.67	16	B
28 Prospect Avenue at Torrance Boulevard	0.88	51	D	0.74	25	C

(1) Average delay per vehicle in seconds.
(2) Currently, there is no intersection at Maple Avenue and Del Amo Boulevard; therefore, no data are available.

Source: Austin-Foust 1999

Operational/Safety Deficiency

Traffic projections for the year 2020 would consist of existing traffic plus a 15 percent ambient traffic growth (general background regional growth) (SCAG 2000). The increase in traffic by 2020, with and without the proposed action, is included in Table 1.3-3. As shown in the table, without the proposed

Table 1.3-3. Future Level of Service Summary

	Intersection	Peak Hour	Alternative 1			Alternatives 2, 3, & 4			Alternatives 2, 3, & 4 with mitigation		
			V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS
1	Hawthorne Boulevard at 182nd Street	AM	0.91	57	E	0.90	55	D	--	--	--
		PM	1.14	123	F	1.16	130	F	--	--	--
2	Prairie Avenue at 182nd Street	AM	0.76	28	C	0.75	27	C	--	--	--
		PM	0.97	72	E	0.98	75	E	--	--	--
3	Crenshaw Boulevard at 182nd Street	AM	0.87	48	D	0.83	40	D	--	--	--
		PM	1.60	200	F	1.50	200	F	--	--	--
4	Hawthorne Boulevard at 190th Street	AM	1.00	80	E	0.98	75	E	--	--	--
		PM	1.21	149	F	1.21	149	F	--	--	--
5	Prairie Avenue at 190th Street	AM	1.14	123	F	0.71	21	C	--	--	--
		PM	1.47	200	F	0.95	67	E	--	--	--
6	Crenshaw Boulevard at 190th Street	AM	0.92	60	E	0.88	51	D	--	--	--
		PM	1.15	127	F	1.07	100	F	--	--	--
7	Van Ness Avenue at 190th Street	AM	**0.97**	72	E	**1.01**	83	F	0.92	60	E
		PM	**1.06**	97	F	**1.12**	117	F	1.05	94	F
8	Western Avenue at 190th Street	AM	**1.27**	172	F	**1.37**	200	F	1.27	172	F
		PM	**1.58**	200	F	**1.74**	200	F	1.58	200	F
9	Hawthorne Boulevard at Del Amo Boulevard	AM	**0.96**	69	E	**1.09**	107	F	1.04	91	F
		PM	**1.16**	130	F	**1.19**	141	F	1.08	104	F
10	Madrona Avenue at Del Amo Boulevard	AM	**0.74**	25	C	**0.97**	72	E	0.73	24	C
		PM	**1.02**	86	F	**1.38**	200	F	1.02	86	F
11	Maple Avenue at Del Amo Boulevard	AM	n/a	n/a	n/a	0.82	39	D	--	--	--
		PM	n/a	n/a	n/a	0.91	57	E	--	--	--
12	Crenshaw Boulevard at Del Amo Boulevard	AM	**0.79**	33	C	**1.21**	149	F	0.97	72	E
		PM	**0.92**	60	E	**1.59**	200	F	1.16	130	F
13	Van Ness Avenue at Del Amo Boulevard	AM	0.55	7	A	0.81	37	D	0.71	21	C
		PM	**0.71**	21	C	**1.10**	110	F	0.96	69	E
14	Western Avenue at Del Amo Boulevard	AM	**0.86**	46	D	**1.43**	200	F	0.65	14	B
		PM	**1.13**	120	F	**1.72**	200	F	0.94	64	E
15	Hawthorne Boulevard at Torrance Boulevard	AM	0.87	48	D	0.88	51	D	0.85	44	D
		PM	**1.33**	198	F	**1.40**	200	F	1.24	160	F
16	Madrona Avenue at Torrance Boulevard	AM	0.73	24	C	0.64	13	B	--	--	--
		PM	1.21	149	F	1.11	113	F	--	--	--
17	Maple Avenue at Torrance Boulevard	AM	0.67	16	B	0.53	6	A	--	--	--
		PM	0.90	55	D	0.72	23	C	--	--	--
18	Crenshaw Boulevard at Torrance Boulevard	AM	1.11	113	F	1.07	100	F	--	--	--
		PM	1.31	189	F	1.23	156	F	--	--	--
19	Van Ness Avenue at Torrance Boulevard	AM	0.60	10	A	0.60	10	A	--	--	--
		PM	0.80	35	C	0.76	28	C	--	--	--
20	Western Avenue at Torrance Boulevard	AM	0.87	48	D	0.81	37	D	--	--	--
		PM	1.12	117	F	1.09	107	F	--	--	--
21	Maple Avenue at Maricopa Avenue	AM	0.59	9	A	0.43	4	A	--	--	--
		PM	0.68	18	B	0.58	9	A	--	--	--
22	Crenshaw Boulevard at Maricopa Avenue	AM	0.68	18	B	0.68	18	B	0.68	18	B
		PM	**1.00**	80	E	**1.05**	94	F	0.88	51	D
23	Anza Avenue at 190th Street	AM	1.00	80	E	0.97	72	E	--	--	--
		PM	1.09	107	F	1.06	97	F	--	--	--
24	Anza Avenue at Del Amo Boulevard	AM	**0.91**	57	E	**0.95**	67	E	0.82	39	D
		PM	**1.16**	130	F	**1.24**	160	F	1.03	88	F
25	Anza Avenue at Torrance Boulevard	AM	0.87	48	D	0.84	42	D	0.87	48	D
		PM	1.00	80	E	1.02	86	F	1.00	80	E
26	Prospect Avenue at Anita Street	AM	0.67	16	B	0.71	21	C	--	--	--
		PM	**0.90**	55	D	**0.96**	69	E	n/p	n/p	n/p
27	Prospect Avenue at Del Amo Boulevard	AM	0.73	24	C	0.82	39	D	--	--	--
		PM	**0.76**	28	C	**0.94**	64	E	n/p	n/p	n/p
28	Prospect Avenue at Torrance Boulevard	AM	**1.05**	94	F	**1.09**	107	F	n/p	n/p	n/p
		PM	**0.87**	48	D	**0.93**	62	E	n/p	n/p	n/p

(n/a) not applicable; (--) no mitigation required; (n/p) no mitigation proposed.

Bold Text indicates a significant change in the V/C ratio.

action, 21 of the 28 analyzed intersections are projected to operate at LOS E or F during one or both of the peak hours; additionally, those intersections operating at LOS D or better would deteriorate to an unacceptable LOS E or F. This trend and increase in LOS at most intersections in the project vicinity would potentially result in operational and safety deficiencies for both vehicular traffic and pedestrians. This analysis is further discussed in Section 3.5, Traffic and Circulation.

1.4 PURPOSE OF THE ENVIRONMENTAL IMPACT REPORT AND ENVIRONMENTAL ASSESSMENT

CEQA requires the preparation of an EIR when there is substantial evidence that a project may have a significant effect on the environment. The purpose of an EIR is to provide decision makers, public agencies, and the general public with an objective and informational document that fully discloses the potential environmental effects of the proposed project. The EIR process is intended to facilitate the objective evaluation of potentially significant direct, indirect, and cumulative impacts of the proposed project, and to identify potentially feasible mitigation measures and alternatives that would reduce or avoid the project's significant effects. In addition, CEQA specifically requires that an EIR identify those adverse impacts determined to be significant after mitigation.

A CEQA Initial Study for the project was prepared in December 2001, which is included in Appendix A. This Draft EIR/EA focuses on the environmental impacts identified as potentially significant during the initial study process, including the nine comment letters received in response to the NOP, and comments received at the public agency scoping meetings. The issue areas analyzed in this Draft EIR/EA include land use and planning; aesthetics, light, and glare; geology and soils; floodplain, water resources, and hydrology; transportation and circulation; air quality; noise; hazards and hazardous materials; cultural resources; biological resources; public services and utilities; and socioeconomics. All issues not evaluated in detail in Chapter 3.0 of this Draft EIR/EA are addressed as required by CEQA in Chapter 5.0, Effects Not Found to Be Significant.

CEQA Environmental Review Process

Prior to approval of the project, the City, as the lead agency and decision-making entity, is required to certify that this EIR has been completed in compliance with CEQA, that the proposed project has been reviewed and the information in this EIR has been considered, and that this EIR reflects the independent judgment of the City. CEQA also requires the City to adopt "findings" with respect to each significant environmental effect identified in the EIR (Pub. Res. Code §21081; Cal. Code Regs., Title 14, §15091). For each significant effect, CEQA requires the approving agency to make one or more of the following findings:

- The project has been altered to avoid or substantially lessen significant impacts identified in the Final EIR.

- The responsibility to carry out the above is under the jurisdiction of another agency.

- Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR.

If the City concludes that the proposed project would result in significant effects, which are identified in this EIR/EA, but are not substantially lessened or avoided by feasible mitigation measures and alternatives, the City must adopt a "statement of overriding considerations" prior to approval of the proposed project (Pub. Res. Code §21081 (b)). Such statements are intended under CEQA to provide a written means by which the lead agency balances, in writing, the benefits of the proposed project and the significant and unavoidable environmental impacts. Where the lead agency concludes that the economic, legal, social, technological, or other benefits outweigh the unavoidable environmental impacts, the lead agency may find such impacts "acceptable" and approve the project.

NEPA Environmental Review Process

In compliance with NEPA and FHWA requirements, when it is uncertain whether there would be significant impacts resulting from a transportation project, an EA is prepared to identify any significant impacts and document the analysis of the project and its effects.

This EA has been approved by Caltrans on behalf of FHWA prior to being made available to the public as an FHWA document. Unlike CEQA, NEPA does not normally require that the EA be circulated for comment; however, this EA is being made available for public inspection concurrent with the CEQA public review period. A Notice of Availability (NOA) has been sent to the State Clearinghouse and the Southern California Association of Governments (SCAG), which is the areawide clearinghouse for regionally significant projects, and the notice has been placed in local newspapers.

Following the public availability period and receipt of comments on the EA, the next step is a determination of significance of impacts:

If, after completing the process, it is evident that there are no significant regional impacts associated with the project, a finding of no significant impact (FONSI) may be prepared.
If, at any point in the process of preparing or processing an EA, it is discovered that the project would result in any significant regional impacts to the environment, then an environmental impact statement (EIS) must be prepared.

For this project, a FONSI is anticipated at the end of the NEPA review process. The FONSI is simply a statement that, as a result of the environmental analysis and interagency review described in the EA, a project was found to have no significant impacts on the quality of the human environment. The FONSI includes the Final EA, modified to reflect all applicable comments and responses to those comments. No formal public circulation of the FONSI is required, but the State Clearinghouse must be notified of the

availability of the FONSI, and FHWA recommends that the public be notified through notice in local newspapers.

There are many similarities in the requirements of CEQA and NEPA. This document identifies when the requirements differ or are specific to the laws individually. It is important to note that the CEQA terms *project* and *impacts* and the NEPA terms *action* and *consequences*, respectively, are used interchangeably throughout this document. Also, the CEQA term *environmentally superior alternative* is interchangeable with the NEPA term *environmentally preferable alternative*.

CHAPTER 2.0
ALTERNATIVES

2.1 PROJECT LOCATION

The project site is located within the Central Manufacturing District of the City of Torrance. More specifically, the proposed roadway development would be located between the intersections of Del Amo Boulevard at Madrona Avenue/Prairie Avenue to the west and Del Amo Boulevard at Crenshaw Boulevard to the east, as shown in Figure 1.2-2. For the purpose of this Draft EIR/EA, the term "roadway extension" is used to define both the new roadway alignment between Maple Avenue and Crenshaw Boulevard and the associated roadway widening between Madrona Avenue/Prairie Avenue and Maple Avenue.

Most of the project site is currently a vacant ROW, which extends from Crenshaw Boulevard to the BNSF railroad tracks. An unlined drainage ditch exists immediately north of the project site; however, there is little vegetation present and the ditch is not considered "waters of the U.S." Much of the land surrounding the project site is industrial. The Exxon-Mobil Refinery is located immediately north of the project site, and the Dow Chemical manufacturing plant is located immediately south. Small portions of these neighboring parcels would be acquired to fully develop the proposed roadway improvements. A strip of residential uses is located on both sides of Del Amo Boulevard between Crenshaw Boulevard and Van Ness Avenue immediately east of the project site. Multifamily residences and office/commercial uses are also located on the south side and north side of Del Amo Boulevard, respectively, west of Madrona Avenue/Prairie Avenue (see Figure 1.2-2). Delthorne Park is located immediately southwest of this intersection.

2.2 ALTERNATIVE DEVELOPMENT PROCESS

CEQA and NEPA require that an EIR/EA objectively evaluate a "reasonable" range of alternatives. According to the CEQA Guidelines, "an EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives" (Cal. Code Regs., Title 14, § 15126.6(a)). Under CEQA, the factors that can determine feasibility are site suitability, economic limitations, availability of infrastructure, General Plan consistency, other plan or regulatory limitations, and jurisdictional boundaries. An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative. Under NEPA, reasonable alternatives are those that are practical or feasible from a technical and economic perspective, and based on common sense (46 Fed. Reg. 18026, as amended, 51 Fed. Reg. 15618).

The alternatives analysis must also include a comparative evaluation of the No Project Alternative per Section 15126.6(e) of the CEQA Guidelines and Section 1502.12(d) of CEQ NEPA Regulations.

Through comparison of the alternatives, the advantages and disadvantages of each alternative compared with the proposed project can be weighed and analyzed.

Additionally, Section 15126.6(c) of the CEQA Guidelines requires that an EIR identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process, briefly explaining the reasons underlying the lead agency's determination. Among factors that may be used to eliminate alternatives from detailed consideration in the EIR are: (1) failure to meet most of the basic project objectives, (2) infeasibility, and (3) inability to avoid significant environmental impacts.

The City and Caltrans have worked for several years to develop alternative roadway configurations to complete a connection of Del Amo Boulevard across the BNSF railroad tracks. The process is documented in the Project Study Report prepared by the City in September 1999. Section 2.3 describes the three alternatives considered and eliminated from further analysis. Section 2.4 describes the four alternatives considered in detail in this Draft EIR/EA.

2.3 ALTERNATIVES CONSIDERED AND ELIMINATED

The following presents a brief description of the alternatives that were identified but eliminated from further analysis and consideration.

2.3.1 At-Grade Crossing Alternative

The At-Grade Crossing Alternative would develop the Del Amo Boulevard extension without the construction of a bridge over the BNSF railroad. The proposed roadway, where it would cross the railroad tracks, would not be elevated but would be constructed on the same grade as the railroad tracks. This alternative was eliminated from further consideration because the Public Utilities Commission (PUC) no longer allows the construction of new at-grade crossing due to safety considerations. Additionally, the rail corridor is heavily used, including extensive switching operations. The switching operations would result in significant delays that would last over 10 minutes at the crossing, which is the maximum amount of delay time allowed by the PUC.

2.3.2 Underpass Alternative

The Underpass Alternative would develop the Del Amo Boulevard extension with a depressed crossing, which would create a railroad bridge over Del Amo Boulevard instead of the Del Amo Boulevard bridge crossing over the BNSF railroad tracks. Development of this alternative would require the construction of a temporary detour track to allow the erection of the railroad bridge; however, there is an insufficient area to construct the necessary detour track at this location. Additionally, the existing terrain west of the railroad ROW is considerably higher than the railroad tracks; the construction of an underpass would result in significant adverse impacts to the surrounding properties. Accordingly, this alternative was eliminated from further consideration.

2.3.3 50 MPH Design Speed with Type 1 Retaining Wall Alternative

This alternative would have a design speed of 50 miles per hour (mph), which would allow the use of shorter vertical curves. Design speed is defined as the speed determined for the design of the physical features of a roadway that influence vehicle operation; it is generally the maximum safe speed that can be maintained over a specific section of a roadway when conditions are sufficiently favorable (e.g., good weather conditions, low traffic volume, etc.). The impacts of this alternative would be similar to those identified for Alternative 4, which was carried forward for detailed consideration (see Section 2.3.4 below). However, this alternative would cost approximately $1.3 million more than Alternative 4 and would not provide any environmental benefits beyond those identified for Alternative 4. Because it would offer no cost savings and would result in essentially the same impacts, this alternative was eliminated from further consideration.

2.4 DESCRIPTION OF ALTERNATIVES

There are four alternatives considered at an equal level of detail in this document. The No Action Alternative is required by CEQA and NEPA and is analyzed as Alternative 1 (Section 2.4.1). Three other action alternatives, the 55 MPH Design Speed with mechanically stabilized embankment (MSE) Retaining Wall Alternative (Alternative 2), the 55 MPH Design Speed with a Type 1 Retaining Wall Alternative (Alternative 3), and the 50 MPH Design Speed with MSE Retaining Wall Alternative (Alternative 4), are analyzed in this Draft EIR/EA. All three alternatives would extend and widen Del Amo Boulevard but would have varying design speeds or retaining wall designs (Sections 2.4.2 to 2.4.4). Table 2.4-1 presents some of the construction details, including preliminary engineering estimates for the project alternatives, and Table 2.4-2 presents property acquisition that would be required to accommodate the proposed alignment under each of the action alternatives (Alternatives 2, 3, and 4). The environmental effects associated with each of the alternatives, including the No Action Alternative, are discussed in Chapter 3.0 of this document.

Table 2.4-1. Key Construction Details for Each of the Project Alternatives

	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Roadway Fill				
cubic yards	0	74,800	118,600	72,000
cost estimate ($)	0	448,800	711,600	432,000
Roadway Cut				
cubic yards	0	8,800	8,800	8,800
cost estimate ($)	0	52,800	52,800	52,800
Bridge Construction				
square footage	0	9,585	9,585	9,585
cost estimate	0	$1,010,000	$1,430,000	$1,010,000
Retaining Wall (cost)	0	$2,200,000	$2,840,000	$1,800,000
Total Construction Costs[1]	**0**	**$11,034,036**	**$12,748,068**	**$10,505,844**

[1] Total costs of construction also include the costs to acquire the areas of land presented in Table 2.2-1 and other construction elements and components, which would be the same for Alternatives 2, 3, and 4.

Source: Holmes & Narver 1999.

Table 2.4-2. Land to be Acquired for Each of the Action Alternatives

Site Description	Area to be acquired (sf)
Exxon-Mobil Corporation	39,700
Dow Chemical	168,000
SCRRA	16,300
Industrial Property (not specified)	50
Total	**224,050**

Source: Holmes & Narver 1999.

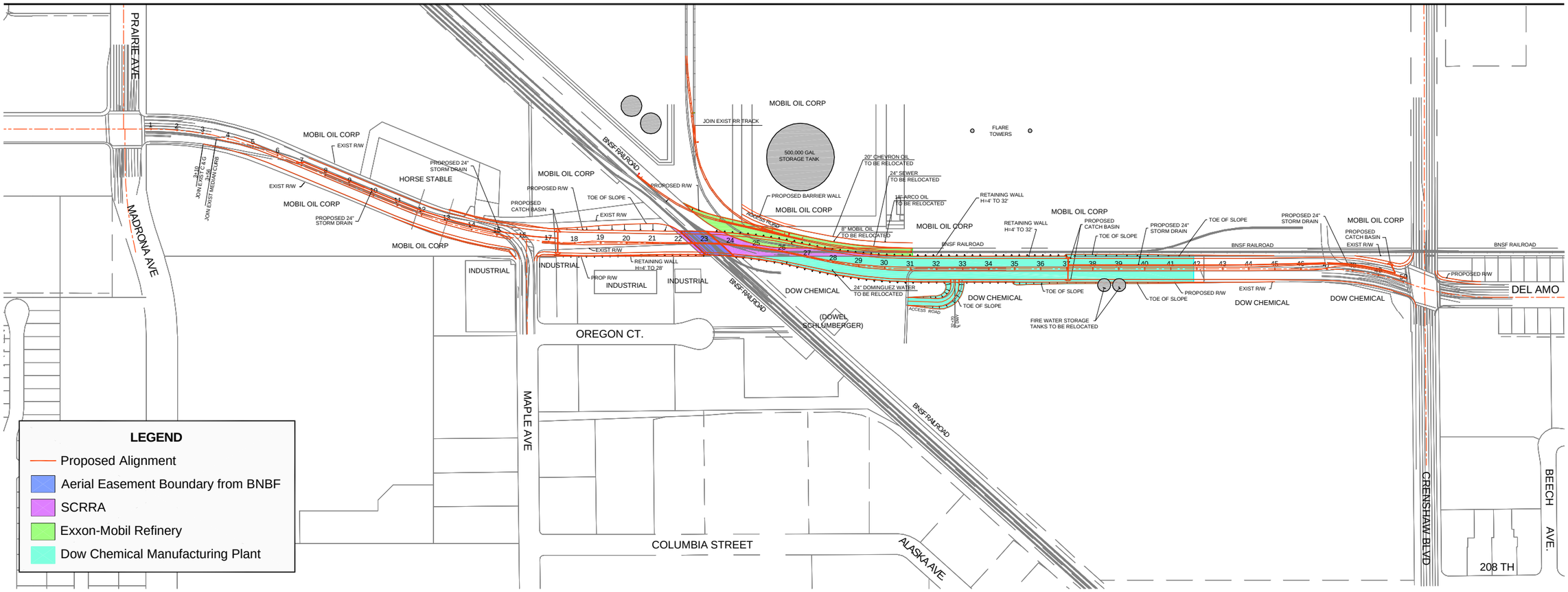
2.4.1 Alternative 1: No Action Alternative

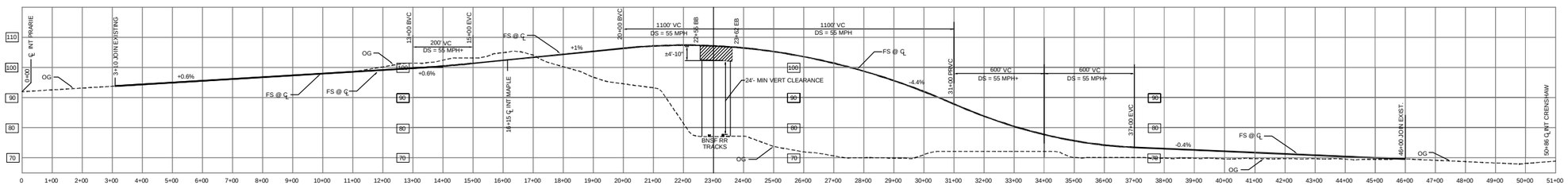
The No Action Alternative would maintain the current local and regional circulation system. The extension of Del Amo Boulevard between Maple Avenue and Crenshaw Boulevard would not be constructed. Thus, the proposed alternate east-west route between 190th Street and Torrance Boulevard would not be established. The project alignment would remain as an industrial ROW, and the railroad ROW would be undisturbed. East-west traffic in the area would continue to use either 190th Street to the north or Torrance Boulevard to the south as alternative routes to Del Amo Boulevard.

2.4.2 Alternative 2: 55 MPH Design Speed with MSE Retaining Wall (Proposed Action)

The proposed action entails a 0.7-mile extension of Del Amo Boulevard between Crenshaw Boulevard and Maple Avenue, and 0.5 mile of road widening between Maple Avenue and Madrona Avenue/Prairie Avenue. The eastern segment of Del Amo Boulevard currently terminates just west of Crenshaw Boulevard near the entrance to the Dow Chemical manufacturing plant; the western segment terminates at Maple Avenue. The project would connect these two segments of Del Amo Boulevard to provide a continuous road through an industrial ROW, as shown in Figure 2.4-1. The extension and widening of Del Amo Boulevard would include the following components:

- construction of a new four-lane roadway;
- construction of a new bridge over the BNSF railroad tracks;
- realignment of a portion of a railroad spur along the southern boundary of the Exxon-Mobil property;
- construction of MSE retaining walls;
- drainage improvements;
- relocation of affected utilities;
- relocation/reconstruction of affected off-site facilities;
- modification of the traffic signal at the intersections of Madrona Avenue/Prairie Avenue at Del Amo Boulevard and Crenshaw Boulevard at Del Amo Boulevard;
- installation of a new traffic signal at Maple Avenue; and
- optional bicycle lane and pedestrian facility on the south side of Del Amo Boulevard only.





Source: City of Torrance, Engineering Department

NORTH

200 0 200 400 Feet

Scale: 1" = 400'

Figure 2.4-1
Proposed Alignment for Alternatives 2 and 3

Roadway

The proposed typical section of the Del Amo Boulevard extension would include a four-lane roadway with a median island, as shown in Figure 2.4-2. Generally, the total curb-to-curb width would be approximately 80 feet with a total ROW width of 100 feet. The design speed for this roadway extension under Alternative 2 would be 55 mph. This would not be the posted speed limit for the project. The posted speed limit for this alignment would be consistent with the existing posted speed limit of 35 mph on Del Amo Boulevard in the project area.

Construction of the four-lane road widening on the west would not require ROW acquisition. The road widening, which would extend several feet beyond the existing shoulder on both sides of the road (see Figure 2.4-2), would not result in the removal of any structures.

Retaining Walls

Construction of the Del Amo Boulevard bridge over the railroad ROW would require the construction of earthen approaches at both ends of the bridge. To reduce the width of these approaches, retaining walls would be required to minimize ROW acquisition and impacts to adjacent properties. Retaining walls would be installed along the following segments:

- the south side of Del Amo Boulevard from Maple Avenue to the west side of the railroad ROW;
- the south side of Del Amo Boulevard from the east side of the railroad ROW to approximately 1,050 feet east of the railroad ROW; and
- the north side of Del Amo Boulevard from the east side of the railroad ROW to approximately 1,360 feet east of the railroad ROW.

Alternative 2 would involve the use of MSE retaining walls, which are particularly suited in tight areas with a significant amount of wall required and where approaches would be primarily fill.

Bridge Type

The new bridge over the BNSF railroad tracks would consist of a pre-cast and pre-stressed concrete “I” girder superstructure. This type of structure would eliminate the need for falsework (temporary structures erected to support temporary loads during construction, composed of shoring, vertical postings, and lateral bracing) and the associated additional vertical clearance required for falsework.

Vertical clearance has been set at a minimum of 24 feet from the top of the rail to the bottom of the soffit of the bridge. Minimum span lengths have been set to maintain a horizontal clearance of at least 13 feet from the curved track. These clearances were established based on the requirements of SCRRA’s

Engineering Standard No. 1902. Span lengths were then further adjusted to set footing edges at the required minimum distance from the railroad tracks, which would remain active during project construction, as required by the railroads.

The proposed bridge would consist of a single span over the railroad tracks. With a span length of approximately 106.5 feet from the beginning of the bridge to the end of the bridge and a structure depth of 4.83 feet, the superstructure would be seated on high cantilevered abutments on pile footings.

Utilities and Utility Relocation

The following utilities would be relocated to accommodate the new roadway alignment:

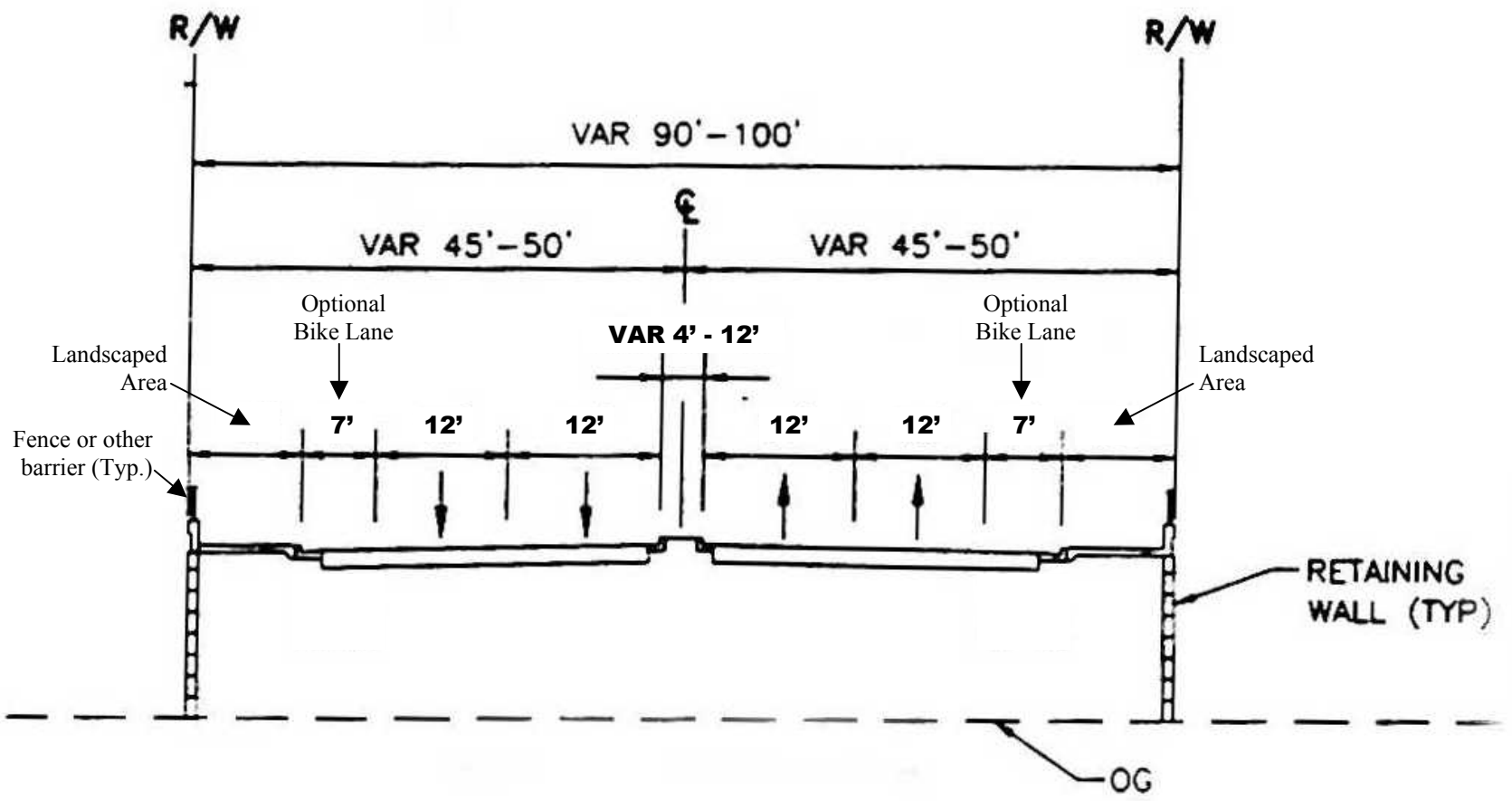
- 24-inch Dominguez Water Company water line
- 20-inch Chevron Oil Company line
- 8-inch Exxon-Mobil line
- 16-inch Arco Company line
- 24-inch trunk sewer and sewer lateral
- overhead SCE electrical lines in the railroad ROW
- railroad communication lines

The new locations of these utilities would be determined with the respective owners during the final design phase of the new roadway alignment. The existing trunk sewer and lateral would be relocated within the area of potential effect (APE); the exact location would be determined during the final design phase.

Generally, surface water runoff in the project area flows northerly. To convey the surface water runoff from areas south of the proposed alignment, a storm drain would be extended and constructed. The existing storm drain at Crenshaw Boulevard would be extended approximately 1,400 feet westerly, and three new catch basins would be constructed. This storm drain would handle the flows east of the railroad tracks. No other major drainage improvements are proposed.

Right-of-Way Requirements

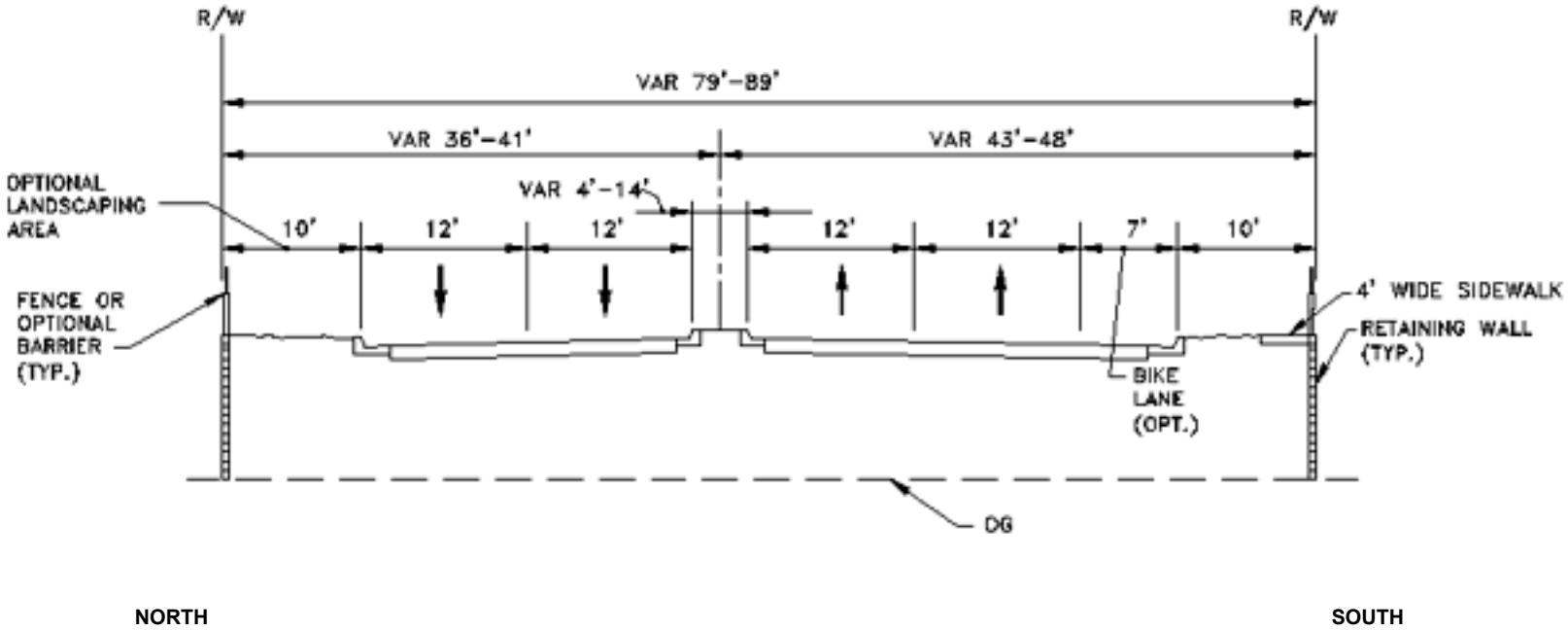
Rights-of-way would be necessary from Dow Chemical Company, Exxon-Mobil Oil Refinery, and SCRRA; an easement would be obtained from SCRRA for the proposed bridge crossing over it's ROW. As shown previously in Table 2.4-2, approximately 224,050 square feet of property acquisition would be required to accommodate the proposed alignment. Modifications would be required to facilities on the Dow Chemical, Exxon-Mobil, and SCRRA properties in order to accommodate the proposed roadway alignment.



Base Map Source: Holmes & Narver 1999

Not to Scale

Figure 2.4-2a
Typical Section (Prairie Avenue to Maple Avenue)



Source: City of Torrance

Not to Scale

Figure 2.4-2b
Typical Section (Maple Avenue to Crenshaw Boulevard)

Dow Chemical

Right-of-way acquisition would take portions of land along the northern property boundary of Dow Chemical's existing facilities. Dow Chemical has an existing access point from the Del Amo right-of-way. The project would require the relocation of two fire water storage tanks. Additionally, the on-site entrance from the Del Amo Boulevard right-of-way will be redesigned to allow Dow Chemical trucks to continue using Del Amo Boulevard for overflow queue storage into the site. The City and Dow Chemical will enter into a Memorandum of Understanding (MOU) during the design phase of the project to determine the following: soil remediation and associated cost responsibility; site access; and costs associated with the relocation of the water storage tanks.

Exxon-Mobil

Right-of-way acquisition would take land at the southern portion of the Exxon-Mobil property and would require the following site modifications:

- realignment of the spur track
- readjustment of the containment berm for the 500,000-gallon storage tank
- realignment of the on-site access road

An MOU was completed May 11, 1999 between the City of Torrance and the Exxon Mobil Corporation (formerly Mobil Oil Corporation) regarding right-of-way acquisition and soil remediation, and the associated costs for both.

SCRRA

Construction of the Del Amo Boulevard improvements would require relocation of a portion of the BNSF spur along the southern boundary of the Exxon-Mobil site.

2.4.3 Alternative 3: 55 MPH Design Speed with Type 1 Retaining Wall

The project components under this alternative would be the same as those identified above for Alternative 2, the proposed action. However, a Type 1 retaining wall would be used for structure support instead of an MSE retaining wall as indicated above. The alignment for this alternative would be the same as Alternative 2; however, this alternative would have a slightly larger footprint and would require more fill materials, as shown in Table 2.4-1.

Type 1 retaining walls generally consist of cantilever or stem walls, which are comprised of reinforced concrete and are the most common type of gravity wall. Type 1 retaining walls are composed of a vertical or inclined monolithic slab on a concrete base. Simple forms of cantilever walls utilize the weight of the earth or backfill on the heel of the wall to provide resistance against failure.

Type 1 retaining walls constructed of reinforced portland-cement concrete (PCC) were the predominant type of rigid retaining wall used from about the 1920s to the 1970s. This type of wall largely displaced the traditional gravity wall constructed of stone or unreinforced PCC due to superior economics. However, alternative types of earth-retaining structures, such as the MSE retaining wall, segmental retaining wall, or modern (bin-type) gravity wall, have subsequently become available. These newer types of walls are often more economical to use in most applications than Type 1 retaining walls.

2.4.4 Alternative 4: 50 MPH Design Speed with MSE Retaining Wall

The project components under this alternative would be the same as those identified above for Alternative 2; however, a design speed of 50 mph would be applied. The vertical profile alignment would be the main design feature affected by a reduction in design speed. This alternative would allow the use of shorter vertical curves, which would reduce roadway fill (see Table 2.4-1) and retaining wall heights (see Figure 2.4-3). Motorists would experience slightly "tighter" curves with a smaller turn radius.

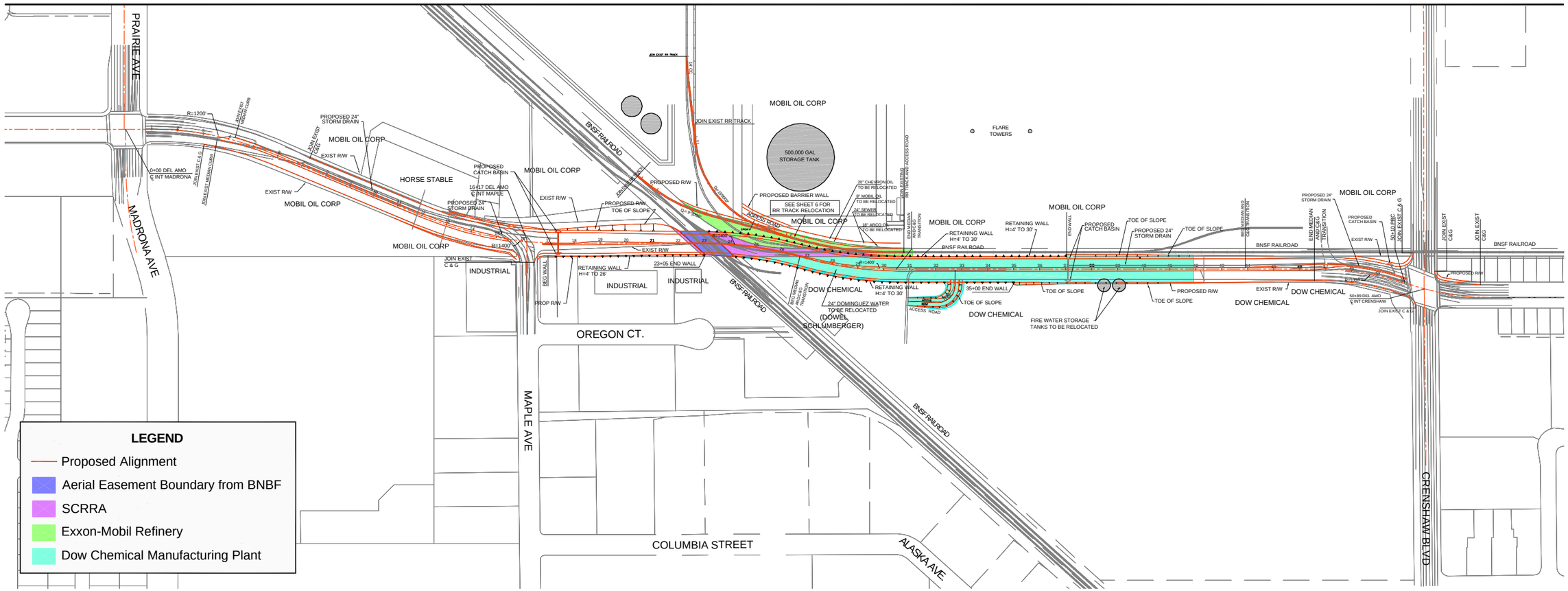
2.5 COMPARISON OF ALTERNATIVES

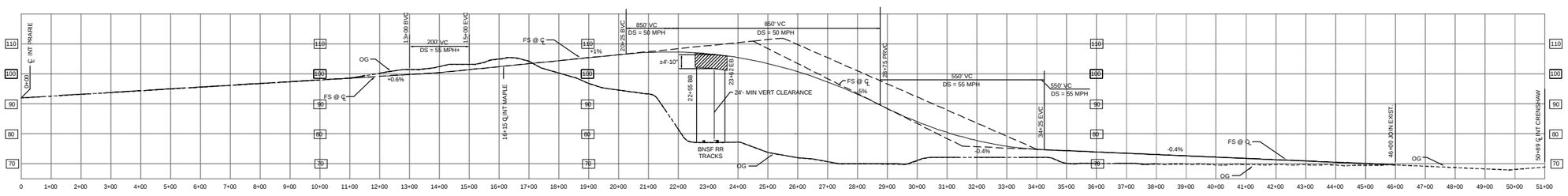
All action alternatives (Alternatives 2, 3, and 4) would alleviate traffic congestion at several intersections in the project vicinity and improve local traffic circulation, primarily by allowing existing and projected future traffic to remain on Del Amo Boulevard across the railroad tracks instead of diverting to Torrance Boulevard or 190th Street. As a result, any one of these alternatives would improve air quality and reduce noise pollution in areas currently affected by traffic on 190th Street and Torrance Boulevard. Additionally, each one of the action alternatives would complete the roadway extension project, which is programmed in the City's General Plan and the County's Master Plan of Highways.

The construction-related impacts associated with Alternative 4 would generally be identical to those identified for Alternative 2 or 3. Under Alternative 4, the roadway would have shorter vertical curves, which would slightly reduce retaining wall heights and the amount of fill material required to construct the road. Although Alternative 4 would result in construction cost saving of approximately five percent, this reduction it is not anticipated to outweigh the safety concerns that would potentially arise with the reduced design standards for Del Amo Boulevard. Alternative 2 or 3 would be safer for motorists traveling above the posted speed limit.

Either Alternative 2 or 3 would be the environmentally preferred/environmentally superior alternative as each one would result in similar benefits; however, Alternative 3 would require an additional 43,800 cubic yards of fill material and would utilize a Type 1 wall to support the roadway, which would increase the construction cost by approximately $1.7 million.

A comparison of the impacts associated with each alternative is provided in Table 2.5-1.





Source: City of Torrance, Engineering Department

NORTH

200 0 200 400 Feet

Scale: 1" = 400'

Figure 2.4-3
Proposed Alignment for Alternative 4

Del Amo

00156 Del Amo Blvd Extension/Figure 2_2_1 Proposed Alignment 50.dwg

Table 2.5-1. Alternatives Comparison

Impact Area	Alternative 1: No Action Alternative	Alternative 2: 55 MPH Design Speed - MSE Retaining Wall	Alternative 3: 55 MPH Design Speed - Type 1 Retaining Wall	Alternative 4: 50 MPH Design Speed - MSE Retaining Wall
Land Use	IV	III	III	III
Aesthetics, Light, and Glare	IV	III	III	III
Geology and Soils	IV	II	II	II
Floodplain, Water Resources, and Hydrology	IV	III	III	III
Transportation and Circulation	I	I	I	I
Air Quality				
Construction	IV	II	II	II
Operation	I	III	III	III
Noise				
Construction	IV	IV	IV	IV
Operation	III	IV	IV	IV
Hazards/Hazardous Materials	IV	II	II	II
Cultural Resources	IV	II	II	II
Biological Resources	IV	III	III	III
Public Services and Utilities	IV	II	II	II
Socioeconomics	IV	III	III	III

Notes:
I: Significant Unavoidable Impact
II: Potentially Significant Impact Unless Mitigated
III: Less Than Significant Impact
IV: No Impact

2.6 PROJECT SCHEDULE

Project approvals and permits are anticipated in 2003. Final design of the roadway improvements would be completed in 2004, and construction activities are anticipated to commence in the same year. Construction of the new roadway and roadway widening would occur for a period of approximately 24 months, and it is anticipated that the project would be completed in 2006. The proposed roadway extension would be constructed in one phase.

2.7 ADDITIONAL REQUIRED PERMITS AND APPROVALS

Prior to project implementation, a series of approvals, permits, and notifications must be obtained from various federal, state, and local area regulatory agencies. The required permits and approvals are presented after Table 2.5-1.

Local

- SCRRA ROW
- Dominguez Water Company (relocation of a water line)
- City of Torrance – Engineering Department (relocation of sewer lines)
- SCE (relocation of power lines in the railroad ROW)
- LACDPW
- SCAQMD
- County Sanitation Districts of LA County
- BNSF RR

State

- Caltrans (funding approval)
- CPUC (railroad crossing)
- Department of Toxic Substances Control (DTSC) (hazardous materials sites cleanup)
- Regional Water Quality Control Board (RWQCB), Los Angeles Region (National Pollution Discharge Elimination System [NPDES] Permit)
- SCAG

Federal

- FHWA (funding approval)

CHAPTER 3.0
AFFECTED ENVIRONMENT, IMPACTS, AND MITIGATION MEASURES

The following sections include an analysis, by issue area, of the project's potential effects on the environment for each project alternative considered and carried forward. Each environmental issue area includes the following subsections:

- Affected Environment
- Significance Criteria
- Impacts
  - Alternative 1: No Action Alternative
  - Alternative 2: 55 MPH Design Speed with MSE Retaining Wall
  - Alternative 3: 55 MPH Design Speed with Type 1 Retaining Wall
  - Alternative 4: 50 MPH Design Speed with MSE Retaining Wall
- Mitigation Measures
- Significance After Mitigation

The environmental issue areas analyzed in this section are as follows:

3.1 Land Use and Planning
3.2 Aesthetics, Light, and Glare
3.3 Geology and Soils
3.4 Floodplain, Water Resources, and Hydrology
3.5 Transportation and Circulation
3.6 Air Quality
3.7 Noise
3.8 Hazards and Hazardous Materials
3.9 Cultural Resources
3.10 Biological Resources
3.11 Public Services and Utilities
3.12 Socioeconomics and Environmental Justice

As identified in the Initial Study prepared in December 2001, the following environmental issue areas were not found to be significantly impacted or potentially impacted by the project:

- Agricultural Resources
- Mineral Resources
- Recreation

Therefore, no further evaluation of these environmental issue areas is necessary in this chapter. Chapter 5.0 presents a brief discussion of impacts that were not found to be significant.

3.1 LAND USE AND PLANNING

This section describes existing land uses at the project site and in surrounding areas and discusses the proposed action within the context of the City of Torrance General Plan (General Plan). The analysis focuses on the consistency of the proposed action with the General Plan, issues associated with easement acquisition, and other land use impacts that would result from the proposed action.

3.1.1 Affected Environment

Existing Land Uses

The proposed action entails a 1.2-mile extension and expansion of Del Amo Boulevard through industrial and railroad land uses. Most of the proposed project site consists of a private road that is restricted to Dow Chemical, BNSF RR, Exxon-Mobil, and City personnel. The proposed extension of Del Amo Boulevard would bridge the BNSF railroad tracks, whose ROW is owned by SCRRA. An unlined drainage ditch exists along the eastern portion of the alignment; however, there is little vegetation present. A single, large black willow grows at the fork in the railroad tracks.

Surrounding Land Uses

Torrance has long been a predominantly industrial city; however, over time, much of the industrial land has been converted to commercial and residential uses. Despite the changes, the City remains one of the most industrialized in the Los Angeles metropolitan area.

This mix of land uses is evident at the project site, where much of the immediately surrounding land is industrial. The Exxon-Mobil Refinery is located immediately north of the BNSF railroad track and the Dow Chemical manufacturing plant is located just south of the alignment. To the east of the project site, Del Amo Boulevard is lined with single-family residences, immediately north of which are more oil tanks associated with the refinery. Along the western portion of Del Amo Boulevard are additional residential and industrial properties, while Delthorne Park lies southwest of the project site. Other surrounding uses include the Torrance Civic Center and City buildings to the south, the Del Amo Fashion Center to the southwest, and additional industrial uses to the southeast and west of the proposed project site (see Figure 1.2-2).

Planned Land Use

City of Torrance General Plan

The Land Use Element of the City's General Plan and the Zoning Ordinance (Division 9 of the Municipal Code) serve as the principal instruments of land use regulation for all properties and proposed development within the City. The General Plan specifically identifies the proposed action as a programmed street improvement (General Plan Circulation Element, Future Transportation System, Section C.2).

More than 2,000 acres of industrial land is located within the City. The majority of this area falls within two districts. The larger of these districts, which includes the project site, runs from Western Avenue on the east to Hawthorne Boulevard on the west, bounded by 190th Street and the San Diego Freeway to the north, and Dominguez Street and Maricopa Street to the south. This area, known as the Central Manufacturing District, is one of the largest concentrations of heavy manufacturing in the southwestern Los Angeles area. A smaller manufacturing area, the Southern Industrial District, lies adjacent to Torrance Municipal Airport. This area is characterized by light industrial uses, including offices, light manufacturing, and warehouse and distribution.

The Victor Precinct lies to the west of the project site and is bounded by Del Amo Boulevard, Torrance Boulevard, Hawthorne Boulevard, and Anza Avenue. This Precinct is unique for its mixed uses, including residential, manufacturing and distribution, office uses, mobile home parks, and a tennis club (City of Torrance 1992).

Los Angeles County Master Plan of Highways

Del Amo Boulevard is identified as a major highway in the Los Angeles County Master Plan of Highways.

Zoning Ordinance

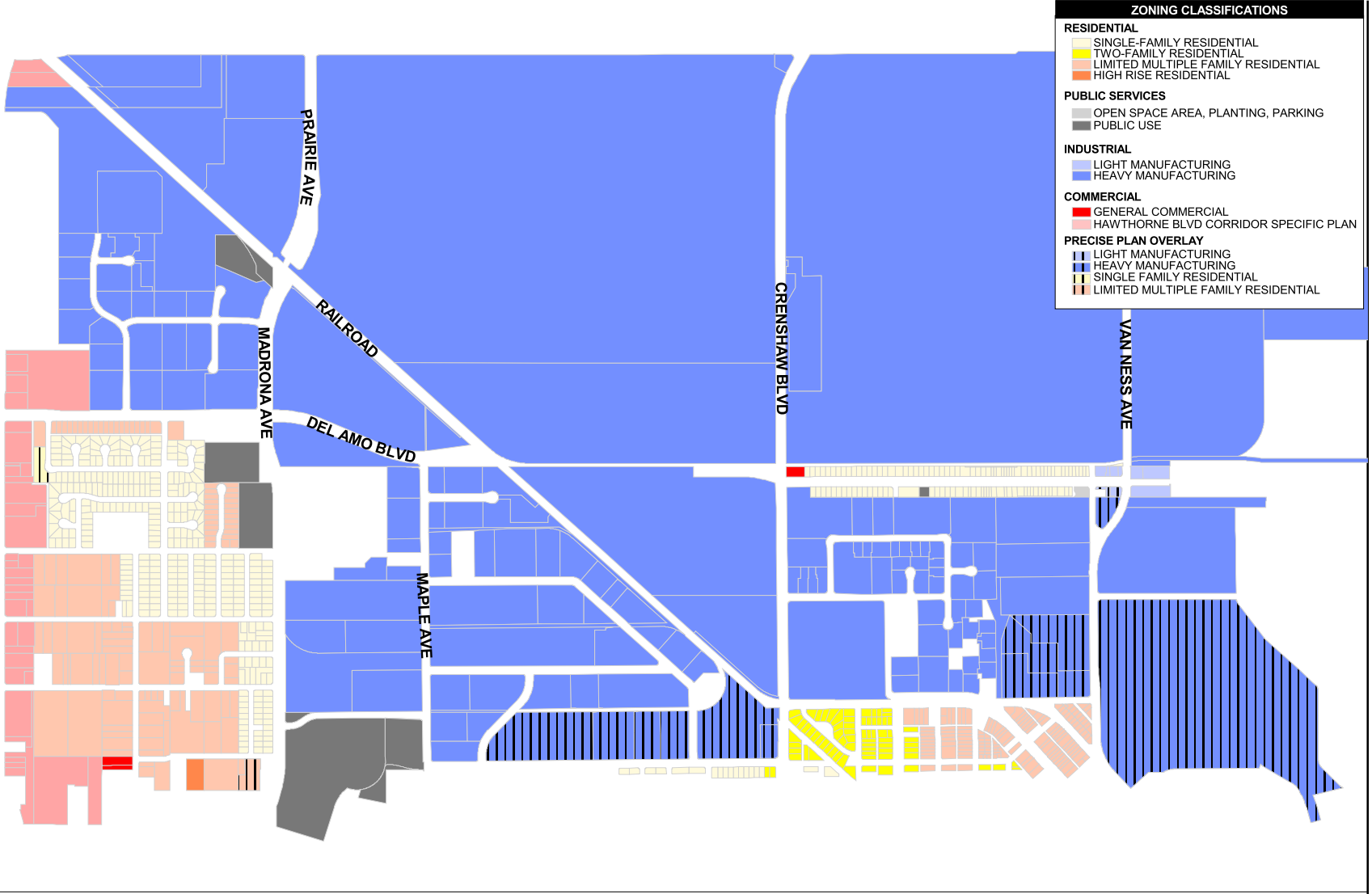
Within the City, approximately 3,068 acres are zoned for manufacturing. The project site is zoned M2, Heavy Manufacturing. This zone is an extension of the M1 zone, which permits light manufacturing uses not producing noise, dust, odors, or vibrations, to include other manufacturing and commercial uses, subject to a Conditional Use Permit (see Figures 1.2-2 and 3.1-1).

Southern California Association of Governments

The proposed project is consistent with the policies and strategies in SCAG's Regional Comprehensive Plan and Guide (RCPG) and Regional Transportation Plan (RTP) (Appendix I). The proposed project involves the extension of a principal arterial, which is consistent with the 2001 RTP and included in SCAG's Final 2002 RTIP (FY 2002/2003-2007/2008), approved by SCAG on August 8, 2002, and adopted by FHWA on October 4, 2002 (thereby constituting inclusion in Federal Statewide Transportation Improvement Program and the Federal Transportation Improvement Plan [FSTIP/FTIP]). The 2002 RTIP was prepared to implement projects listed in the 2001 RTP. An amendment update to the 2002 RTIP was approved as Amendment No. 1 to SCAG's 2002/2003-2007/2008 FSTIP/FTIP. Over $13 million of funding has been programmed for design, right-of-way, and construction. These funds have been secured through a Memorandum of Understanding (MOU) executed with the Metropolitan Transportation Authority (MTA) in July 2000.

Del Amo Blvd. Extension

00156 Del Amo Blvd Extension\Projects\parcels.qpr



Source: City of Torrance

NORTH

750 0 750 1500 Feet

Scale: 1" = 1500"

Figure 3.1-1
On-site and Surrounding Land Use Zoning

3.1.2 Significance Criteria

A project would create a land use impact if it would:

- physically divide an established community;
- substantially conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect; or
- conflict with any applicable habitat conservation plan or natural community conservation plan.

3.1.3 Impacts

Alternative 1: No Action Alternative

Implementation of this alternative would result in the continued use of the site in its existing condition. The existing on-site land uses would remain, and the land use impacts from roadway construction (as described below for Alternatives 2, 3, and 4) would not occur. Although the roadway would not be constructed, as programmed in the City's General Plan, the No Action Alternative would not substantially conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Accordingly, no impacts to land use would occur under this alternative.

Alternative 2: 55 MPH Design Speed with MSE Retaining Wall

Physical Community Structure

The proposed action would improve access through an industrial area, linking vital east-west arterial transportation routes for both industrial and community use. The alignment would pass through an existing industrial site with little biological, economic, or community value, where no residential uses are present. Increased traffic levels from redistributed traffic patterns may affect some residential areas located to the east and west of the proposed alignment; however, the proposed action would not physically divide any of these communities. As such, impacts to the physical community structure would be less than significant.

Compatibility with Applicable Plans and Policies

The expansion of Del Amo Boulevard as proposed would be consistent with the Circulation Element of the City's General Plan and the Los Angeles County Master Plan of Highways. Furthermore, the proposed action would comply with the stated policies of the City, as shown in Table 3.1-1.

The proposed project is consistent with SCAG's Regional Comprehensive Plan and Guide and Regional Transportation Plan. The proposed extension supports the following SCAG policies from the Regional Comprehensive Plan and Guide:

- 3.18 Encourage planned development in locations least likely to cause environmental impacts.
- 3.20 Support the protection of vital resources such as wetlands, groundwater recharge areas, woodlands, production lands, and land containing unique and endangered plants and animals.
- 3.21 Encourage the implementation of measures aimed at the preservation and protection of recorded and unrecorded cultural resources and archaeological sites.
- 3.22 Discourage development, or encourage the use of special design requirements, in areas with steep slopes, high fire, flood, and seismic hazards.
- 3.23 Encourage mitigation measures that reduce noise in certain locations, measures aimed at preservation of biological and ecological resources, measures that would reduce exposure to seismic hazards, minimize earthquake damage, and to develop emergency response and recovery plans.

The proposed extension supports the following SCAG policies from the Regional Transportation Plan:

- 4.01 Transportation investments shall be based on SCAG's adopted Regional performance indicators.
- 4.02 Transportation investments shall mitigate environmental impacts to an acceptable level.
- 4.03 Major Investment Studies and other studies of regional transportation facilities shall include consideration of freight movement.
- 4.04 Transportation Control Measure shall be a priority.
- 4.16 Maintaining and operating the existing transportation system will be a priority over expanding capacity.

The project site is not located within any habitat conservation or natural community plan areas. This alternative would not conflict with any applicable land use plan, policy, or regulation of any agency having jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental impact. Therefore, there would be no land use impact resulting from this alternative.

Land Acquisition

As shown in Table 2.4-2 and discussed in Section 2.4.2, Alternative 2 would require ROW acquisition from Dow Chemical, Exxon-Mobil, and SCRRA. Subsequent to the property acquisition, facilities on the Exxon-Mobil and Dow Chemical sites would need to be modified.

Table 3.1-1. Alternative 2 - Consistency with General Plan Policies

Element	Policy	Consistency Analysis/Comments
Land Use	3.4 The City shall consider both the impact of a proposed development on surrounding property and the impact of existing uses, especially heavy industrial uses, on new development.	**Consistent** – This EIR/EA analysis has determined that the impacts of the project on surrounding properties and the effects of nearby industrial uses on the project would not be significant.
Land Use	4.1 The City shall approve only that development which is consistent in scale, mass and character with structures in the surrounding area, as appropriate.	**Consistent** – The proposed four-lane divided road and roadway expansion would be consistent in scale, mass, and character with the existing portions of Del Amo Boulevard. The proposed action would complete the road as programmed in the City's General Plan.
Land Use[1]	6.4 The City shall establish corridor plans, coordinating both public and private improvements, along the City's major arterials to create identifiable, visual themes through the use of landscape and hardscape.	**Consistent** – There is no existing corridor plan for this portion of Del Amo Boulevard. The heavily industrialized nature of surrounding uses negates the necessity for aesthetic screening of the proposed roadway.
Land Use	12.2 The City shall ensure that new development provides a proportionate share of the improvements necessary to mitigate project-generated impacts on the city's circulation and infrastructure systems.	**Consistent** – Mitigation measures are provided in Section 3.5, Transportation and Circulation. However, significant and unavoidable impacts at some of the local study intersections and residential street segments would remain.
Circulation	1.1 All circulation improvements shall be in accordance with the Circulation Plan, Streets and Highways, of the General Plan.	**Consistent** – The proposed four-lane roadway is consistent with the City's Circulation Plan, Streets and Highways.
Circulation	1.2 The City shall work toward the attainment of roadway service level objectives as defined by the General Plan.	**Consistent** – The proposed project would improve east-west traffic flow within the City and assist in achieving the City's roadway service level objectives.
Circulation	1.3 The City shall establish and maintain a complete set of Public Works Street Standards which shall be applicable to both public and private streets and which shall be updated on a regular basis. The City may accept different standards for roadways in older developed areas of the City which do not meet present day standards, or under other special circumstances.	**Consistent** – The proposed project would be constructed according to City standards, in accordance with approved engineering practice. A cross-section of the proposed roadway is shown in Figure 2.4-2.
Circulation	2.1 The City shall consider methods of minimizing the impact of through traffic on local residential streets.	**Consistent** – Mitigation measures are provided in Section 3.5, Transportation and Circulation, to reduce impacts from through traffic on local residential streets; however, significant and unavoidable impacts on some residential street segments would remain.

[1] Land Use Policy 6.4 is identical to Circulation Policy 7.1.

Table 3.1-1. Alternative 2 - Consistency with General Plan Policies (continued)

Element	Policy	Consistency Analysis/Comments
Circulation	2.2 The City shall endeavor to alleviate congestion on streets within the City created by the freeway metering system.	**Consistent** – The nearest freeway on-ramp is located on Crenshaw Boulevard, over one mile north of the project site. The proposed action would improve traffic flow along an east-west corridor roughly parallel to, but approximately one mile south of I-405
Circulation	2.5 The City shall strive to maximize the efficiency and safety of the existing roadway system through synchronization and other traffic flow improvements.	**Consistent** – The proposed action would improve traffic flow within the City. The traffic signals at Crenshaw Boulevard at Del Amo Boulevard and Madrona Avenue/Prairie Avenue at Del Amo Boulevard would be synchronized to accommodate the new traffic patterns generated by the project.
Circulation	5.2 The City shall support the implementation of short- and long-range transportation measures to reduce air pollution from transportation sources as recommended by the South Coast Air Quality Management District.	**Consistent** – Construction of the roadway extension would improve travel times by decreasing circuitous routes and stops due to traffic lights and traffic congestion. As such, the proposed action would assist in attainment of air quality goals.
Circulation	7.4 The City shall encourage the undergrounding of on- and off-site utilities.	**Consistent** – The proposed action would maintain or relocate underground utilities where necessary. One aboveground electrical line would be relocated on the northern portion of the alignment.
Circulation	8.3 The City shall ensure that public infrastructure is upgraded and installed in a timely manner to meet usage requirements, maximize cost efficiency and minimize construction impacts on the community.	**Consistent** – The proposed action completes a roadway corridor in compliance with the stated objectives of the General Plan. As such, and given the difficulties of the current roadway configuration, the project is an important component of the local road infrastructure.
Circulation	8.4 The City shall require that new development assume the costs of construction and expansion of water, sewer, and storm drain system improvements, which are necessitated by that development.	**Consistent** – The proposed action would not generate a demand for new or expanded sewer or water utility services. All necessary storm water improvements are included in the project.
Circulation	8.7 The City shall work to minimize the adverse effects associated with pipelines to maintain the health and safety of Torrance residents within the scope of the City's jurisdiction and regulation.	**Consistent** – The proposed action would meet relevant City and Caltrans standards during construction. Measures are provided in Section 3.11, Public Services and Utilities, to ensure that utility relocation activities are undertaken in a safe and responsible manner.
Circulation	9.2 The City shall support the continued availability of rail service to local industries, in a manner that minimizes conflicts with surrounding land uses and other modes of transportation.	**Consistent** – The proposed action would not significantly affect rail services because the railroad would be bridged to avoid conflicts associated with an at-grade crossing. While a temporary disruption to services may occur during the construction phase, no adverse long-term effects on rail services would occur.

Table 3.1-1. Alternative 2 - Consistency with General Plan Policies (continued)

Element	Policy	Consistency Analysis/Comments
Conservation	1.1 The City shall continue to work with the State Air Resources Board and the South Coast Air Quality Management District to improve ambient air quality to meet state and federal standards.	**Consistent** – The proposed action would improve traffic flow in the City by decreasing circuitous routes and stops due to traffic lights and traffic congestion. As such, the proposed action would assist in attainment of air quality goals.
Conservation	2.3 The City shall comply with Federal and State regulations to insure the safe water quality of the City's water supply and to protect water resources from degradation.	**Consistent** – The proposed action would not affect drinking water supplies. Impacts related to storm water runoff would be addressed through NPDES permit requirements.
Conservation	1.3 The City shall work to insure a balance between the achievement of clean air and other major goals of the City.	**Consistent** - The proposed action would assist in attainment of air quality goals by improving traffic circulation within the City.
Conservation	10.1 The City shall make maximum efforts to preserve specimen trees whether they occur on public or private property.	**Consistent** – The proposed action would not affect any specimen trees.
Open Spaces	2.1 The City shall preserve significant land and water resources for recreational use.	**Consistent** – There are no significant land or water resources in the vicinity of the project that could be set aside for recreational use.
Open Spaces	3.9 The City shall provide natural buffers (landscaping and contouring) along public transportation corridors whenever possible.	**Consistent** – The proposed alignment would traverse a highly industrialized area. Aside from typical landscaping requirements, natural buffers would not be required or appropriate.
Noise	1.1 The City shall give preference to street plans that reduce noise impact on adjacent lands.	**Consistent** – The proposed action would introduce roadway noise to an area that is dominated by industrial activity. Noise impacts to residences on Del Amo Boulevard east and west of the proposed alignment are not anticipated to be significant. Noise impacts resulting from the project would be less than significant.
Noise	1.5 The City shall rigorously enforce all current state noise regulations pertaining to motor vehicle operations.	**Consistent** – The proposed action would comply with all applicable noise regulations during construction and operation. See Section 3.7, Noise.
Safety	1.6 The City shall propose fire station sites that are compatible with surrounding land uses.	**Consistent** – The proposed action would improve response times for emergency services by linking an important arterial route while reducing congestion on surrounding roads. See Section 3.11, Public Services and Utilities.
Safety	3.3 The City shall require that structures be designed and constructed to resist stresses caused by lateral forces during periods of seismic activity.	**Consistent** – The project site is located approximately 4 miles northeast of the Palos Verdes fault and five miles southwest of the Newport-Inglewood fault. The proposed action would meet relevant City and Caltrans standards and approved engineering practices. See Section 3.3, Geology and Soils.

Table 3.1-1. Alternative 2 - Consistency with General Plan Policies (continued)

Element	Policy	Consistency Analysis/Comments
Safety	3.4 The City shall maintain Building Code requirements which include more stringent requirements in zones of higher acceleration during an earthquake.	**Consistent** – Same as above.
Safety	3.7 The City shall encourage detailed site investigations for major structures proposed to be built near the Palos Verdes fault and the bluffs south of Pacific Coast Highway.	**Consistent** – Same as above.

The majority of the land acquisition would be sought from Dow Chemical. The acquisition would not affect structures of human habitation, nor would displacement and relocation of people be necessary. Furthermore, the properties affected by the acquisitions would be large, industrial premises that could accommodate relatively small losses of land and would directly benefit from the presence of the road extension. Acquisition of the land would be subject to appropriate compensation, as determined through negotiation with the City. The land use impact of the proposed roadway on neighboring premises would, therefore, be less than significant.

Alternative 3: 55 MPH Design Speed with Type 1 Retaining Wall

The impacts under Alternative 3 on land use would be identical to those identified for Alternative 2 since both alternatives would generally occupy the same land area. Alternative 3 would be compatible with surrounding land uses, comply with relevant plans, and require the same amount of land acquisition from neighboring properties. Accordingly, impacts would be less than significant.

Alternative 4: 50 MPH Design Speed with MSE Retaining Wall

The impacts under Alternative 4 on land use would be identical to those identified for Alternative 2. Since Alternative 4 would occupy the same land area as Alternative 2, Alternative 4 would be compatible with surrounding land uses, comply with relevant plans, and require the same amount of land acquisition from neighboring properties. Accordingly, Alternative 4 would result in impacts to land use similar to those described under Alternative 2.

3.1.4 Mitigation Measures

No mitigation measures are required for Alternatives 1, 2, 3, or 4.

3.1.5 Significance after Mitigation

Alternative 1 would result in no impacts to land use. Alternatives 2, 3, and 4 would result in less than significant impacts.

3.2 AESTHETICS, LIGHT, AND GLARE

The purpose of this section is to identify and evaluate key visual and aesthetic resources in the project area and to determine the degree of visual and aesthetic impacts that would be attributed to the proposed alternatives. The analysis describes the potential aesthetic effects of the alternatives with respect to visual quality, aesthetics, light and glare.

3.2.1 Environmental Setting

The proposed alignment is located within the City's Central Manufacturing District as designated by the Land Use Element in the City's General Plan (see Section 3.1, Land Use and Planning). The District is characterized by large heavy manufacturing and processing plants, such as the Dow Chemical manufacturing plant south of the project site (Figure 3.2-1), and the Exxon-Mobil Refinery north of the project site (Figures 3.2-2 and 3.2-3). Smokestacks, large storage tanks, and other industrial machinery are visible throughout this area. An aerial view of the project area is provided in Figure 1.2-2, which provides an overall perspective of the region.

Along the eastern portion of the proposed alignment is an east-west access road from Crenshaw Boulevard to the Dow Chemical manufacturing site, which continues onto the Dow Chemical property as a private road. BNSF railroad tracks run parallel to the road and connect with the northwest-southeast trending BNSF tracks that bisect the proposed alignment. Chain-link fences run along the northern and southern property boundaries, which are lined with aboveground power lines. In general, the corridor is characterized by patches of exposed dirt, railroad ballast, gravel, and shrubby vegetation.

An unmaintained, unlined drainage ditch is located between the railroad tracks and the access road along the proposed alignment. Other than ruderal weeds, scattered shrubs, and a single large black willow at the fork in the railroad tracks, there is little vegetation present on the site (see Section 3.10, Biological Resources). Piles of debris, wood, and materials are located at various places along the proposed roadway corridor. The topography at the project site is predominantly flat, with a rise of approximately 35 feet from the eastern end to the western end. There are no designated scenic vistas or scenic highways located on-site or in the vicinity of the proposed alignment.

The BNSF railroad tracks cross Crenshaw Boulevard immediately north of the intersection of Crenshaw Boulevard and Del Amo Boulevard. The area immediately east of the proposed alignment is characterized by low-density residential uses (Figure 3.2-4). A small neighborhood park is situated on the south side of Del Amo Boulevard approximately 0.25 mile east of the proposed alignment.

On Crenshaw Boulevard, across from the Dow Chemical manufacturing plant to the east, is a business park, which is comprised of relatively new, low-rise office buildings and surface parking lots on a property landscaped with both young and mature trees, shrubs, and grass. The buildings at the

Figure 3.2-1
View of the Dow Chemical Manufacturing
Plant Looking Southeast from the Private Access Road

Figure 3.2-2
View of Entrance to the Exxon-Mobil Refinery
Looking North along Del Amo Boulevard

Figure 3.2-3
View of the Flare Towers on the Exxon-Mobil Refinery
Looking North from Proposed Alignment

Figure 3.2-4
Single-Family Residences along the North Side of Del Amo Boulevard
Immediately East of the Proposed Alignment

business park are typical in appearance; painted white with some dark window-covered surfaces. Between the business park and Torrance Boulevard, the eastern side of Crenshaw Boulevard is lined with light commercial and industrial uses. On the west side of Crenshaw Boulevard is vacant land bounded by the Dow Chemical site on the north and the railroad tracks on the southwest.

To the south of the proposed alignment, beyond the Dow Chemical site and railroad tracks, is an area consisting of both industrial and commercial uses. Maple Avenue intersects Del Amo Boulevard at the western edge of the proposed roadway extension (Figure 3.2-5). Horse stables and a vacant parcel of land are located north of Del Amo Boulevard between Madrona Avenue/Prairie Avenue and Maple Avenue. The portion of Del Amo Boulevard between Maple Avenue and Madrona Avenue/Prairie Avenue is lined on both sides by landscaping, including a row of bare trees and grass on the north side and small shrubs and dry groundcover on the south side.

West of Madrona Avenue/Prairie Avenue, residential and office uses are located on Del Amo Boulevard. Low- to medium-density residences occupy the south side of Del Amo Boulevard, and office and industrial uses line the north side. Delthorne Park, on Madrona Avenue, lies approximately 0.25 mile southwest of the proposed alignment (Figure 3.2-6). The park is characterized by grassy fields for informal recreation, a meandering foot path, and scattered mature shade trees with picnic tables and grills at their base.

Key Observation Points

Five key observation points (KOPs) were selected and analyzed to determine the impacts of the proposed Del Amo Boulevard extension and widening on surrounding views. These KOPs, shown on Figure 3.2-7, include:

- KOP 1 – Looking west from the private access road between the Exxon-Mobil Refinery and Dow Chemical (see Figure 3.2-8).
- KOP 2 - Looking east from northern sidewalk on Del Amo Boulevard near Maple Avenue (see Figure 3.2-9).
- KOP 3 – Looking west along the railroad tracks toward the Exxon-Mobil Refinery entrance (Figure 3.2-10).
- KOP 4 – Looking west from the intersection of Del Amo Boulevard with Crenshaw Boulevard (Figure 3.2-11).
- KOP 5 – Looking across a vacant land toward the Dow Chemical manufacturing plant in the north (Figure 3.2-12).

Existing Relevant Policies, Plans, and Ordinances

The City's General Plan contains goals, objectives, and policies related to the aesthetics of visible structures within the City. Pertinent policies are listed in Table 3.1-1 in Section 3.1, Land Use and Planning.

Figure 3.2-5
Intersection of Del Amo Boulevard and Maple Avenue
Looking West

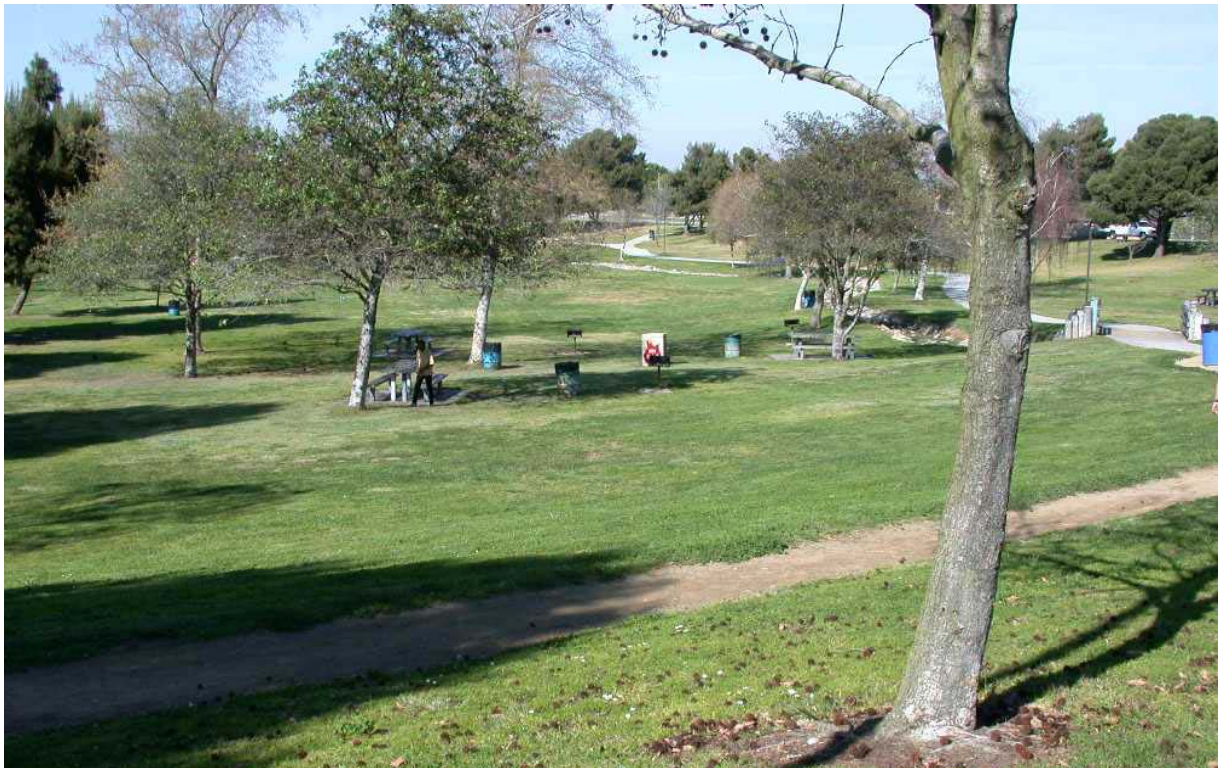
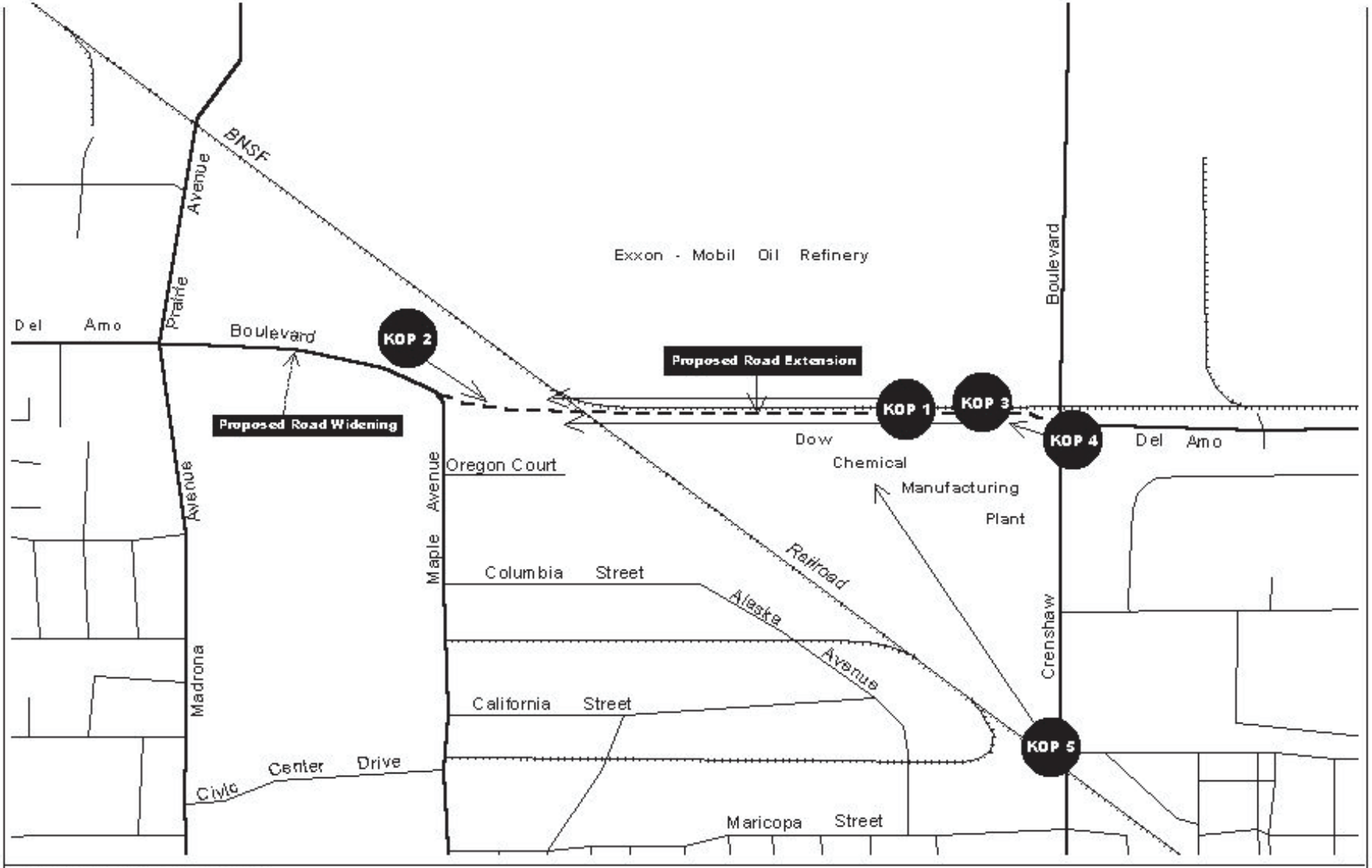


Figure 3.2-6
Delthorne Park (Southwest of the Proposed Alignment)
Looking Northwest from Spencer Street



Source: Base data from Tiger Files, US Census

Figure 3.2-7
Key Observation Points (KOPs)

Figure 3.2-8
View of the Proposed Alignment Looking West (KOP 1)

Figure 3.2-9
View of Del Amo Boulevard at Maple Avenue
Looking East (KOP 2)

Figure 3.2-10
View of the Railroad Tracks Parallel to Access Road with Exxon-Mobil Refinery (right) and Dow Chemical Manufacturing Plant (left) (KOP 3)

Figure 3.2-11
View of the Eastern End of the Proposed Alignment at the Intersection of Del Amo Boulevard and Crenshaw Boulevard Looking West (KOP 4)

Figure 3.2-12
View of the Dow Chemical Manufacturing Plant
Looking North at the Exxon-Mobil Flare Towers (KOP 5)

3.2.2 Significance Criteria

The significance of visual effects is subjective and depends on the degree of alteration, the scenic quality of the area disturbed, and the sensitivity of the viewers. Sensitive viewers, typically residential or recreational users, are those who utilize the outdoor environment or value a scenic viewpoint to enhance their daily activity. Changes in the existing viewscape where there are no identified scenic values or sensitive viewers are generally considered less than significant.

A project would have a significant effect on aesthetic resources if it would:

- substantially affect a scenic vista;
- substantially degrade the existing visual character or quality of the site and its surroundings; or
- create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

3.2.3 Impacts

Alternative 1: No Action Alternative

Under Alternative 1, the proposed roadway would not be built. No visual changes would occur at the project site; however, the existing visual character would not be improved. The unsightly patches of ruderal and unmaintained vegetation and deteriorating drainage channels would remain. Visual impacts associated with the No Action Alternative would be less than significant, but potential benefits of uniformed landscaping would not be realized.

Alternative 2: 55 MPH Design Speed with MSE Retaining Wall (Proposed Action)

Alternative 2 would result in a new roadway between Crenshaw Boulevard and Maple Avenue. The extension of Del Amo Boulevard would traverse an area dominated by industrial and manufacturing uses and would be visible from several nearby streets. As shown in Figure 2.4-1, the roadway would be elevated above the existing ground level along the central portion of the alignment to accommodate the proposed bridge over the BNSF railroad tracks and to meet the elevation of the existing road to the west. At its highest point, the road would be approximately 35 feet above the ground surface. The elevation of the roadway would gradually reduce towards the east as it ties into the existing surface approximately 1,500 feet to the west of Crenshaw Boulevard.

Key Observation Points

Figure 3.2-8 presents the view looking west from the private access road between the Exxon-Mobil Refinery and the Dow Chemical manufacturing plant. From this vantage point, the proposed extension would appear as a four-lane, ground level roadway traveling through a heavy industrial area, and would not result in the loss of significant visual or scenic resources in the area. The proposed roadway extension would follow the same alignment as this access road; however, the new roadway would appear wider and would rise above the existing ground surface toward the west. The change in elevation would be perceptible, but it would not obstruct any views from this vantage point. Also visible from this location are the water tanks on the Dow Chemical manufacturing plant property, which would be relocated as part of the project.

Figure 3.2-9 shows a view looking west from the northern sidewalk on Del Amo Boulevard near Maple Avenue. Under Alternative 2, Del Amo Boulevard would extend to the east (left) through this area, and the existing road would be widened on both sides. The existing median would be removed and a new median would be added slightly to the south (right). A new three-way intersection, including traffic signals, striping, and sidewalks, would occupy most of the view from this vantage point. The fence located in the background would be removed since the new road would pass through this area as it heads east towards Crenshaw Boulevard. Although not visible in this photograph, the flare towers on the Exxon-Mobil property would be visible in the distance to the north. Eastbound traffic heading through this intersection would have unobstructed views of the flare towers. Although

the view from this observation point would change substantially as a result of the project, the existing character of the view would not change.

Figure 3.2-10 presents a westward view along the railroad tracks toward the Exxon-Mobil Refinery entrance. Under this alternative, the aboveground power lines would be relocated closer to the railroad and the ruderal vegetation and existing debris would be removed and replaced with the roadway. The roadway would be visible in the left foreground and in the distance as it rises in elevation near Maple Avenue. The roadway and relocated power lines would not alter the visual character of this area, and impacts would be less than significant.

Figure 3.2-11 shows the view west from the intersection of Del Amo Boulevard and Crenshaw Boulevard. The proposed extension would replace the existing access road, rising as it travels west. The rise may be evident from this vantage point; however, it lies at a distance of over 0.5 mile from this intersection and is unlikely to be a prominent visual feature, appearing as a slight rise that would become evident as cars travel over the bridge. In contrast to the surrounding industrial and manufacturing uses, the roadway would not appear out of place or inconsistent with the visual character of the area. Consequently, the proposed action would result in a less than significant impact.

Figure 3.2-12 presents the view across vacant land toward the Dow Chemical manufacturing plant in the north. The proposed alignment would traverse the far (northern) side of the Dow Chemical site; however, because of the rise at its western end, a portion of the roadway would be evident from this vantage point. Given the industrial nature of the premises in the foreground, the proposed extension would be visually compatible with its surroundings and, therefore, would result in a less than significant impact.

Light and Glare

As the proposed bridge and roadway would be constructed with non-reflective materials, no glare impacts would result. Street lighting would be provided along the roadway extension; however, since no sensitive receptors are located on either side of the proposed alignment, lighting impacts are not anticipated to result from Alternative 2.

Alternative 3: 55 MPH Design Speed with Type 1 Retaining Wall

With the exception of the appearance of the retaining wall, Alternative 3 would appear identical to Alternative 2. As such, aesthetics, visual quality, and light and glare impacts associated with Alternative 3 would be the same as those identified for Alternative 2. Therefore, Alternative 3 would have a less than significant impact on aesthetics, visual quality, and light and glare.

Alternative 4: 50 MPH Design Speed with MSE Retaining Wall

Alternative 4 would have slightly tighter curves than Alternative 2, but the change in roadway design would not be perceptible to viewers. Aesthetics, visual quality, and light and glare impacts associated with Alternative 4 would be the same as those identified for Alternative 2. Both alternatives would introduce a four-lane road in an area that is already heavily disturbed, traversed by other linear features, such as railroad tracks, electrical lines, and private roads, and where no sensitive receptors are present. Therefore, Alternative 4 would have a less than significant impact on aesthetics, visual quality, and light and glare.

3.2.4 Mitigation Measures

No mitigation measures are required for Alternatives 1, 2, 3, and 4.

3.2.5 Significance After Mitigation

Alternative 1 would not result in significant visual impacts, although the degraded visual condition would remain. Alternatives 2, 3, and 4 would result in a visual change by introducing a new road and widening an existing road; however, impacts would be less than significant because the alternatives would not change the visual character of the area or affect any sensitive viewers.

3.3 GEOLOGY AND SOILS

This section describes the geology and soil characteristics of the project site and surrounding region, including geologic units and structure, groundwater, faulting and seismicity, soils, and other geologic hazards.

3.3.1 Affected Environment

Geologic Units and Structure

The southern California region is subdividing into several geomorphic provinces that are defined by a variety of geographic features. The project site is located within the northwestern portion of the Peninsular Range Province, an area characterized by a prevailing northwesterly orientation of structural geologic features. This general area, known as the Los Angeles (geological) Basin, is a northwest-trending lowland plain that encompasses approximately 100 square miles. Structurally this geologic basin is divided into four major subdivisions: the southwestern block, northwestern block, central block, and northeastern block.

The dominant structural feature near the project is the Newport-Inglewood Fault Zone, which is a northwest-trending structural zone extending from Newport Bay to Beverly Hills. This feature is expressed topographically as a line of low discontinuous hills and ridges. The project site is also located near the trace of the Palos Verdes Fault, which, although less extensive than the Newport-Inglewood Fault Zone, has the potential to generate significant ground motion at the project site. The San Andreas Fault, located more than 50 miles northeast of the site, could also generate significant ground motion in the project vicinity.

The City is located in the Los Angeles Basin on a relatively flat northwest-trending coastal plain, commonly referred to as the Torrance Plain. The Torrance Plain consists of elevated dense silty sand older alluvium, which is covered, locally, with older moderately dense silty sand deposits. In the vicinity of the project, the ground surface typically consists of older alluvial deposits with a veneer of older, largely stabilized sand dunes. The deposits are generally described as dense to very dense sands and silty sands.

Groundwater

The project area is located within the Los Angeles Coastal Plain Groundwater Basin, which is divided into two distinct groundwater basins by the Newport-Inglewood Structural Zone. The Main Coastal Basin is located on the northeast side of the uplift zone and the West Basin is located to the southwest. The project site is located in the West Basin, which is approximately 25 miles long and 75 miles wide. The West Basin is bounded by the Santa Monica Mountains on the north, the Newport-Inglewood Structural Zone on the east, the Palos Verdes Hills on the south, and the Pacific Ocean on the west.

The West Basin is naturally replenished by underflow and infiltration of water spread in the Main Basin. Water levels in the West Basin are affected by injection wells along the coast and by pumping throughout the basin. The West Coast Basin Barrier Project is an ongoing project operated by the Los Angeles County Department of Public Works (LACDPW). This project involves a series of injection and monitoring wells installed and maintained by the LACDPW to prevent seawater intrusion.

In the vicinity of the project site, the recent alluvium extends to a depth of approximately 40 feet below grade (Schaefer Dixon 1991). The Bellflower aquiclude (an impermeable bed that hinders or prevents groundwater movement) of the Lakewood formation is found below the recent alluvium and likely extends to about 130 feet below grade. The Gage-Gardena aquifer, which consists of fine yellow sand with some gravel, exists below the Bellflower aquiclude.

At the project site, groundwater is likely to be present at a depth of about 30 feet below grade (Schaefer Dixon 1991). Groundwater in the project vicinity generally flows from west to east. A groundwater divide exists beneath the Exxon-Mobil Refinery near the east of the site, and groundwater east of the site likely flows to the east-southeast. In addition, groundwater is depressed in the southeastern corner of the refinery in the vicinity of the refinery's groundwater pumping system.

Faulting and Seismicity

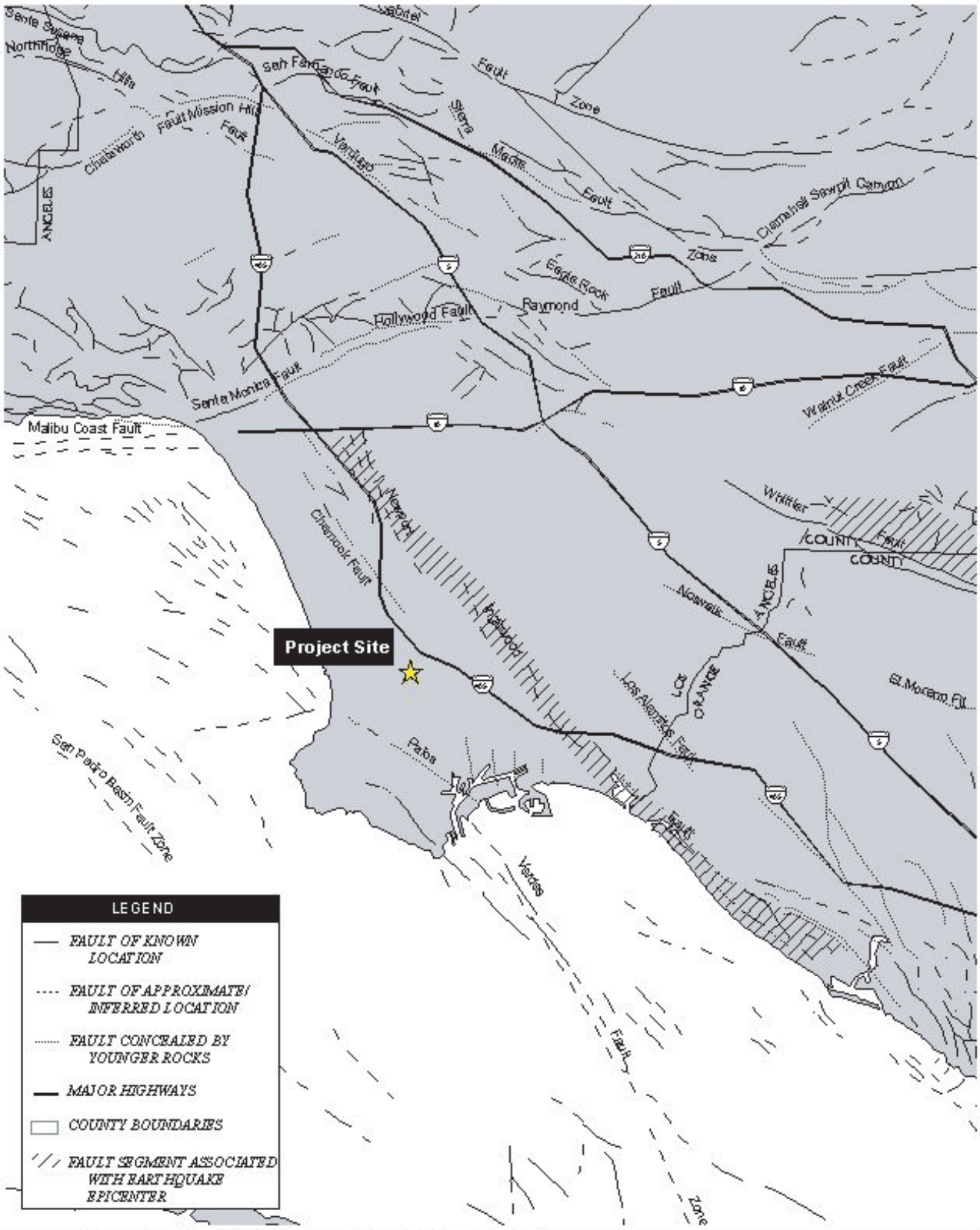
Regional and Local Faults

The project site, located in an area of well-known historic seismic activity, is subject to the effects of moderate to large seismic events. According to the California Division of Mines and Geology[1] (CDMG), over 30 earthquakes of Richter magnitude 5.0 or greater occurred within 50 miles of the site between 1932 and 2000[2] (CDMG 1998). Approximately 35 active faults are known to exist within this same 50-mile radius, several of which are shown in Figure 3.3-1. The three faults that are most likely to have a major impact on the project site are the Newport-Inglewood, Palos Verdes, and San Andreas faults. These fault zones are described below.

Newport-Inglewood Fault Zone

Of primary concern to the project site is the Newport-Inglewood Fault, which represents the most significant potential sources of strong ground shaking. The Newport-Inglewood Fault Zone, located approximately five miles northeast of the site, dominates the geologic structure of the area. The northwest-trending Newport-Inglewood Fault Zone is over 45 miles long and is marked at the surface by low eroded scarps along subparallel, offsetting faults and by a northwest-trending chain of elongated low hills and mesas that extend from Newport Bay to Beverly Hills (CDMG 1998).

[1] As of January 16, 2002, the CDMG is officially referred to as the California Geological Survey (CGS).
[2] Earthquake magnitudes are expressed using the Richter scale, a log scale generally ranging from 0 to slightly less than 9.0.



Reproduced with permission, California Division of Mines and Geology, CD-ROM 2000-006 (2000), Digital Database of Faults from the Fault Activity Map of California and Adjacent Areas

Figure 3.3-1
Regional Fault Map

GIS\Projects\DH033_DelAmo\geology_faults.apr 03/04/02 (kd)

Earthquakes that historically have had the most effect on the City have been the results of movement on the Newport-Inglewood Fault Zone (City of Torrance 1992).

Palos Verdes Fault Zone

The Palos Verdes Fault, located approximately four miles southwest of the site, is a zone of faulting and intense folding that cuts diagonally through the Palos Verdes Peninsula and extends offshore northwest and southeast. The seismic history of the onshore fault is uncertain, whereas offshore segments of the Palos Verdes Fault are suspected to have experienced recent Holocene ruptures.

San Andreas Fault Zone

The San Andreas Fault Zone, located approximately 50 miles northeast of Torrance, is capable of generating a "great" (magnitude 8+) earthquake. This fault forms the boundary between the Pacific and North American tectonic plates. The fault extends more than 620 miles as a continuous feature from Cape Mendocino in northern California to the east of San Bernardino in southern California.

Regional and Local Seismicity

The southern California region is a seismically active area with a well-documented earthquake history. Table 3.3-1 lists the major faults within approximately 60 miles of the site and the corresponding ground motion and maximum magnitude estimates for each fault at the project site.

Table 3.3-1. Ground Motion and Maximum Magnitude Estimates for the Project Site

Fault	Approx. Distance to the site	Maximum Credible Earthquake (magnitude) (Richter Scale)	Horizontal Ground Motion Parameters	
			Maximum Peak Ground Acceleration (g)[1]	Duration of Strong Shaking (seconds)
Palos-Verdes	4	7.0	0.70	30
Newport-Inglewood	5	7.0	0.65	26
Norwalk	18	6.5	0.20	14
Hollywood	21	6.5	0.18	13
Malibu Coast–Santa Monica	22	7.5	0.23	26
Whittier Elsinore	23	7.5	0.23	26
Raymond	24	6.8	0.18	12
Sierra Madre	34	7.5	0.17	19
San Jacinto (Punch Bowl)	55	7.5	0.10	8
San Andreas – Central	57	8+	0.12	10

(1) Maximum peak ground acceleration is measures in terms of the acceleration of gravity (g).

Source: City of Torrance General Plan 1992

The greatest concentration of seismic events in the project area has resulted from activity on the Newport-Inglewood Fault Zone, including the magnitude 6.3 Long Beach earthquake, which occurred in 1933. Within the past 30 years, approximately two to three local earthquakes in the magnitude range of 3.0 to 4.5 have been recorded each year at various locations along the zone. The fault is considered capable of generating a 7.0 maximum credible earthquake and the slip rate on the fault is estimated to be 0.6 millimeter per year (Petersen 1994).

Ground Rupture

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to minimize the hazard of surface faulting to structures for human occupancy. The main purpose of the Act is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The law requires the State Geologist to establish regulatory zones (known as Earthquake Fault Zones) around the surface traces of active faults and to issue appropriate maps. Cities and counties affected by these Earthquake Fault Zones must regulate certain existing and future development projects within the zones through their permitting and building code enforcement (CGS 2002).

The project site is located within several miles of the Newport-Inglewood Fault, the trace of which has been designated as an Earthquake Fault Zone. The roadway alignment does not overlie the delineated fault trace or fall within the designated Earthquake Fault Zone.

Soils

The soil conditions discussed in this section pertain to engineering suitability, not contamination. A Phase II Soil Investigation Report was prepared for the Del Amo Boulevard Extension project, which characterized the extent of soil contamination at the project site (see Appendix C). Soil and groundwater contamination are discussed in further detail in Section 3.4, Floodplain, Water Resources, and Hydrology, and Section 3.8, Hazards and Hazardous Materials, of this Draft EIR/EA.

Liquefaction and Lateral Spreading Potential

Ground motion can cause a range of ground failures, including liquefaction. Liquefaction occurs when water saturated sediments are subjected to extended periods of shaking, causing increases in the water pressure of soil pores and a temporary alteration of the soil from solid to liquid state. The result of liquefied sediments is a loss of strength, in turn causing the failure of adjacent infrastructure, such as bridges and buildings.

The degree of resistance to liquefaction depends on a number of factors, including grain size, compaction and cementation, saturation and drainage, characteristics of the vibration, and the occurrence of past liquefaction. Granular, unconsolidated, saturated sediments are the most likely to liquefy, while dry, dense or cohesive soils tend to resist liquefaction. Liquefaction is generally considered to be a hazard where the groundwater is within 40 to 30 feet of the surface. Where the soil

drainage is good, the pore pressure, which builds up when ground motion shakes unconsolidated soil, will be more easily dissipated; thus, those soils with good drainage are less likely to liquefy. According to the CDMG Seismic Hazard Zones Map prepared for the Torrance quadrangle (Released on March 25, 1999), the project site is not located in an area of liquefaction potential. The nearest liquefaction hazard zone is located approximately two miles southeast of the project site.

Expansive Soils

Expansive soils are found in floodplains and low-lying regions, occurring naturally across much of the western United States. If allowed to become wet, the soils will expand and then shrink as water is removed. Over time, walls, driveways, and other constructed features may crack and heave as soils expand, possibly returning to their original position as the soil dries. Because of the mass of overlying structures, foundations may inhibit the upward expansion of the soil although outward expansion may still occur.

Although expansive soils are common in some parts of the City, the project site is comprised predominately of granular alluvial materials, along with lesser amounts of clay, silts, and sandy, silty artificial fills. These predominantly granular soils do not tend to exhibit expansion characteristics or problems associated with expansive soils.

Other Geologic Hazards

Landslides

Seismically induced landslides can occur where ground motion causes unstable or steeply sloping and loosely aggregated soils and rocks to move downslope under the force of gravity. The project site is located on a relatively flat coastal plain and, according to the Seismic Hazard Zones map, the project site does not fall in or near an area where earthquake-induced landslides are considered likely.

Seismically Induced Flooding

There are no water bodies in the vicinity of the project that would pose a danger with regard to seismically induced flooding.

Tsunami, Seiches, and Seismically Induced Reservoir Failure

The hazards of a tsunami are not significant at the site due to the abrupt topographic relief along the shoreline and the inland nature of the project site. The project site is not located in the flood hazard zone of a reservoir or other water body.

3.3.2 Significance Criteria

A significant impact would occur if the project would:

- expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault
  - strong seismic ground shaking
  - seismic-related ground failure, including liquefaction
- result in substantial soil erosion or the loss of topsoil;
- be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse; or
- be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1997), creating substantial risks to life or property.

3.3.3 Impacts

Alternative 1: No Action Alternative

The No Action Alternative would result in the continued use of the site in its existing condition. Since the proposed bridge and roadway extension would not be constructed, no new structures would be exposed to seismic or other geological hazards. Impacts to geology and soils would not occur under this alternative.

Alternative 2: 55 MPH Design Speed with MSE Retaining Wall

Ground Rupture

The Del Amo Boulevard roadway extension would not cross any Alquist-Priolo Earthquake Fault Zones or other known fault traces. The nearest Earthquake Fault Zone is located approximately five miles to the northwest along the trace of the Newport-Inglewood fault. Accordingly, the potential for impacts related to ground rupture at the project site is low. Impacts from ground rupture would be less than significant.

Ground Motion

The proposed action involves construction of a single-span overpass at the BNSF railroad tracks, consisting of a pre-cast, pre-stressed concrete I-girder superstructure. The roadway approach to the new bridge would be elevated approximately 100 feet in each direction (see Figure 2.4-1).

Based on the site conditions and the geometrics of the proposed alignment, retaining walls would be necessary at three locations along Del Amo Boulevard: (1) on the south side of the road from Maple Avenue to the west side of the railroad ROW, (2) on the south side of the road extending approximately 1,050 feet to the east from the eastern railroad ROW, and (3) on the north side of the road extending approximately 1,360 feet to the east from the eastern railroad ROW. Approximately 74,800 cubic yards of fill material would be required to construct the elevated roadbed, which would be stabilized on either side with MSE walls. A description of the proposed MSE walls and overall construction scenario is provided in Section 2.4.2.

Considering the distance of the project site from several active faults, the proposed roadway and overpass would be susceptible to levels of seismic ground shaking typical for much of southern California. The proximity of major faults to the project location increases the probability that an earthquake of magnitude 6.0 or greater may affect the project site. In particular, the Newport-Inglewood Fault Zone is capable of generating a 7.0 maximum credible earthquake, which would be capable of adversely affecting structures in the project vicinity.

Strong seismic shaking at the project site could affect the stability of the engineered structures, particularly the MSE retaining walls and the reinforced fill material. The overall design of the MSE walls must satisfy requirements for the external stability of the wall, the internal stability (pullout resistance and rupture) of the soil and other fill material, and the durability of reinforcement for the structure life.

In general, the roadway and overpass must conform with all applicable design and engineering requirements as well as any recommendations set forth in site-specific geology and soil investigations. Because no habitable structures are proposed, it is expected that the seismic conditions in the project area would be satisfactorily addressed through standard construction and engineering practices as required per Engineering Directoring standards, Caltrans Seismic Design Criteria (1999), and Caltrans Bridge Design Specifications. However, due to the proximity of several active faults in the region, potentially significant impacts related to ground motion could occur. Incorporation of all applicable design standards and building codes, as well as the mitigation measures described below, would reduce impacts related to seismic ground shaking to a less than significant level.

Settlement and Other Subsurface Conditions

Groundwater at the project site is located at a depth of approximately 30 feet below the surface. Because project construction activities would disturb only the uppermost 10 feet, impacts related to groundwater are not anticipated. Septic tanks or other wastewater disposal systems would not be incorporated into this project. As discussed below, impacts related to liquefaction and expansive soils would be less than significant.

Liquefaction

The CDMG Seismic Hazards Zone Map for the Torrance quadrangle indicates that the potential for future liquefaction-related ground displacements at the project site is low. Therefore, impacts related to liquefaction would be less than significant.

Expansive Soils

In general, construction-related soil disturbances would be limited to the uppermost 10 to 20 feet of soil, which are comprised predominately of granular alluvial materials, along with lesser amounts of clay, silts, and sandy, silty artificial fills. These soils do not exhibit expansive soil characteristics; however, the potential for expansive soils to occur in the project area does exist. If areas of potentially expansive soils are encountered during the site-specific geotechnical investigations for the project, mitigation measures are provided below to ensure that the roadway, including the MSE walls and overpass structures, are adequately supported.

Excavation and Grading

Major earthwork activities associated with the project would include grading for roadway construction, placement of fill material for the elevated roadway, and excavation for utility relocations. Standard construction BMPs would be incorporated into the plans and specifications for the project to address short-term erosion impacts. Additional mitigation measures are provided in Section 3.4, Floodplain, Water Resources, and Hydrology, to ensure that construction activities do not result in substantial soil erosion or the loss of topsoil.

The topography of the site is generally flat, and no landslide hazard zones are located in the vicinity of the proposed roadway and overpass. Accordingly, impacts related to landslides are not anticipated.

Flooding

The proposed roadway and bridge are not at risk to seismically induced flooding, tsunamis, seiches, or reservoir failures because the site is located away from any potential sources of flooding. Impacts related to surface water hydrology are discussed in Section 3.4, Floodplain, Water Resources, and Hydrology.

Alternative 3: 55 MPH Design Speed with Type 1 Retaining Wall

Overall, impacts associated with this alternative would be similar to those identified for Alternative 2. Alternative 3 would require approximately 118,600 cubic yards of fill material, 43,800 cubic yards more than required for Alternative 2. Additionally, because a Type 1 retaining wall would require more space than the MSE retaining wall, the footprint of the support structures would be slightly larger. Soil disturbance would be slightly greater for this alternative; however, the level of

significance of impacts associated with Alternative 3 would be the same as described for Alternative 2. Specifically, impacts associated with ground stability during earthquake events and expansive soils would be potentially significant, but impacts related to fault rupture, landslides, soil erosion, liquefaction, and seismically induced flooding would be less than significant.

Alternative 4: 50 MPH Design Speed with MSE Retaining Wall

Overall, impacts associated with this alternative would be similar to those identified for Alternative 2. Because the 50 mph design speed would allow the use of shorter vertical curves, this alternative would reduce roadway fill. Alternative 4 would require approximately 72,000 cubic yards of fill material, 2,800 cubic yards less than required for Alternative 2. Additionally, retaining wall heights would also be slightly reduced. Soil disturbance would be slightly less for this alternative; however, the level of significance of impacts associated with Alternative 4 would be the same as described for Alternative 2. Specifically, impacts associated with ground stability during earthquake events and expansive soils would be potentially significant, but impacts related to fault rupture, landslides, soil erosion, liquefaction, and seismically induced flooding would be less than significant.

3.3.4 Mitigation Measures

Potentially significant impacts related to geology and soils would be reduced to a less than significant level for Alternatives 2, 3, and 4 through incorporation of standard design and engineering techniques as well as the following site-specific mitigation measures:

- A professional civil/geotechnical engineer shall prepare a geotechnical report for the proposed project. The report, to be submitted to the Engineering Director prior to design approval, shall examine the type and degree of earthwork required for the project. This report shall concentrate on issues of geologic stability and may include but is not limited to determining the presence, depth, and texture of unconsolidated sediments. The geotechnical report shall include analysis to determine the presence, depth, and lateral extent of expansive soils at the site, and recommend techniques for reducing the impact of expansive soils. If expansive soils are encountered, mitigation measures may include excavation and replacement of expansive soils, lime-stabilization, or other proven engineering practices.

- The final design of the proposed roadway shall be approved by a professional civil/geotechnical engineer prior to construction, to ensure that it meets all state and city specifications applicable to the project site, including but not limited to local grading standards, engineering codes, and Title 24 of the California Building Code requirements.

The following mitigation measure would apply only to Alternatives 2 and 4:

- The MSE retaining walls shall be constructed in accordance with applicable Caltrans requirements. In particular, design and construction of the roadway shall conform with the Caltrans' Division of Structures' Mechanically Stabilized Embankment Details No. 1 through 9.

3.3.5 Significance after Mitigation

Implementation of the mitigation measures described above would reduce impacts from ground motion and expansive soils to a less than significant level. Impacts related to fault rupture, liquefaction, landslides, erosion, and seismically induced flooding would be less than significant; therefore, no additional measures would be required. Overall, impacts to geology and soils would be less than significant after mitigation.

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3.4 FLOODPLAIN, WATER RESOURCES, AND HYDROLOGY

This section discusses the local and regional hydrologic setting of the project site. Local hydrology, storm water, and groundwater issues are discussed with respect to each alternative.

3.4.1 Affected Environment

Regulatory Setting

The RWQCB implements provisions of Section 402 of the Federal Clean Water Act (Clean Water Act) and, in particular, administers permitting procedures for the NPDES. NPDES regulations apply to storm water discharges and areawide generators of urban runoff. Under the U.S. Environmental Protection Agency's (EPA) Storm Water Phase I Final Rule, NPDES storm water permits are required for construction projects that disturb greater than five acres of land and for certain industrial facilities.

On June 13, 1994, the Los Angeles RWQCB adopted an updated Water Quality Control Plan for the Los Angeles Region (LA Basin Plan). The LA Basin Plan incorporates by reference key State Board policies that are applicable to the Los Angeles Region.

Regional Hydrology

The project site is located in the Dominguez Channel Watershed, a highly developed watershed of approximately 110 square miles in the southern portion of Los Angeles County. Ninety-six percent of the total watershed area is developed. The Channel, which is fed by numerous storm drains and minor channels, empties into the East Basin of Los Angeles Harbor. The Los Angeles area receives an average annual precipitation of 14.9 inches (World Climate 2002).

The LA Basin Plan identifies the following beneficial uses for Dominguez Channel Estuary: preservation of rare and endangered species, estuarine habitat, marine habitat, wildlife habitat, migration of aquatic organisms, spawning, reproduction and/or early development of fish, commercial and sport fishing, and contact and non-contact water recreation. Upstream of the estuary, beneficial uses include non-contact water recreation and rare, threatened, and endangered species.

The RWQCB has recognized that some reaches of the Dominguez Channel/Los Angeles Harbor presently do not achieve the water quality objectives of the Clean Water Act and are, therefore, identified by the State of the "1998 California 303(d) List and TMDL Priority Schedule" (approved by USEPA May 2, 1999). Pollutants causing impairment include, among others, poly-chlorinated biphenyls (PCBs), Dichlorodiphenyltrichloroethane (DDT), polycyclic aromatic hydrocarbons (PAHs), Chlordane, and sediment toxicity. Over several years, the Los Angeles RWQCB will be establishing pollution limits (Total Maximum Daily Limits [TMDLs]) for these impairments pursuant to Section 303(d) of the Clean Water Act.

Local Hydrology

The project area is primarily flat, with most of the surface drainage flowing to the local storm water drainage network or infiltrating into the ground. The eastern half of the proposed alignment (from the BNSF railroad tracks to Crenshaw Boulevard) is occupied by a paved/dirt access road between the Exxon-Mobil Refinery and Dow Chemical property. The western half of the alignment (from the BNSF railroad tracks to Madrona Avenue/Prairie Avenue) includes a mostly undeveloped area between the railroad tracks and Maple Avenue and an existing portion of Del Amo Boulevard. The area between the railroad tracks and Maple Avenue rises in elevation from the flat eastern portion of the alignment. This area includes patches of dirt, nonnative grasses, and some paved surfaces east of the roadside.

An unlined drainage ditch traverses part of the southern boundary of the central portion of the site. Another small drainage feature is located at the eastern end of the alignment, just north of the main entrance to the Dow Chemical facility. Neither one of these drainages is designated as "waters of the U.S.," and no other drainages cross the proposed alignment.

There are no potential sources of major flooding in the vicinity of the project site. The project area is not located within any recognized flood inundation hazard areas, including Federal Emergency Management Agency (FEMA) 100-year flood hazard areas. The risk of flooding from dam failure is low, given the distance of the site from the nearest reservoir, the Palos Verdes Reservoir, which is located more than five miles to the south.

Storm Water

Storm water quality in the project area is influenced primarily by surface drainage from nearby industrial sites, including the adjacent Exxon-Mobil and Dow Chemical properties. Surface drainage characteristics and storm water quality data from these sites are discussed below.

Exxon-Mobil Property

Storm water runoff from the Exxon-Mobil property is collected in large retention and reclamation basins. Floating oil is skimmed off and some of this water is used as make-up water in the refinery cooling towers. The Exxon-Mobil Refinery is allowed to discharge storm water and treated groundwater to the municipal storm water system under an existing individual NPDES permit.

Dow Chemical Property

Dow Chemical has an active monitoring program for storm water. The program is a combination of visual observations and discrete water samples collected at specified discharge locations: (1) a lined pond inside the facility and (2) a maintenance parking lot at the main entrance to the facility. The

lined pond discharges directly to a municipal storm water collection system. The maintenance parking lot is located adjacent to the project area and the discharge from this area enters a drainage channel lined with concrete inside the project area before entering the municipal collection system.

Samples of the discharge from the maintenance parking lot are analyzed for basic analytes such as pH, total suspended solids, specific conductance, and total organic carbon. Other analytes include organic chemicals and metals that have dissolved in water such as chloroethane, ethylbenzene, styrene, acetone and acrylonitrile, ethylene glycol, antimony, and zinc. Storm water flows from Dow Chemical's property via overland flow, crossing exposed soil before entering the lined storm channel. Reported analytical results indicate the presence of contaminants that could percolate through the soil.

Groundwater

A discussion of the local and regional groundwater characteristics is provided in Section 3.3.1. As mentioned in that section, groundwater is likely to be present at a depth of about 30 feet below grade in the project area. Groundwater in the project vicinity generally flows from west to east. Groundwater in the perched aquifer follows this trend. However, historical data indicate a mounding of water, located between the BNSF railroad tracks and Crenshaw Boulevard, interrupts the west to east flow beneath the Exxon-Mobil Refinery. Groundwater in the lower Gage-Gardena aquifer also follows the general west to east flow pattern; however, groundwater mounding also appears in this aquifer in the northeastern portion of the refinery, away from the Del Amo Boulevard Extension project area. In addition, groundwater is depressed in the southeastern corner of the refinery in the vicinity of the refinery's groundwater pumping system.

A Phase II Soil Investigation Report was prepared for the Del Amo Boulevard Extension project in July 2001 (Appendix C). This report characterized the extent of groundwater and soil contamination at the project site, based on readily available historical files at RWQCB, data from the City, annual storm water monitoring reports from the Dow Chemical site (1998 to 2000), and other available information.

Groundwater is affected by releases of petroleum hydrocarbons and chlorinated solvents in several areas near the proposed alignment. The Exxon-Mobil Refinery has ongoing investigations, monitoring, and remediation north and south of Del Amo Boulevard between Madrona Avenue/Prairie Avenue and Maple Avenue and north of the proposed alignment between the BNSF railroad ROW and Crenshaw Boulevard. Biannual groundwater reports from the Exxon-Mobil Refinery provide current analysis of groundwater conditions and analytical results of soil samples collected by Exxon-Mobil within the project area.

Over 200 wells for monitoring and recovery of pollutants have been installed beneath the Exxon-Mobil property. Groundwater samples have been collected from many of these wells for the past 10 years. Several wells in the perched aquifer provide information relevant to the project area. In

addition, the refinery operates a groundwater pumping system at the southeast corner of the refinery withdrawing approximately 6,100 acre-feet of water from the Gage-Gardena aquifer.

Non-aqueous phase hydrocarbon recovery began in 1986 and has continued to the present. Approximately 1,182,000 gallons of non-aqueous phase hydrocarbons has been removed from both aquifers: approximately 700,000 gallons from the perched aquifer and 482,000 gallons from the Gage-Gardena aquifer. Non-aqueous phase hydrocarbons are present in the project area only between Madrona Avenue/Prairie Avenue and the BNSF railroad in the perched aquifer. Figures showing the extent of contamination are provided in Appendix C.

The shallow perched aquifer and underlying Gage-Gardena aquifer contain non-aqueous phase hydrocarbons and dissolved constituents of petroleum hydrocarbons. Samples from the deeper Lynwood-Silverado aquifer also contain benzene, toluene, ethylbenzene and total xylenes (BTEX) at concentrations near reporting limits.

Other dissolved petroleum related constituents and chlorinated solvents were detected in the perched and Gage-Gardena aquifers beneath the refinery and surrounding properties. In general, the concentrations of dissolved constituents associated with petroleum refining are found in highest concentrations in the western portion of the project area where non-aqueous phase hydrocarbons are present. Chlorinated solvents tetrachloroethene and trichloroethene have been reported in addition to the dissolved constituents of petroleum refining.

3.4.2 Significance Criteria

A significant impact would occur if the project would:

- violate any water quality standards or waste discharge requirements;
- substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level;
- substantially alter the existing drainage pattern of the site or area in a manner that would result in substantial erosion or siltation on- or off-site;
- substantially increase the rate or amount of surface runoff resulting in flooding on- or off-site;
- create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or
- otherwise substantially degrade water quality.

3.4.3 Impacts

Alternative 1: No Action Alternative

The No Action Alternative would result in continued use of the site in its existing condition. Surface drainage patterns would remain the same, and water quality impacts from construction activities would not occur. Impacts to flooding, hydrology, and water resources would not occur under this alternative.

Alternative 2: 55 MPH Design Speed with MSE Retaining Wall

Surface Water Quality

Construction

Construction activities would include (1) demolition of existing infrastructure (e.g., service road and water storage tanks); (2) site preparation, including grading and excavation; (3) relocation of utility lines; and (4) construction of the project components (e.g., new roadway, road widening, and barrier wall). Because the project area would be more than five acres in size, a Storm Water Pollution Prevention Plan (SWPPP) permit would be required for construction.

Construction activities would increase soil erosion rates through exposure of raw soil material to the natural elements of wind and rain. During the rainy season (generally from October to April), grading operations may impact the surface runoff by increasing the amount of silt and debris carried by the storm water runoff. Refueling activities and staging of construction equipment and other vehicles onsite during construction may also result in spills of oil, grease, or related pollutants. Additionally, improper handling, storage, or disposal of fuels and materials or improper cleaning of machinery could cause water quality degradation.

Prior to construction, all grading plans would be reviewed and approved by the Engineering Directoring Department. Compliance with the NPDES general permit would require (1) submittal of a "Notice of Intent" (NOI) prior to start of work; (2) preparation of a SWPPP prior to start of work, including BMPs; (3) implementation of a self-monitoring program; (4) submittal of annual reports and certification of compliance; and (5) payment of an annual fee during construction. Upon completion of construction activities, a Notice of Termination must be submitted. Adherence to these NPDES permit requirements would reduce potential water quality impacts during construction to a less than significant level. No mitigation measures are required.

Operation

Paved and impervious surfaces contribute greater quantities of water to storm water systems than landscaped surfaces. Water cannot permeate compacted and impervious surfaces as easily as

landscaped areas; consequently, rain is converted to runoff and is removed from the site by channels and storm water drains. An increase in imperviousness reduces the amount of rainfall absorbed through soils and also prevents contaminants from being trapped and neutralized in the soil.

Street and parking lot surfaces are considered primary sources of urban storm water pollution. This pollution may include atmospheric pollutants, tire-wear residues, heavy metals, petroleum products, oil, grease, industrial chemicals, bacteria, nitrogen, phosphorus, sediments, paint and construction debris, and litter. The project would not alter the beneficial uses of the Dominguez Channel or its estuary, nor would it affect the development and implementation of TMDLs for the channel.

Construction of the roadway extension would result in additional sources of contaminated runoff. The roadway would accumulate grease, fuel, and other pollutants from vehicular activity, which would drain to the local storm water drainage network. To accommodate the anticipated runoff, the project would include a new 24-inch storm drain along the Del Amo Boulevard alignment, as well as five catch basins along the side of the new roadway. Given the relatively minor increase in paved surface area of approximately 7.5 acres, the quantity of runoff would be minimal, and impacts to water quality would be considered less than significant.

Groundwater

Grading during construction is not expected to disrupt soils at depths sufficient to require dewatering. Although contaminated groundwater does exist under the site, the proposed action would not further degrade these resources. Driven piles for structural support would penetrate the groundwater table beneath the project site as these piles would be installed up to a depth of 100 feet. However, these piles are not anticipated to affect groundwater flow. In addition, the proposed action would not affect groundwater recharge or supply since no groundwater pumping or withdrawal would occur as a result of the project. Accordingly, impacts to groundwater would be considered less than significant.

Erosion

The MSE walls would include an internal drainage system. As designed, the proposed action would not result in the grading of any area that would significantly alter existing drainage patterns or result in substantial erosion or siltation. Construction BMPs included in the SWPPP for the project (i.e., erosion control devices) would reduce potential short-term erosion impacts to a less than significant level.

Flooding

The project site does not lie within a FEMA 100-year flood boundary or other designated flood zone. The proposed project does not include any residential uses nor would it impede or redirect flood flows. Drainage from the road would connect to the municipal storm water system, which is adequate to accommodate anticipated storm events. In addition, the site is distant from levees, dams, oceans,

or other large water bodies. Therefore, flooding impacts would be less than significant.

Alternative 3: 55 MPH Design Speed with Type 1 Retaining Wall

Overall, impacts under Alternative 3 would be similar to those described above for Alternative 2. Alternative 3 would require approximately 43,800 cubic yards of fill material more than Alternative 2, and the footprint would be slightly larger. Temporary water quality impacts during construction would be slightly greater for this alternative and the amount of impervious surface would be slightly larger; however, the level of significance for impacts would be the same as those described for Alternative 2.

Alternative 4: 50 MPH Design Speed with MSE Retaining Wall

Overall, impacts under Alternative 4 would be similar to those described above for Alternative 2. Alternative 4 would require approximately 2,800 cubic yards of fill material less than Alternative 2 because this design speed would allow the use of shorter vertical curves, reducing the roadway fill that would be required. Because the construction requirements would be essentially the same as Alternative 2, temporary water quality impacts during construction of Alternative 4 would be less than significant.

3.4.4 Mitigation Measures

The project alternatives would not result in significant impacts to hydrology or water quality. Implementation of the required SWPPP would ensure that water quality impacts for Alternatives 2, 3, and 4 are less than significant.

3.4.5 Significance After Mitigation

The project alternatives would not result in significant impacts to hydrology and water quality.

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3.5 TRANSPORTATION AND CIRCULATION

This section summarizes the traffic data and analysis section of the Project Study Report (PSR) prepared by Holmes and Narver (now known as DMJM + Harris) for the City dated September 20, 1999. The purpose of this section is to describe existing and future traffic circulation and to evaluate the impacts of the proposed action on local traffic. A total of 28 key intersections in the project vicinity were analyzed. The analysis identified the traffic effects of the proposed extension and widening of Del Amo Boulevard on surrounding streets and intersections.

3.5.1 Affected Environment

Del Amo Boulevard is an east-west street, which runs almost continuously from Redondo Beach near Prospect Avenue to the City of La Palma in Orange County; two other short breaks on Del Amo Boulevard occur east of the project site (between Denker Street and Vermont Avenue and an overpass across the I-405, which is currently under construction). At the project site, the eastern segment of Del Amo Boulevard currently terminates at Crenshaw Boulevard, with the western segment commencing west of Maple Avenue. Most of the project site consists of a private road owned by the Dow Chemical manufacturing plant, as shown in Figure 2.4-1 in Chapter 2.0 of this document. Other segments of Del Amo Boulevard to the east have not been constructed; thus, even with implementation of the proposed project, Del Amo Boulevard will not serve as a through street along its entire length to Orange County.

Existing Roadway Conditions

The following provides a brief description of the major roadways within the study area:

Interstate 405 – I-405 runs from Orange County northwards to the San Fernando Valley, where it connects with the I-5 to Sacramento. I-405 lies to the north of the project site, where it runs in a northwest-southeast direction. The nearest on- and off-ramps are located at Crenshaw Boulevard. Other on- and off-ramps are located on 190th Street and Artesia Boulevard for the southbound direction and on Western Avenue and Artesia Boulevard for the northbound direction.

Del Amo Boulevard – Del Amo Boulevard is an east-west arterial designated in the Los Angeles County Master Plan of Highways as a major highway. Del Amo Boulevard runs from Prospect Avenue in the City of Redondo Beach eastward to Orange County, where it becomes La Palma Avenue; Del Amo Boulevard runs almost continuously with the exception of two other short breaks east of the project site, as identified above. Between Prospect Avenue in Redondo Beach and the project site, and east of the project site to Western Avenue, Del Amo Boulevard is predominantly lined by residential uses.

Crenshaw Boulevard – Crenshaw Boulevard is a four-lane, north-south arterial located immediately east of the project site, although it extends to a six-lane arterial between 182nd Street and the southern

City boundary. It extends from Wilshire Boulevard in Los Angeles south to Rancho Palos Verdes. Immediately south of 190th Street, a railroad boom gate and median crossing are located to divert southbound lanes in the event of an emergency at the Exxon-Mobil Refinery. Railroad tracks cross Crenshaw Boulevard immediately north of the intersection with Del Amo Boulevard. Between 190th Street and Torrance Boulevard, the northbound portion of Crenshaw Boulevard has a posted speed limit of 45 mph, while the southbound traffic is 45 mph from 190th Street to Del Amo Boulevard, and then 35 mph from Del Amo Boulevard to Torrance Boulevard. Crenshaw Boulevard is a designated truck route in the City of Torrance.

Torrance Boulevard – Torrance Boulevard is a major four-lane arterial, which travels east-west and is located south of the project site. Torrance Boulevard extends from Catalina Avenue on the Pacific Coast eastwards to Cabrillo Avenue, where it travels northeast to 208th Street. From here it continues east to Main Street, where it continues for several blocks as a minor road. The Torrance Civic Center is located on Torrance Boulevard between Prairie Avenue and Maple Avenue. Torrance Boulevard is otherwise lined by low to high density residential properties and light commercial uses from Hawthorne Boulevard to Cabrillo Avenue. Between Madrona Avenue and Crenshaw Boulevard, Torrance Boulevard is signed for 35 miles per hour in each direction.

190th Street – 190th Street is a major, four lane arterial located north of the project site and running in an east-west direction, parallel to Del Amo Boulevard. Between Hawthorne Boulevard and Prairie Avenue, 190th Street has a posted speed limit of 40 mph. Between Prairie Avenue and Crenshaw Boulevard, the posted speed limit increases to 45 mph, then decreases to 35 mph east of Crenshaw Boulevard.

Western Avenue – Western Avenue is an arterial providing access from Los Feliz Boulevard immediately south of Griffith Park, to Royal Palms County Beach in San Pedro. Along most of its length, including the portion which lies east of the project site, Western Avenue runs in a north-south direction. Western Avenue crosses I-405 just north of its intersection with 190th Street and includes on- and off-ramps for the northbound lanes of I-405.

Van Ness Avenue – Van Ness Avenue is located east of the project site, providing north-south access. Van Ness Avenue terminates at Torrance Boulevard.

Maple Avenue – From its junction with 235th Street south of Sepulveda Boulevard, Maple Avenue extends north toward Del Amo Boulevard, immediately west of the proposed roadway extension. Maple Avenue has a posted speed limit of 25 mph between Maricopa Street and Del Amo Boulevard. Land uses along Maple Avenue are predominantly light commercial/industrial. A church and several businesses are located near the intersection of Maple Avenue at Del Amo Boulevard.

Madrona Avenue/Prairie Avenue – Madrona Avenue and Prairie Avenue are north-south streets to the west of the project site. South of its intersection with Del Amo Boulevard, Prairie Avenue

becomes Madrona Avenue. Prairie Avenue and Madrona Avenue have a posted speed limit of 35 mph.

Hawthorne Boulevard – Hawthorne Boulevard is located west of the project site. Along most of its length from the City of Inglewood on the north to Rancho Palos Verdes on the south, the street runs in a north-south direction. The Del Amo Fashion Center is located to the southwest of the project site on Hawthorne Boulevard.

Anza Avenue – Anza Avenue is a predominantly residential street, which runs north-south, west of the project site. Anza Avenue extends northward from Pacific Coast Highway near Torrance Municipal Airport before terminating at 190th Street.

182nd Street – 182nd Street lies to the north of the project site. On- and off-ramps for the northbound lanes of the I-405 are located immediately east of Crenshaw Boulevard.

Maricopa Street – Maricopa Street travels east-west between Maple Avenue and Beech Avenue, immediately east of Crenshaw Boulevard. Located south of the project site, Maricopa Street is a four-lane collector street between Maple Avenue and Crenshaw Boulevard with a posted speed limit of 35 mph.

Traffic Operations Analysis Methodology

Traffic operating conditions in the vicinity of the project site were analyzed using intersection capacity-based methodology known as the Highway Capacity Manual, which is referred to hereinafter as the HCM Method.

The efficiency of traffic operations at a location is measured in terms of Level of Service (LOS), which is a description of traffic performance at an intersection. The LOS concept is a measure of average operating conditions at an intersection during an hour. It is based on volume-to-capacity (V/C) ratio. Levels range from A to F, with A representing excellent (free-flow) conditions and F representing extreme congestion. The LOS calculations were based on a maximum lane volume of 1,600 vehicles per lane as used by Los Angeles County. Intersections with vehicular volumes that are at or near capacity experience greater congestion and longer vehicle delays. Table 3.5-1 describes the LOS concept and the operating conditions expected under each LOS for signalized intersections.

The PSR also analyzed street segments in the project vicinity. Traffic operations are also based on a V/C ratio based on the design capacity described in the City's Circulation Element.

Table 3.5-1. Intersection Level of Service Definitions

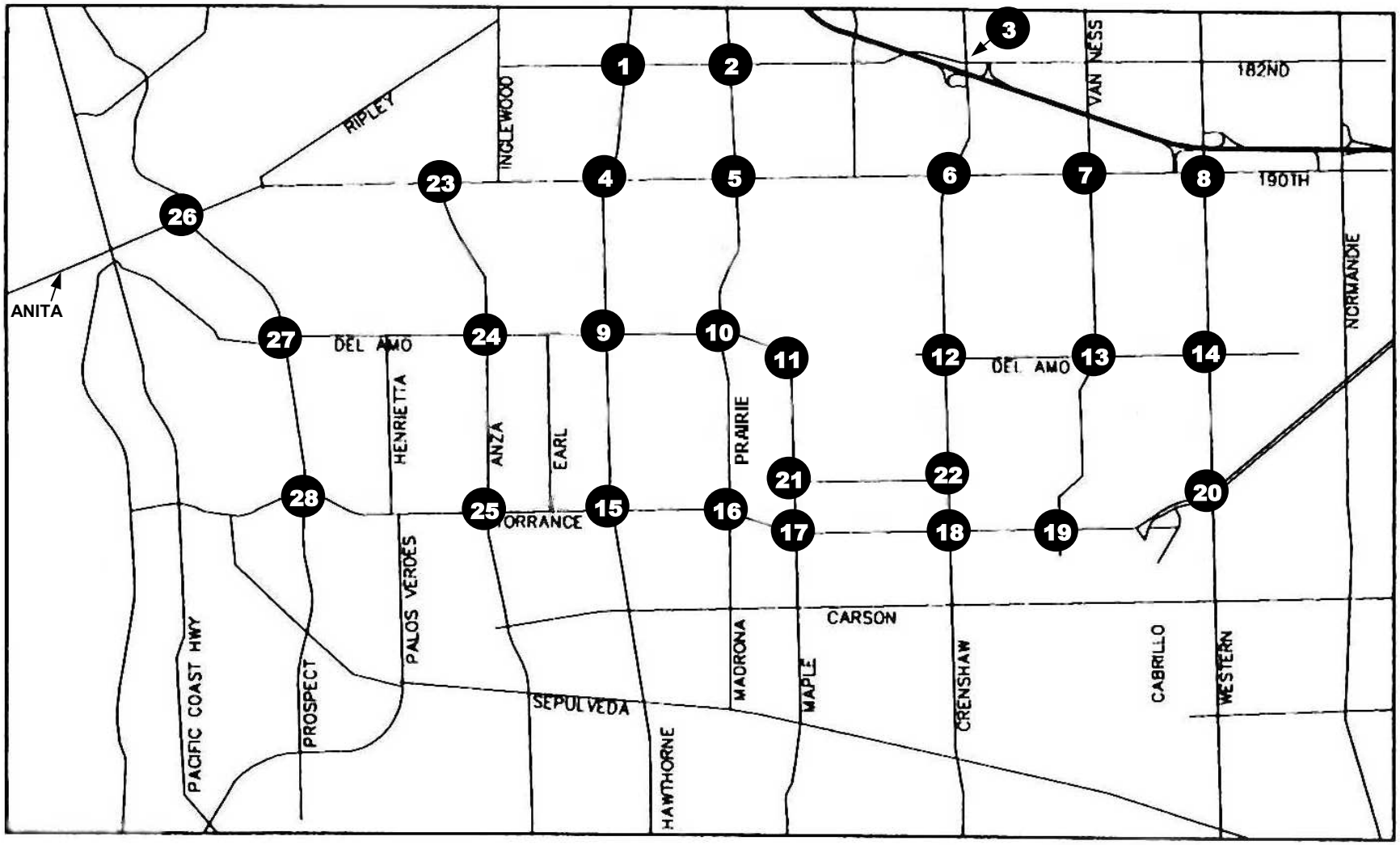
LOS	Interpretation	Signalized Intersection Volume to Capacity Ratio (V/C)
A	Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	0.000 - 0.600
B	Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized and traffic queues start to form.	0.601 - 0.700
C	Good operation. Occasionally backups may develop behind turning vehicles. Most drivers feel somewhat restricted.	0.701 - 0.800
D	Fair operation. There are no long-standing traffic queues. This level is typically associated with design practice for peak periods.	0.801 - 0.909
E	Poor operation. Some long standing vehicular queues develop on critical approaches.	0.910 - 1.000
F	Forced flow. Represents jammed conditions. Backups from locations downstream or on the cross street may restrict or prevent movements of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop and go type traffic flow.	Over 1.000

Source: Transportation Research Board 1997; City of Torrance 2002.

Existing Traffic Operations Analysis

The a.m. and p.m. peak hour LOS analyses were conducted for 28 study intersections (see Figure 3.5-1) using the HCM Method. Level of service D is generally considered to be the lowest acceptable LOS in an urban or suburban area. Levels of service E and F are considered to be unacceptable operating conditions which warrant mitigation. The results shown in Table 3.5-2, reflecting traffic levels from the 1999 Project Study Report, indicate that 15 of the 28 analyzed intersections are currently operating at LOS E or F during one or both of the peak hours. These intersections are as follows:

- Hawthorne Boulevard at 182nd Street (p.m. peak hour)
- Crenshaw Boulevard at 182nd Street (p.m. peak hour)
- Hawthorne Boulevard at 190th Street (p.m. peak hour)
- Prairie Avenue at 190th Street (both peak hours)
- Crenshaw Boulevard at 190th Street (p.m. peak hour)
- Van Ness Avenue at 190th Street (p.m. peak hour)
- Western Avenue at 190th Street (both peak hours)
- Hawthorne Boulevard at Del Amo Boulevard (p.m. peak hour)
- Western Avenue at Del Amo Boulevard (p.m. peak hour)
- Hawthorne Boulevard at Torrance Boulevard (p.m. peak hour)
- Madrona Avenue at Torrance Boulevard (p.m. peak hour)
- Crenshaw Boulevard at Torrance Boulevard (both peak hours)
- Western Avenue at Torrance Boulevard (p.m. peak hour)
- Anza Avenue at 190th Street (p.m. peak hour)
- Anza Avenue at Del Amo Boulevard (p.m. peak hour)



Base Map Source: Holmes & Narver 1999

NORTH

Scale unknown

Figure 3.5-1
Location of Study Intersections

Table 3.5-2. Existing Conditions Level of Service Summary

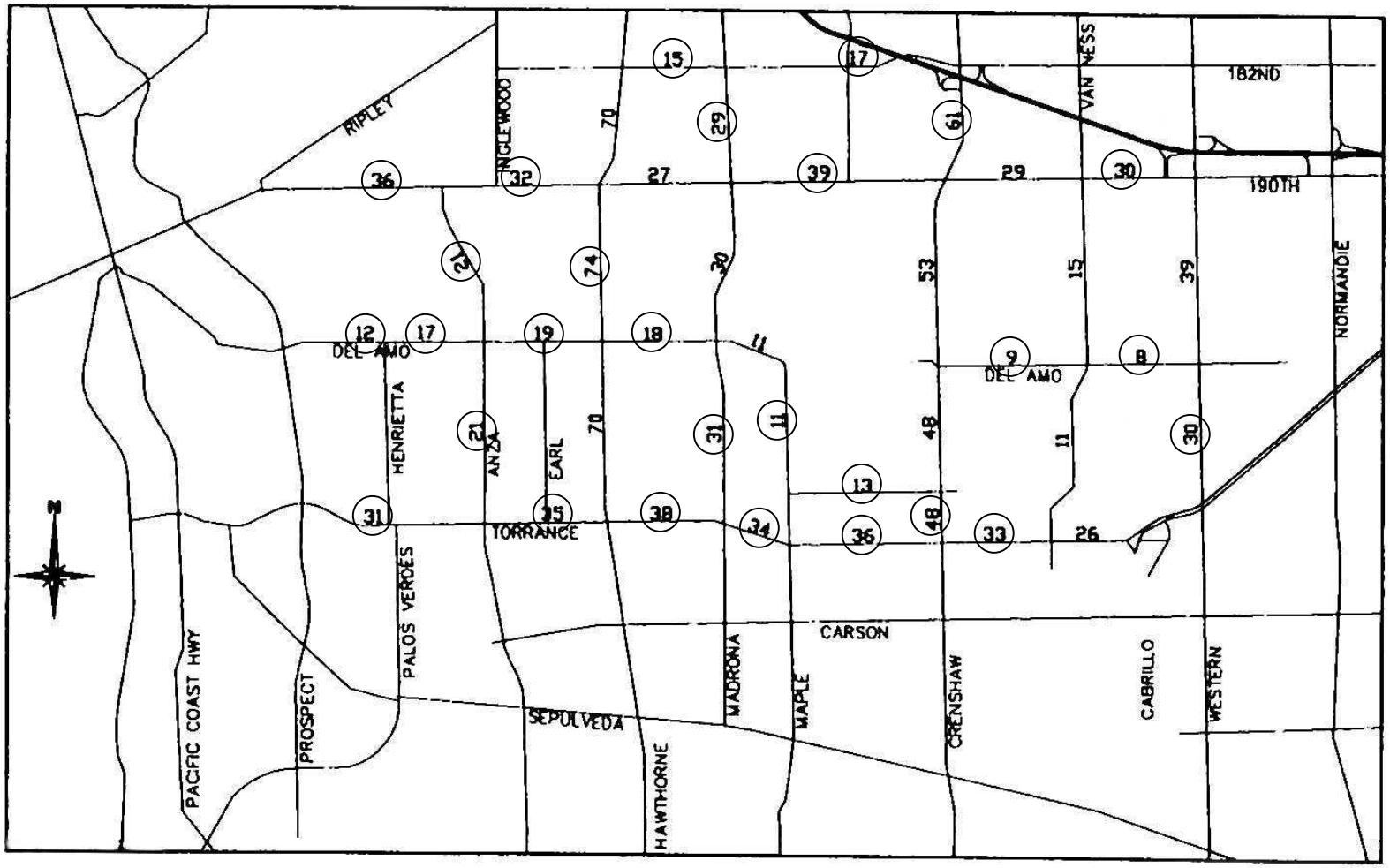
Intersection	AM Peak Hour			PM Peak Hour		
	V/C	Delay[1]	LOS	V/C	Delay[1]	LOS
1 Hawthorne Boulevard at 182nd Street	0.78	32	C	0.97	72	E
2 Prairie Avenue at 182nd Street	0.65	14	B	0.83	40	D
3 Crenshaw Boulevard at 182nd Street	0.74	25	C	1.35	200	F
4 Hawthorne Boulevard at 190th Street	0.86	46	D	1.03	88	F
5 Prairie Avenue at 190th Street	0.96	69	E	1.25	164	F
6 Crenshaw Boulevard at 190th Street	0.80	35	C	0.98	75	E
7 Van Ness Avenue at 190th Street	0.83	40	D	0.91	57	E
8 Western Avenue at 190th Street	1.07	100	F	1.33	198	F
9 Hawthorne Boulevard at Del Amo Boulevard	0.82	39	D	0.98	75	E
10 Madrona Avenue at Del Amo Boulevard	0.63	12	B	0.87	48	D
11 Maple Avenue at Del Amo Boulevard[2]	n/a	n/a	n/a	n/a	n/a	n/a
12 Crenshaw Boulevard at Del Amo Boulevard	0.67	16	B	0.77	30	C
13 Van Ness Avenue at Del Amo Boulevard	0.48	5	A	0.61	11	B
14 Western Avenue at Del Amo Boulevard	0.73	24	C	0.96	69	E
15 Hawthorne Boulevard at Torrance Boulevard	0.75	27	C	1.14	123	F
16 Madrona Avenue at Torrance Boulevard	0.62	12	B	1.03	88	F
17 Maple Avenue at Torrance Boulevard	0.57	8	A	0.76	28	C
18 Crenshaw Boulevard at Torrance Boulevard	0.93	62	E	1.13	120	F
19 Van Ness Avenue at Torrance Boulevard	0.52	6	A	0.69	19	B
20 Western Avenue at Torrance Boulevard	0.73	24	C	0.95	67	E
21 Maple Avenue at Maricopa Avenue	0.50	5	A	0.58	9	A
22 Crenshaw Boulevard at Maricopa Avenue	0.58	9	A	0.85	44	D
23 Anza Avenue at 190th Street	0.85	44	D	0.91	57	E
24 Anza Avenue at Del Amo Boulevard	0.76	28	C	0.98	75	E
25 Anza Avenue at Torrance Boulevard	0.73	24	C	0.85	44	D
26 Prospect Avenue at Anita Street	0.57	8	A	0.77	30	C
27 Prospect Avenue at Del Amo Boulevard	0.63	12	B	0.67	16	B
28 Prospect Avenue at Torrance Boulevard	0.88	51	D	0.74	25	C

(1) Average delay per vehicle in seconds.
(2) Currently, there is no intersection at Maple Avenue and Del Amo Boulevard; therefore, no data are available.

Source: Austin-Foust 1999

The remaining 12 study intersections operate at LOS D or better during both peak hours; the intersection of Del Amo Boulevard at Maple Avenue is not a full intersection and is currently unsignalized. This intersection represents the western end of the proposed alignment and presently acts as a continuous street where Del Amo Boulevard transitions to Maple Avenue as the roadway curves south.

As shown in Figure 3.5-2, existing average daily traffic (ADT) volumes on segments of Del Amo Boulevard range from 8,000 ADTs to 19,000 ADTs; these volumes are relative low compared to the traffic volumes on 190th Street and Torrance Boulevard, which range from 26,000 ADTs to 38,000 ADTs.



Base Map Source: Holmes & Narver 1999

(31) Indicates traffic volumes on residential streets

Figure 3.5-2
Existing ADT Link Volumes
(in thousands)

Existing Accident Data

In response to comments made at the Planning Commission meeting in January 2003, accident data for the past several years was obtained for the intersections of Del Amo Boulevard at Madrona Avenue and at Del Amo Boulevard at Crenshaw Boulevard. Collision diagrams for each are included as Figure 3.5-3 and Figure 3.5-4, respectively.

Del Amo Boulevard at Madrona Avenue

Seventeen accidents were reported in a seven-year period, nine of which resulted in injury. The remaining eight were property damage only. Twelve of the seventeen accidents are considered "driver-preventable" because the cause involved unsafe speed, failure to yield the right-of-way, or hitting a fixed object. However, these twelve accidents are "not-preventable" through the implementation of upgrades to the intersection.

Del Amo Boulevard at Crenshaw Boulevard

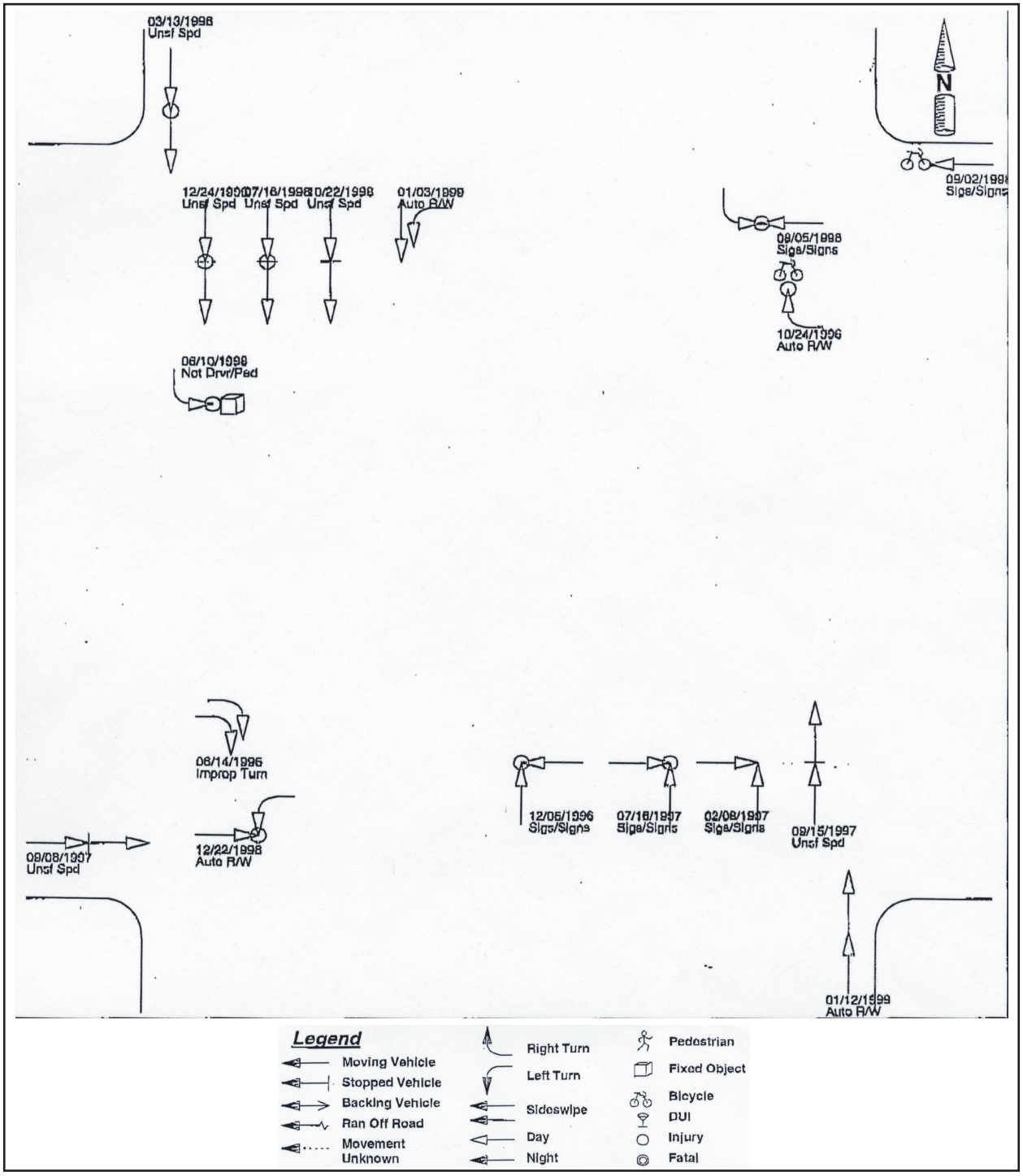
Seventeen accidents were reported in a six-year period, seven of which resulted in injury. The remaining ten were property damage only. Sixteen of the seventeen accidents are considered "driver-preventable" because the cause involved unsafe speed, failure to yield the right-of-way, hitting a fixed object, or driving under the influence (DUI). However, these sixteen accidents are "not-preventable" through the implementation of upgrades to the intersection.

3.5.2 Significance Criteria

For the City of Torrance, a project is considered to create a significant impact if one of the following would occur:

- there would be a change in the V/C ratio of 0.020 or more at intersections operating at LOS E or F;
- an intersection operating at LOS D or better would deteriorate to an unacceptable LOS E or F; or
- result in an eight percent or greater increase in traffic on residential streets.[1]

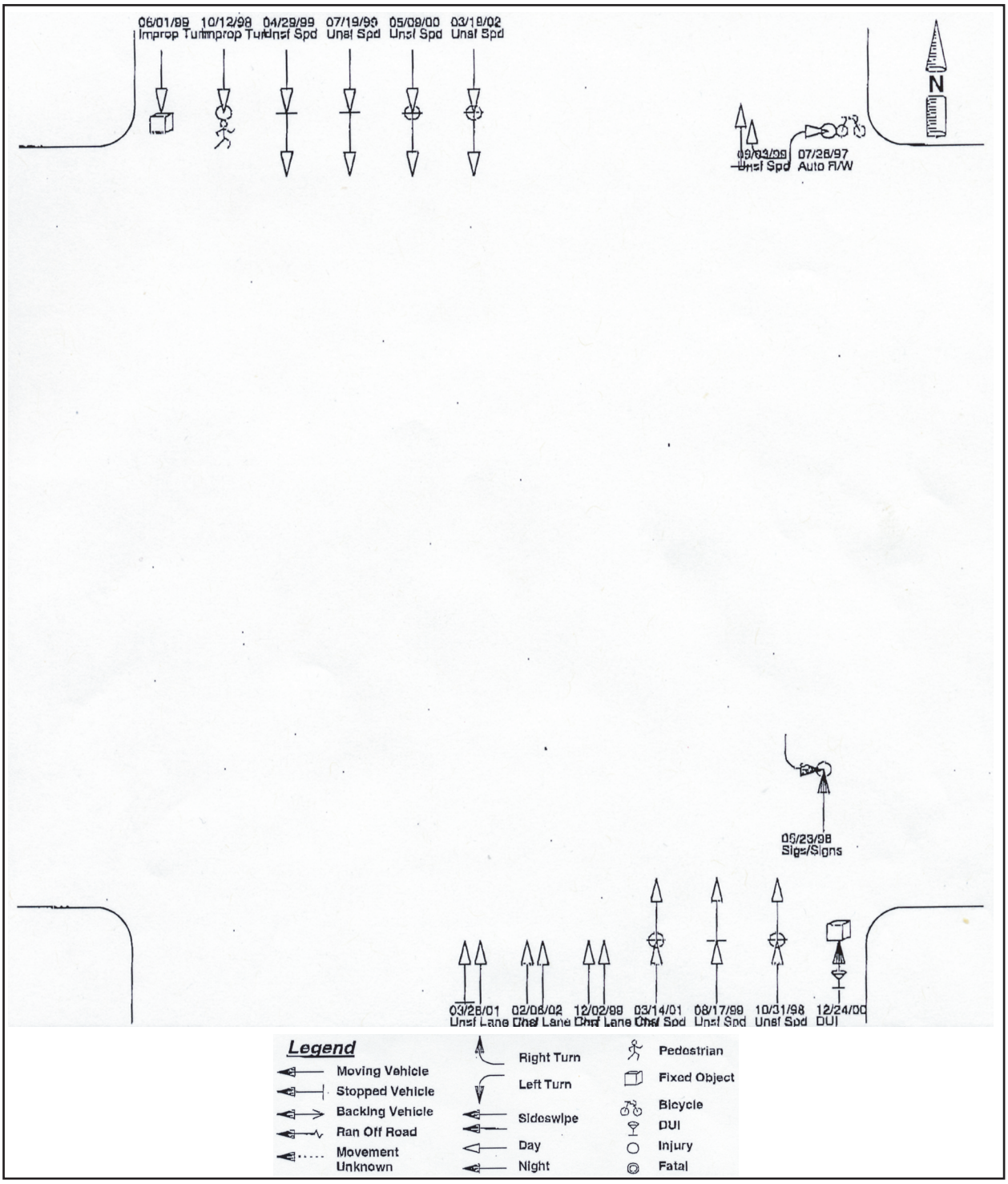
[1] While the City of Torrance has no adopted threshold of significance for quantifying impacts on residential streets, a threshold of eight percent change in the average daily traffic volume was used based on the City of Los Angeles guidelines; these guidelines state that traffic impacts on residential streets would be considered significant if a project increases the ADT by more than 8 to 12 percent, depending upon the resultant daily volume, with the higher allowable increase on streets with volumes between 1,000 and 2,000 ADTs and 8 percent allowable on streets with more than 3,000 ADTs. Since all the residential streets in the project carry more than 3,000 ADTs, the 8 percent threshold was applied.



Source: City of Torrance, Engineering Department

NORTH

Figure 3.5-3
Collision Diagram -
Del Amo Boulevard at Madrona Avenue



Source: City of Torrance, Engineering Department

NORTH

Figure 3.5-4
Collision Diagram -
Del Amo Boulevard at Crenshaw Boulevard

3.5.3 Impacts

Alternative 1: No Action Alternative

Traffic projections for the year 2020 would consist of existing traffic plus a 15 percent ambient traffic growth (general background regional growth). The 15 percent growth rate was derived from Southern California Association of Governments (SCAG 2000) land use data that indicated a 17 percent increase in land use between 1994 and 2020. Since relatively little development occurred in the five years (1994 to 1999), the bulk of the entire 17 percent growth (approximately 15 percent) was projected to occur between 2000 and 2020.

Based on the year 2020 traffic projections for Alternative 1, operating conditions were analyzed at the 28 study intersections for the a.m. and p.m. peak hours. Table 3.5-3 summarizes the future peak hour LOS projections for Alternative 1. As shown in the table for Alternative 1, 21 of the 28 analyzed intersections are projected to operate at LOS E or F during one or both of the peak hours. These intersections are as follows:

- Hawthorne Boulevard at 182nd Street (both peak hours)
- Prairie Avenue at 182nd Street (p.m. peak hour)
- Crenshaw Boulevard at 182nd Street (p.m. peak hour)
- Hawthorne Boulevard at 190th Street (both peak hours)
- Prairie Avenue at 190th Street (both peak hours)
- Crenshaw Boulevard at 190th Street (both peak hours)
- Van Ness Avenue at 190th Street (both peak hours)
- Western Avenue at 190th Street (both peak hours)
- Hawthorne Boulevard at Del Amo Boulevard (both peak hours)
- Madrona Avenue at Del Amo Boulevard (both peak hours)
- Crenshaw Boulevard at Del Amo Boulevard (both peak hours)
- Western Avenue at Del Amo Boulevard (p.m. peak hour)
- Hawthorne Boulevard at Torrance Boulevard (p.m. peak hour)
- Madrona Avenue at Torrance Boulevard (p.m. peak hour)
- Crenshaw Boulevard at Torrance Boulevard (both peak hours)
- Western Avenue at Torrance Boulevard (p.m. peak hour)
- Crenshaw Boulevard at Maricopa Street (p.m. peak hour)
- Anza Avenue at 190th Street (both peak hours)
- Anza Avenue at Del Amo Boulevard (both peak hours)
- Anza Avenue at Torrance Boulevard (p.m. peak hour)
- Prospect Avenue at Torrance Boulevard (a.m. peak hour)

Table 3.5-3. Future Level of Service Summary- Year 2020

	Intersection	Peak Hour	Alternative 1			Alternatives 2, 3, & 4			Alternatives 2, 3, & 4 with mitigation		
			V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS
1	Hawthorne Boulevard at 182nd Street	AM	0.91	57	E	0.90	55	D	--	--	--
		PM	**1.14**	123	F	**1.16**	130	F	n/p	n/p	n/p
2	Prairie Avenue at 182nd Street	AM	0.76	28	C	0.75	27	C	--	--	--
		PM	0.97	72	E	0.98	75	E	--	--	--
3	Crenshaw Boulevard at 182nd Street	AM	0.87	48	D	0.83	40	D	--	--	--
		PM	1.60	200	F	1.50	200	F	--	--	--
4	Hawthorne Boulevard at 190th Street	AM	1.00	80	E	0.98	75	E	--	--	--
		PM	1.21	149	F	1.21	149	F	--	--	--
5	Prairie Avenue at 190th Street	AM	1.14	123	F	0.71	21	C	--	--	--
		PM	1.47	200	F	0.95	67	E	--	--	--
6	Crenshaw Boulevard at 190th Street	AM	0.92	60	E	0.88	51	D	--	--	--
		PM	1.15	127	F	1.07	100	F	--	--	--
7	Van Ness Avenue at 190th Street	AM	**0.97**	72	E	**1.01**	83	F	0.92	60	E
		PM	**1.06**	97	F	**1.12**	117	F	1.05	94	F
8	Western Avenue at 190th Street	AM	**1.27**	172	F	**1.37**	200	F	1.27	172	F
		PM	**1.58**	200	F	**1.74**	200	F	1.58	200	F
9	Hawthorne Boulevard at Del Amo Boulevard	AM	**0.96**	69	E	**1.09**	107	F	1.04	91	F
		PM	**1.16**	130	F	**1.19**	141	F	1.08	104	F
10	Madrona Avenue at Del Amo Boulevard	AM	**0.74**	25	C	**0.97**	72	E	n/p	n/p	n/p
		PM	**1.02**	86	F	**1.38**	200	F	n/p	n/p	n/p
11	Maple Avenue at Del Amo Boulevard	AM	n/a	n/a	n/a	0.82	39	D	--	--	--
		PM	n/a	n/a	n/a	0.91	57	E	--	--	--
12	Crenshaw Boulevard at Del Amo Boulevard	AM	**0.79**	33	C	**1.21**	149	F	0.97	72	E
		PM	**0.92**	60	E	**1.59**	200	F	1.16	130	F
13	Van Ness Avenue at Del Amo Boulevard	AM	0.55	7	A	0.81	37	D	0.71	21	C
		PM	**0.71**	21	C	**1.10**	110	F	0.96	69	E
14	Western Avenue at Del Amo Boulevard	AM	**0.86**	46	D	**1.43**	200	F	0.65	14	B
		PM	**1.13**	120	F	**1.72**	200	F	0.94	64	E
15	Hawthorne Boulevard at Torrance Boulevard	AM	0.87	48	D	0.88	51	D	0.85	44	D
		PM	**1.33**	198	F	**1.40**	200	F	1.24	160	F
16	Madrona Avenue at Torrance Boulevard	AM	0.73	24	C	0.64	13	B	--	--	--
		PM	1.21	149	F	1.11	113	F	--	--	--
17	Maple Avenue at Torrance Boulevard	AM	0.67	16	B	0.53	6	A	--	--	--
		PM	0.90	55	D	0.72	23	C	--	--	--
18	Crenshaw Boulevard at Torrance Boulevard	AM	1.11	113	F	1.07	100	F	--	--	--
		PM	1.31	189	F	1.23	156	F	--	--	--
19	Van Ness Avenue at Torrance Boulevard	AM	0.60	10	A	0.60	10	A	--	--	--
		PM	0.80	35	C	0.76	28	C	--	--	--
20	Western Avenue at Torrance Boulevard	AM	0.87	48	D	0.81	37	D	--	--	--
		PM	1.12	117	F	1.09	107	F	--	--	--
21	Maple Avenue at Maricopa Avenue	AM	0.59	9	A	0.43	4	A	--	--	--
		PM	0.68	18	B	0.58	9	A	--	--	--
22	Crenshaw Boulevard at Maricopa Avenue	AM	0.68	18	B	0.68	18	B	--	--	--
		PM	**1.00**	80	E	**1.05**	94	F	n/p	n/p	n/p
23	Anza Avenue at 190th Street	AM	1.00	80	E	0.97	72	E	--	--	--
		PM	1.09	107	F	1.06	97	F	--	--	--
24	Anza Avenue at Del Amo Boulevard	AM	**0.91**	57	E	**0.95**	67	E	0.82	39	D
		PM	**1.16**	130	F	**1.24**	160	F	1.03	88	F
25	Anza Avenue at Torrance Boulevard	AM	0.87	48	D	0.84	42	D	0.87	48	D
		PM	**1.00**	80	E	**1.02**	86	F	1.00	80	E
26	Prospect Avenue at Anita Street	AM	0.67	16	B	0.71	21	C	--	--	--
		PM	**0.90**	55	D	**0.96**	69	E	n/p	n/p	n/p
27	Prospect Avenue at Del Amo Boulevard	AM	0.73	24	C	0.82	39	D	--	--	--
		PM	**0.76**	28	C	**0.94**	64	E	n/p	n/p	n/p
28	Prospect Avenue at Torrance Boulevard	AM	**1.05**	94	F	**1.09**	107	F	n/p	n/p	n/p
		PM	**0.87**	48	D	**0.93**	62	E	n/p	n/p	n/p

(n/a) not applicable; (--) no mitigation required; (n/p) no mitigation proposed.

Bold Text indicates a 0.02 or more change in the V/C ratio between Alternative 1 and Alternatives 2, 3, and 4

Year 2020 traffic impacts at the 21 intersections identified on the previous page would be significant and unavoidable. These traffic impacts would not be a direct result of the Alternative 1; rather, these impacts would result due to projected growth in the City and surrounding communities. The remaining seven study intersections would operate at LOS D or better during both peak hours. Similar to existing conditions, the intersection of Del Amo Boulevard at Maple Avenue continues to act as a continuous street where Del Amo Boulevard transitions to Maple Avenue as the roadway curves south.

Traffic volumes along local roadway segments would also continue to increase. Similarly, these increases would not be a direct impact of the No Action Alternative as they would be due to projected growth in the City and surrounding communities while no traffic diversions and no change in travel patterns would occur.

Alternative 2: 55 MPH Design Speed with MSE Retaining Wall

The intersection volume-to-capacity (V/C) ratios and corresponding levels of service projected in the year 2020 for Alternative 2 are summarized in Table 3.5-3 for each of the 28 study intersections. Based on the City's threshold of significance, year 2020 traffic forecasts for Alternative 2 indicate that significant traffic impacts would occur at 15 of the 28 study intersections during one or both peak hours if Alternative 2 is constructed. The 14 intersections are:

- Hawthorne Boulevard at 182nd Street (p.m. peak hour)
- Van Ness Avenue at 190th Street (both peak hours)
- Western Avenue at 190th Street (both peak hours)
- Hawthorne Boulevard at Del Amo Boulevard (both peak hours)
- Madrona Avenue at Del Amo Boulevard (both peak hours)
- Crenshaw Boulevard at Del Amo Boulevard (both peak hours)
- Van Ness Avenue at Del Amo Boulevard (p.m. peak hour)
- Western Avenue at Del Amo Boulevard (p.m. peak hour)
- Hawthorne Boulevard at Torrance Boulevard (p.m. peak hour)
- Crenshaw Boulevard at Maricopa Street (p.m. peak hour)
- Anza Avenue at Del Amo Boulevard (both peak hours)
- Anza Avenue at Torrance Boulevard (p.m. peak hour)
- Prospect Avenue at Anita Street (both peak hours)
- Prospect Avenue at Del Amo Boulevard (both peak hours)
- Prospect Avenue at Torrance Boulevard (both peak hours)

Primarily, mid-block segments along Del Amo Boulevard and connecting north-south roadways would become more congested as a result of the diverted traffic associated with Alternative 2; a corresponding increase in traffic congestion at intersections along Del Amo Boulevard would also occur.

The remaining 13 study intersections are not expected to be significantly impacted by traffic from the proposed Alternative 2 during the a.m. and p.m. peak hours in year 2020.

In addition to the intersection LOS analysis discussed above, impacts resulting from the year 2020 traffic volumes diverted to other arterial streets were assessed within the immediate vicinity of the project site. Based on the eight percent increase criterion presented in Section 3.5.2 and the projected change in volumes shown in Table 3.5-4, the proposed action would significantly increase traffic on 10 of the 28 arterial street segments. Figures 3.5-5 and 3.5-6 show a diagram of the projected changes in volumes as listed in Table 3.5-4. These increases would primarily occur along segments of Del Amo Boulevard as traffic volumes on 190th Street and Torrance Boulevard would be diverted onto Del Amo Boulevard. The proposed Alternative 2 would result in a decrease in traffic on 14 street segments due to the traffic diversion, during one or both of the peak hours. A similar, Table 3.5-5, follows, which compares existing ADT on specific street segments to the diverted ADT that would result from constructing either Alternatives 2, 3, or 4. This table also shows the percent change in ADT.

Del Amo Boulevard, east of Crenshaw Boulevard, is not designated by the City as a truck route. The nearest designated truck routes are Prairie Avenue (190th Street to Del Amo Boulevard) and Maple Avenue (Del Amo Boulevard to Maricopa Avenue), and Crenshaw Boulevard to the east. Minimal haul truck traffic along designated truck routes during construction would not result in significant impacts to traffic. The proposed Alternative 2 does not include a proposal to designate additional segments of Del Amo Boulevard as a truck route.

Alternative 3: 55 MPH Design Speed with Type 1 Retaining Wall

The impacts under Alternative 3 on transportation and circulation would be identical to those identified for Alternative 2. Alternative 3 would result in the same trip diversion and trip redistribution that have been projected for Alternative 2; accordingly, traffic impacts would be considered significant at 15 of the 28 study intersections and 10 of the 28 analyzed arterial street segments.

Alternative 4: 50 MPH Design Speed with MSE Retaining Wall

The impacts under Alternative 4 on transportation and circulation would be identical to those identified for Alternative 2. Alternative 4 would result in the same trip diversion and trip redistribution that have been projected for Alternative 2; accordingly, traffic impacts would be considered significant at 15 of the 28 study intersections and 10 of the 28 analyzed arterial street segments.

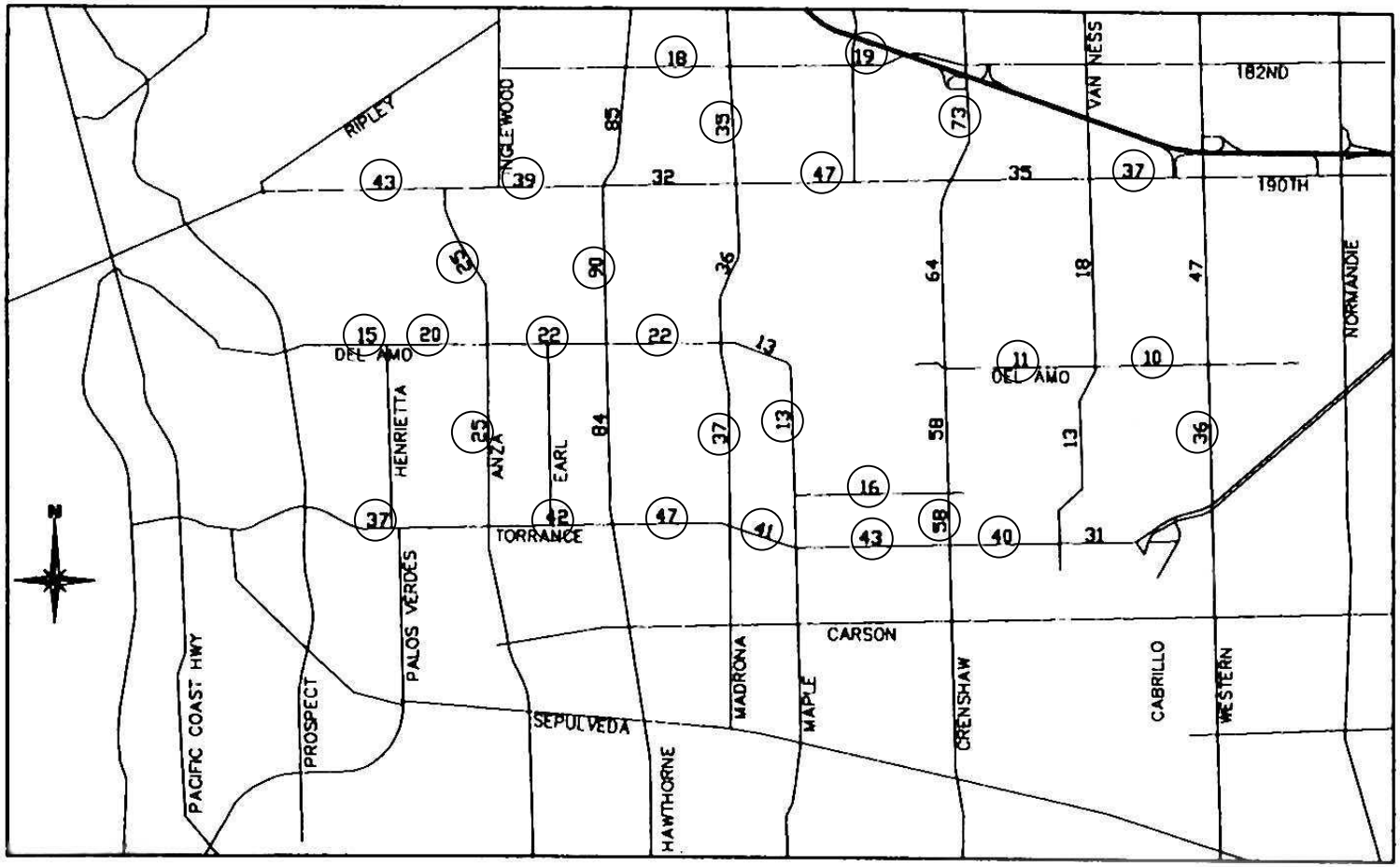
Table 3.5-4. Projected Change in Volumes on Arterial Street Segments – Year 2020

St.	Segment	Existing + 20% Growth ADTs	Existing + 20% Growth + Diverted Traffic ADTs	Percent Change[1]
182nd St.	Bet. Hawthorne Bl. & Prairie Ave.	18,000	17,000	-6%
182nd St.	Bet. Prairie Ave. & Crenshaw Bl.	19,000	16,000	-16%
190th St.	Bet. Ripley Ave. & Inglewood Ave.	43,000	42,000	-2%
190th St.	Bet. Inglewood Ave. & Hawthorne Bl.	39,000	38,000	-3%
190th St.	Bet. Prairie Ave. & Crenshaw Bl.	47,000	30,000	-36%
190th St.	Bet. Van Ness Ave. & Western Ave.	37,000	40,000	**8%**
Del Amo Bl.	West of Henrietta St.	15,000	18,000	**20%**
Del Amo Bl.	Bet. Henrietta Street & Anza Ave.	20,000	22,000	**10%**
Del Amo Bl.	Bet. Anza Ave. & Hawthorne Bl.	22,000	27,000	**23%**
Del Amo Bl.	Bet. Hawthorne Bl. & Madrona Ave.	22,000	34,000	**55%**
Del Amo Bl.	Bet. Crenshaw Bl. & Van Ness Ave.	11,000	25,000	**127%**
Del Amo Bl.	Bet. Van Ness Ave. & Western Ave.	10,000	19,000	**90%**
Maricopa St.	Bet. Maple Ave. & Crenshaw Bl.	16,000	13,000	-19%
Torrance Bl.	West of Henrietta St.	37,000	35,000	-5%
Torrance Bl.	Bet. Anza Ave. & Hawthorne Bl.	42,000	35,000	-17%
Torrance Bl.	Bet. Hawthorne Bl. & Madrona Ave.	47,000	40,000	-15%
Torrance Bl.	Bet. Madrona Ave. & Maple Ave.	41,000	30,000	-27%
Torrance Bl.	Bet. Maple Ave. & Crenshaw Bl.	43,000	30,000	-30%
Torrance Bl.	Bet. Crenshaw Bl. & Van Ness Ave.	40,000	32,000	-20%
Anza Ave.	Bet. 190th St. & Del Amo Bl.	25,000	28,000	**12%**
Anza Ave.	Bet. Del Amo Bl. & Torrance Bl.	25,000	28,000	**12%**
Hawthorne Bl.	Bet. 190th St. & Del Amo Bl.	90,000	89,000	-1%
Prairie Ave.	Bet. 182nd St. & 190th St.	35,000	34,000	-3%
Madrona Ave.	Bet. Del Amo Bl. & Torrance Bl.	37,000	35,000	-5%
Maple Ave.	Bet. Del Amo Bl. & Torrance Bl.	13,000	8,000	-38%
Crenshaw Bl.	Bet. 182nd St. and 190th St.	73,000	76,000	4%
Crenshaw Bl.	Bet. Maricopa St. & Torrance Bl.	58,000	64,000	**10%**
Western Ave.	Bet. Del Amo Bl. & Torrance Bl.	36,000	38,000	6%

Note: Percent change in bold indicates an eight percent or greater increase in ADT.

Note: ADT numbers above are from Figures 3.5-5 and 3.5-6.

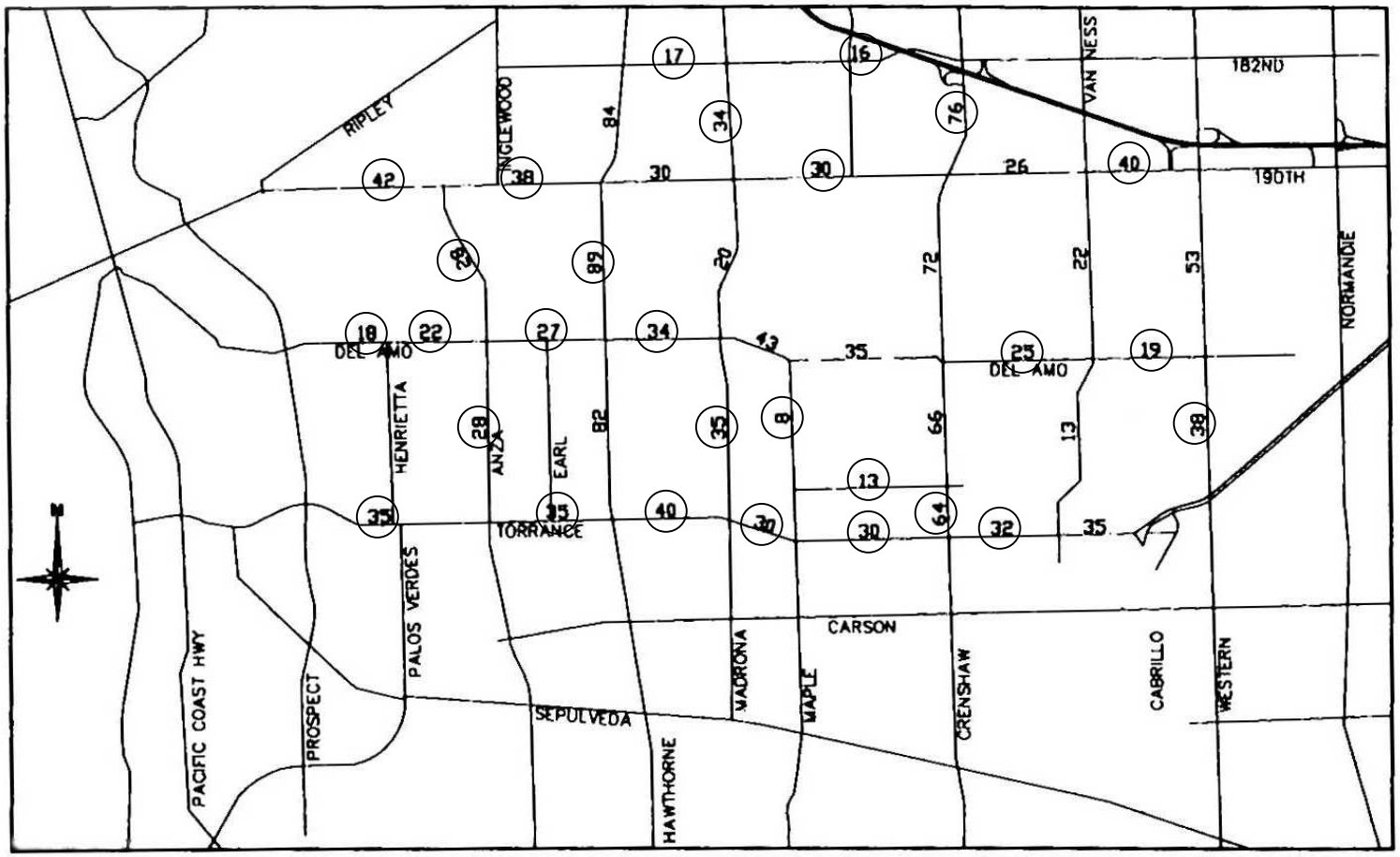
[1] The eight percent threshold was applied to this analysis. Any increase of eight or more percent was considered a significant increase.



Base Map Source: Holmes & Narver 1999

(37) Indicates traffic volumes on residential streets

Figure 3.5-5
Existing with 20 Percent Growth ADT Link Volumes (in thousands)- Year 2020 Alternative 1



Base Map Source: Holmes & Narver 1999

(35) Indicates traffic volumes on residential streets

Figure 3.5-6
Existing with 20 Percent Growth Plus Diverted Forecast ADT Link Volumes (in thousands)- Year 2020 Alternatives 2, 3, or 4

Table 3.5-5. Change in Volumes on Arterial Street Segments- Year 1999

St.	Segment	Existing ADTs	Existing Diverted Traffic ADTs	Percent Change[1]
182nd St.	Bet. Hawthorne Bl. & Prairie Ave.	15,000	14,000	-7%
182nd St.	Bet. Prairie Ave. & Crenshaw Bl.	17,000	13,000	-24%
190th St.	Bet. Ripley Ave. & Inglewood Ave.	36,000	35,000	-3%
190th St.	Bet. Inglewood Ave. & Hawthorne Bl.	32,000	32,000	0%
190th St.	Bet. Prairie Ave. & Crenshaw Bl.	39,000	25,000	-36%
190th St.	Bet. Van Ness Ave. & Western Ave.	30,000	33,000	**9%**
Del Amo Bl.	West of Henrietta St.	12,000	15,000	**20%**
Del Amo Bl.	Bet. Henrietta Street & Anza Ave.	17,000	20,000	**15%**
Del Amo Bl.	Bet. Anza Ave. & Hawthorne Bl.	19,000	22,000	**14%**
Del Amo Bl.	Bet. Hawthorne Bl. & Madrona Ave.	18,000	28,000	**36%**
Del Amo Bl.	Bet. Crenshaw Bl. & Van Ness Ave.	9,000	21,000	**57%**
Del Amo Bl.	Bet. Van Ness Ave. & Western Ave.	8,000	16,000	**50%**
Maricopa St.	Bet. Maple Ave. & Crenshaw Bl.	13,000	11,000	-15%
Torrance Bl.	West of Henrietta St.	31,000	29,000	-6%
Torrance Bl.	Bet. Anza Ave. & Hawthorne Bl.	35,000	29,000	-17%
Torrance Bl.	Bet. Hawthorne Bl. & Madrona Ave.	38,000	33,000	-13%
Torrance Bl.	Bet. Madrona Ave. & Maple Ave.	34,000	25,000	-26%
Torrance Bl.	Bet. Maple Ave. & Crenshaw Bl.	36,000	25,000	-31%
Torrance Bl.	Bet. Crenshaw Bl. & Van Ness Ave.	33,000	31,000	-6%
Anza Ave.	Bet. 190th St. & Del Amo Bl.	21,000	23,000	**9%**
Anza Ave.	Bet. Del Amo Bl. & Torrance Bl.	21,000	23,000	**9%**
Hawthorne Bl.	Bet. 190th St. & Del Amo Bl.	74,000	74,000	0%
Prairie Ave.	Bet. 182nd St. & 190th St.	29,000	28,000	-3%
Madrona Ave.	Bet. Del Amo Bl. & Torrance Bl.	31,000	29,000	-6%
Maple Ave.	Bet. Del Amo Bl. & Torrance Bl.	11,000	7,000	-36%
Crenshaw Bl.	Bet. 182nd St. and 190th St.	61,000	63,000	5%
Crenshaw Bl.	Bet. Maricopa St. & Torrance Bl.	48,000	53,000	**9%**
Western Ave.	Bet. Del Amo Bl. & Torrance Bl.	30,000	32,000	6%

Note: Percent change in bold indicates an eight percent or greater increase in ADT.
Note: ADT numbers above are from Figures 3.5-5 and 3.5-6.
[1] The eight percent threshold was applied to this analysis. Any increase of eight or more percent was considered a significant increase.

3.5.4 Mitigation Measures

Possible mitigation measures were identified and analyzed for those 15 locations. Potential mitigation measures, which include both operational and potential physical improvements, were designed to increase capacity. Physical improvements that require right-of-way acquisition were not considered to be feasible at this time because the study area is relatively built-out with little or no easily obtainable right-of-way for roadway improvements/widening. Therefore, mitigation is not proposed at eight of the 15 locations.

The remaining seven locations are to be considered in the future by City Council and if approved would be budgeted through a five-year Capital Improvement Program (CIP). The CIP, which is updated annually, includes all projects with appropriated funds, as approved by City Council. Unbudgeted projects may be considered in future updates. Over the next 20 years it is possible that other projects that have been identified to mitigate traffic impacts associated with the Del Amo Boulevard extension could be constructed. The implementation of a proposed future project would be dependent on actual need, as compared to other citywide needs, and the availability of funding. If implemented, the following projects would help to alleviate future traffic congestion in the project vicinity:

- *Van Ness Avenue at 190th Street* – The southbound approach should be modified to add one left-turn lane.

- *Western Avenue at 190th Street* – The eastbound approach should be modified to add one right-turn lane.

- *Hawthorne Boulevard at Del Amo Boulevard* – The eastbound approach shall be modified to add one through lane to create two left-turn lanes and two through lanes (this mitigation measure was constructed in spring 2003).

- *Crenshaw Boulevard at Del Amo Boulevard* –The westbound approach should be modified to add one through lane to create two left-turn lanes, two through lanes, and one right-turn lane.

- *Van Ness Avenue at Del Amo Boulevard* – The eastbound approach should be modified to add one through lane and one left-turn lane. Additionally, the southbound approach shall be modified to add one right-turn lane.

- *Western Avenue at Del Amo Boulevard* – The eastbound approach should be modified to add one left-turn lane. The southbound approach should be modified to add one free right-lane. Additionally, the eastbound approach should be converted to four lanes with split phasing east of Western Avenue.

- *Anza Avenue at Torrance Boulevard* – The eastbound approach should be modified by removing the defacto right-turn lane to add a second left-turn lane.

The following mitigation measures apply to the proposed action:

- Construction related truck trips on State highways shall be limited to off-peak commute periods. Transport of over-size or over-weight vehicles on State highways will need a Transportation Permit from the California Department of Transportation.

- Concerns were voiced at public hearings regarding traffic speed and volume, and pedestrian crossing safety at various locations along Del Amo Boulevard, if the proposed project were constructed. These locations are not currently within the proposed construction limits; however, would potentially be impacted after construction. If approval is given to proceed to the design phase, the City will prepare a Vehicle/Pedestrian/Bicycle Circulation and Management Study. The study would investigate traffic speed and volume, pedestrian crossings, and several other elements of the existing and proposed circulation for the three distinct travel modes. As part of preparing the study, the City would conduct a series of public workshops with the surrounding community to identify specific, relevant issues, and agree on mitigation measures that are mutually beneficial.

No traffic mitigation measures were recommended for the following intersections:

- Prospect Avenue at Anita Street
- Prospect Avenue at Del Amo Boulevard
- Prospect Avenue at Torrance Boulevard

While these intersections would experience significant traffic congestion impacts in year 2020, there is no easily available ROW to construct necessary improvements for mitigation.

Similarly, no traffic mitigation measures were recommended for the following residential street segments:

- Madrona Avenue at Del Amo Boulevard
- Crenshaw Boulevard at Maricopa Avenue
- 190th Street between Van Ness Avenue and Western Avenue
- Del Amo Boulevard west of Henrietta Street
- Del Amo Boulevard between Henrietta Street and Anza Avenue
- Del Amo Boulevard between Anza Avenue and Hawthorne Boulevard
- Del Amo Boulevard between Hawthorne Boulevard and Madrona Avenue
- Del Amo Boulevard between Crenshaw Boulevard and Van Ness Avenue
- Del Amo Boulevard between Van Ness Avenue and Western Avenue
- Anza Avenue between 190th Street and Del Amo Boulevard
- Anza Avenue between Del Amo Boulevard and Torrance Avenue
- Crenshaw Boulevard between Maricopa Street and Torrance Boulevard

3.5.5 Significance After Mitigation

The following projects may be included in the City's CIP for implementation over the next 20 years. If implemented, these projects would help to alleviate future traffic congestion in the project vicinity. Even with implementation of the following projects, adverse LOS would still remain in the project vicinity with or without the proposed Alternatives 2, 3, or 4.

- *Van Ness Avenue at 190th Street* – With the implementation of the proposed mitigation measure, the significant impact expected during both peak hours would be mitigated to a less than significant level (V/C ratio reduction of 0.05 for the a.m. peak hour and 0.01 for the p.m. peak hour).

- *Western Avenue at 190th Street* – With the implementation of the proposed mitigation measure, the significant impact expected during both peak hours would be mitigated to a less than significant level (V/C ratio would not increase during both peak hours).

- *Hawthorne Boulevard at Del Amo Boulevard* – With the implementation of the proposed mitigation measure, the significant impact expected during the p.m. peak hour would be mitigated to a less than significant level (V/C ratio reduction of 0.03). However, the V/C ratio increase during the a.m. peak hour versus existing conditions would remain greater than 0.02; therefore, traffic impacts at this intersection during the a.m. peak hour would remain significant and unavoidable.

- *Crenshaw Boulevard at Del Amo Boulevard* – With the implementation of the proposed mitigation measure, the V/C ratio would be reduced by 0.24 for the a.m. peak hour and 0.43 for the p.m. peak hour. However, the V/C ratio increase during both peak hours versus existing conditions would remain greater than 0.02; therefore, traffic impacts at this intersection during both peak hours would remain significant and unavoidable.

- *Van Ness Avenue at Del Amo Boulevard* – With the implementation of the proposed mitigation measure, the V/C ratio during the p.m. peak hour would be reduced by 0.14. However, the V/C ratio increase during the p.m. peak hour versus existing conditions would remain greater than 0.02; therefore, traffic impacts at this intersection during the p.m. peak hour would remain significant and unavoidable.

- *Western Avenue at Del Amo Boulevard* – With the implementation of the proposed mitigation measure, the significant impact expected during both peak hours would be mitigated to a less than significant level (V/C ratio reduction of 0.21 for the a.m. peak hour and 0.19 for the p.m. peak hour).

- *Anza Avenue at Torrance Boulevard* – With the implementation of the proposed mitigation measure, the significant impact expected during both peak hours would be mitigated to a less than significant level (V/C ratio would not increase during both peak hours).

As discussed above, of the 15 significantly impacted intersections, seven intersections could be mitigated to levels that are less than significant. Residual significant impacts would occur for the following remaining eight intersections:

- Hawthorne Boulevard at 182nd Street (p.m. peak hour)
- Madrona Avenue at Del Amo Boulevard (both peak hours)
- Hawthorne Boulevard at Torrance Boulevard (a.m. peak hour)
- Crenshaw Boulevard at Maricopa Avenue (both peak hours)
- Anza Avenue at Del Amo Boulevard (p.m. peak hour)
- Prospect Avenue at Anita Street (p.m. peak hour)
- Prospect Avenue at Del Amo Boulevard (p.m. peak hour)
- Prospect Avenue at Torrance Boulevard (both peak hours)

No mitigation measures were recommended for the last three significantly impacted intersections or the 10 significantly impacted residential street segments.

Some impacts determined to be significant under CEQA would not be of sufficient magnitude to be determined significant under NEPA. In the case of the Del Amo Boulevard Extension project, although there would be significant unavoidable local impacts at the intersections and street segments identified above, these impacts are not of sufficient magnitude to be considered significant under NEPA.

3.6 AIR QUALITY

This section addresses the impacts of the proposed project on ambient air quality and the exposure of people, especially sensitive individuals, to unhealthful pollutant concentrations. Air pollutants of concern include ozone (O_3), carbon monoxide (CO), particulate matter (PM_{10} and $PM_{2.5}$), reactive organic compounds (ROC), and oxides of nitrogen (NO_x). This section analyzes the type and quantity of emissions that would be generated by the construction and operation of the proposed action and alternatives.

3.6.1 Affected Environment

Regional Climate

Air quality is affected by both the rate and location of pollutant emissions and by meteorological conditions which influence movement and dispersal of pollutants. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients, along with local topography, provide the link between air pollutant emissions and air quality.

The City of Torrance is within the South Coast Air Basin (Basin), which consists of four counties -- San Bernardino, Riverside, Los Angeles, and Orange – all of Los Angeles and Orange counties, and the urbanized portions of San Bernardino and Riverside counties. The distinctive climate of the Basin is determined by its terrain and geographic location. The Basin is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the southwest and high mountains around the rest of its perimeter. The general region lies in the semi-permanent high pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The usually mild climatological pattern is interrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds.

The vertical dispersion of air pollutants in the Basin is hampered by the presence of persistent temperature inversions. High-pressure systems, such as the semi-permanent high-pressure zone in which the Basin is located, are characterized by an upper layer of dry air that warms as it descends, restricting the mobility of cooler marine-influenced air near the ground surface, and resulting in the formation of subsidence inversions. Such inversions restrict the vertical dispersion of air pollutants released into the marine layer and, together with strong sunlight, can produce worst-case conditions for the formation of photochemical smog. The basinwide occurrence of inversions at 3,500 feet above sea level or less averages 191 days per year (SCAQMD 1993).

The atmospheric pollution potential of an area is largely dependent on winds, atmospheric stability, solar radiation, and terrain. The combination of low wind speeds and low inversions produces the greatest concentration of air pollutants. On days without inversions, or on days of winds averaging over 15 mph, smog potential is greatly reduced.

Regional Authority

In the Basin, the South Coast Air Quality Management District (SCAQMD) is the agency responsible for the administration of federal and state air quality laws, regulations, and policies. SCAQMD regulations require that any non-mobile equipment that emits or controls air contaminants, such as NO_x and ROC be permitted prior to construction, installation, or operation (Permit to Construct or Permit to Operate). The SCAQMD is responsible for review of applications and for the approval and issuance of these permits.

Air Quality Regulations, Plans, and Policies

Included in the SCAQMD's tasks are monitoring of air pollution, preparation of the State Implementation Plan (SIP) for the Basin, and promulgation of its Rules and Regulations. The SIP includes strategies and tactics to be used to attain the federal O_3 standard in the Los Angeles – South Coast Air Basin area. The SIP elements are taken from the 1997 Air Quality Management Plan (AQMP), the SCAQMD plan for attaining the state O_3 standard. The Rules and Regulations include procedures and requirements to control the emission of pollutants and to prevent adverse impacts.

State and federal agencies have set ambient air quality standards for certain air pollutants. National Ambient Air Quality Standards (NAAQS) have been established for the following criteria pollutants: CO, O_3, sulfur dioxide (SO_2), NO_2, PM_{10}, $PM_{2.5}$, and lead (Pb). The state standards for these criteria pollutants are more stringent than the corresponding federal standards. Standards for 8-hour O_3 became effective on September 15, 1997, and were subsequently challenged and litigated. The U.S. Supreme Court affirmed the standards, and policies and systems to implement these new standards are being developed. In California, 8-hour averages for O_3 are being calculated, and $PM_{2.5}$ data are being collected at many sites[1]. A new state standard for an annual $PM_{2.5}$ was published for comment on August 15, 2002. The new standard would be 12 µg/m3, as calculated by annual arithmetic mean. Federal and state standards are shown in Table 3.6-1.

Areas are classified under the Federal Clean Air Act as either "attainment" or "non-attainment" areas for each criteria pollutant based on whether the NAAQS have been achieved or not. Attainment relative to the state standards is determined by the California Air Resources Board (ARB). The project site is located in the Los Angeles County portion of the Basin. Los Angeles County is designated as a non-attainment area for O_3, CO, and PM_{10}; the County is classified as an attainment area for SO_2, NO_2, and Pb.

[1] The California Air Resources Board, in partnership with California's air quality management districts and air pollution control districts, has developed a $PM_{2.5}$ monitoring network to implement the $PM_{2.5}$ NAAQS. Through June 2001, continuous $PM_{2.5}$ mass monitors were deployed to 21 sites, and filter-based speciation samplers were deployed to 6 sites. There are plans to add continuous $PM_{2.5}$ mass monitors, filter-based speciation monitors, and continuous $PM_{2.5}$ speciation monitors to 15 sites, 11 sites, and at least 10 sites, respectively, by June 2002.

Table 3.6-1. California and National Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]	National Standards[2]	
		Concentration[3]	Primary[3,4]	Secondary[3,5]
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	0.12 ppm (235 µg/m^3)	Same as Primary Std.
	8 Hour		0.08 ppm[6]	
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m^3)	9.0 ppm (10 mg/m^3)	-
	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	
Nitrogen Dioxide (NO_2)	Annual Average	-	0.053 ppm (100 µg/m^3)	Same as Primary Std.
	1 Hour	0.25 ppm (470 µg/m^3)	-	
Sulfur Dioxide (SO_2)	Annual Average	-	80 µg/m3 (0.03 ppm)	-
	24 Hour	0.04 ppm (105 µg/m^3)	365 µg/m3 (0.14 ppm)	-
	3 Hour	-	-	1300 µg/m3 (0.5 ppm)
	1 Hour	0.25 ppm (655 µg/m^3)	-	-
Suspended Particulate Matter (PM_{10})	Annual Geometric Mean	30 µg/m^3	-	-
	24 Hour	50 µg/m^3	150 µg/m^3	-
	Annual Arithmetic Mean	-	50 µg/m^3	
Fine Particulate Matter ($PM_{2.5}$)[6]	24 Hour	-	65 µg/m^3	
	Annual Arithmetic Mean	12 µg/m^3	15 µg/m^3	
Lead (Pb)	30 Day Average	1.5 µg/m^3	-	-
	Calendar Quarter	-	1.5 µg/m^3	Same as Primary Std.
Sulfates (SO_4)	24 Hour	25 µg/m^3	No Federal Standards	
Hydrogen Sulfide (H_2S)	1 Hour	0.03 ppm (42 µg/m^3)		
Visibility Reducing Particles	8 Hour (10 am-6 pm, Pacific Standard Time)	In sufficient amount to produce an extinction coefficient of 0.23 per kilometer – visibility of 10 miles or more (0.07-30 miles or more for Lake Tahoe) due to particles when the relative humidity is less than 70 percent. Method: ARB Method V (8/18/89).		

(1) California standards, other than O_3, CO, SO_2 (1 hour), NO_2, PM_{10}, are values that are not to be equaled or exceeded. The O_3, CO, SO_2 (1 hour), NO_2, and PM_{10} standards are not to be exceeded.

(2) National standards, other than O_3 and those based on annual averages or annual geometric means, are not to be exceeded more than once a year. The O_3 standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above standard is equal to or less than one.

(3) Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 millimeters (mm) of mercury. All measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 mm of mercury (1,013.2 millibar). Parts per million (ppm) in this table refers to ppm by volume or micromoles of pollutant per mole of gas.

(4) National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health. Each state must attain the primary standards within a specified number of years after that state's implementation plan is approved by the EPA.

(5) National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. Each state must attain the secondary standards within a "reasonable time" after the implementation plan is approved by the EPA.

(6) New California fine particulate matter standards were published for comment on August 15, 2002. Contact EPA for further clarification and current federal policies.

(mg/m^3) = milligram per cubic meter; (µg/m$_3$) = microgram per cubic meter

Source:www.arb.ca.gov

Existing Air Quality

Ambient air pollutant concentrations in the County of Los Angeles are measured at 13 air quality monitoring stations operated by the SCAQMD. The nearest air quality monitoring station to the project site is the Hawthorne Station, which is located at 4234 West 120th Street, approximately five miles north of the project site. Table 3.6-2 presents a summary of the highest pollutant values and the number of times a state or federal standard was exceeded at this station from 1996 to 2000.

Ozone (O_3)

The most pervasive air quality problem in the South Coast Air Basin is high O_3 concentrations. Ozone is the principal component of smog and is formed in the atmosphere through a complex series of photochemical reactions involving ROC and NO_x, which are commonly referred to as precursors of O_3 and are both considered critical in O_3 formation; NO_x includes various combinations of nitrogen and oxygen, including NO, NO_2, NO_3, etc. Significant O_3 production generally requires about three hours in a stable atmosphere with strong sunlight. Ozone is a regional air pollutant because it is transported and diffused by wind concurrent with the photochemical reaction process. Motor vehicles are the major source of O_3 precursors in the air basin. During late spring, summer, and early fall, light winds, low mixing heights, and abundant sunshine combine to produce conditions favorable for maximum production of O_3. Ozone causes eye and respiratory irritation, reduces resistance to lung infection, and may aggravate pulmonary conditions in persons with lung disease. Ozone is also damaging to vegetation and untreated rubber. Control strategies for O_3 have focused on reducing emissions from vehicles, industrial processes using solvents and coatings, and consumer products. The state one-hour O_3 standard was exceeded once per year in Hawthorne in 1999 and 2000 (see Table 3.6-2).

Carbon Monoxide (CO)

Carbon monoxide is a colorless and odorless gas which, in the urban environment, is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. Relatively high concentrations are typically found near crowded intersections and along heavily used roadways carrying slow-moving traffic. Even under the most severe meteorological and traffic conditions, high concentrations of CO are limited to locations within a relatively short distance (300 to 600 feet) of heavily traveled roadways. Overall CO emissions are decreasing as a result of the Federal Motor Vehicle Control Program, which has mandated increasingly lower emission levels for vehicles manufactured since 1973. Carbon monoxide concentrations are typically higher in winter. As a result, California has required the use of oxygenated gasoline in the winter months to reduce CO emissions. Carbon monoxide interferes with the transfer of oxygen to the blood. It may cause dizziness and fatigue and can impair central nervous system functions. The one-hour average CO

Table 3.6-2. Hawthorne Monitoring Station – Ambient Air Quality

Pollutant	Averaging Time	California Air Quality Standards	Federal Primary Standards	Maximum Concentrations[1]					Number of Days Exceeding Federal Standard[2]					Number of Days Exceeding State Standard[2]				
				1996	1997	1998	1999	2000	1996	1997	1998	1999	2000	1996	1997	1998	1999	2000
O_3	1 hour	0.09 ppm	0.12 ppm	0.13	0.11	0.09	0.15	0.10	1	0	0	1	0	8	6	0	1	1
	8 hours	none	0.08 ppm	0.09	0.09	0.07	0.08	0.08	4	2	0	0	0	--	--	--	--	--
CO	1 hour	20 ppm	35 ppm	13	12	11	10	9	0	0	0	0	0	0	0	0	0	0
	8 hours	9.0 ppm[3]	9.0 ppm	11.6	10.3	9.4	8.4	6.6	5	1	0	0	0	6	1	1	0	0
NO_2	1 hour	0.25 ppm	None	0.15	0.16	0.15	0.13	0.13	--	--	--	--	--	0	0	0	0	0
	Annual	none	0.053 ppm	0.028	0.028	0.029	0.029	na	0	0	0	0	na	--	--	--	--	--
PM_{10}	24 hours	50 $\mu g/m^3$	150 $\mu g/m^3$	107	79	66	69	59	0	0	0	0	0	5	4	7	6	5
	Annual/AAM[4]	none	50 $\mu g/m^3$	32.7	35.5	32.5	35.4	33.8	0	0	0	0	0	--	--	--	--	--
	Annual/AGM[4]	30 $\mu g/m^3$	none	29.2	33.8	30.3	33.4	31.5	--	--	--	--	--	0	na	na	na	na

Notes:

[1] Concentration units for O_3, CO, and NO_2 are in parts per million (ppm). Concentration units for PM_{10} are in micrograms per cubic meter ($\mu g/m^3$).

[2] For PM_{10}, calculated days are the estimated number of days that a measurement would have been greater than the level of the standard had measurements been collected every day. The number of days above the standard is not necessarily the number of violations of the standard for the year.

[3] Prior to 1997, the state standard was 9.1 ppm.

[4] AAM = annual arithmetic mean; AGM = annual geometric mean.

na = data not available

Source: ARB 2000; SCAQMD 2000.

standards have not been exceeded at the Hawthorne Monitoring Station in the last five years; the eight-hour average state CO standard has been exceeded eight times from 1996 to 1998, but not in 1999 and 2000 (see Table 3.6-2).

Nitrogen Dioxide (NO_2)

There are two oxides of nitrogen which are important in air pollution: Nitric oxide (NO) and nitrogen dioxide (NO_2). Nitric oxide, along with some NO_2, is emitted from motor vehicle engines, power plants, refineries, industrial boilers, ships, aircraft, and railroads. Nitrogen dioxide is primarily formed when NO reacts with atmospheric oxygen in the presence of ROC and sunlight; the other product of this reaction is O_3. Nitrogen dioxide is the "whiskey brown" colored gas, more commonly known as smog, readily observed during periods of heavy air pollution. Concentrations of NO_2 are highest during the late fall and winter. Nitrogen dioxide increases damage from respiratory disease and irritation, and may reduce resistance to certain infections. The state standards for NO_2 have not been exceeded in the last five years in Hawthorne (see Table 3.6-2).

Inhalable Particulate Matter (PM_{10})

Respirable particulate matter refers to particulates equal to or less than 10 microns in diameter, which can be inhaled and cause health effects. Particulates in the atmosphere result from many kinds of dust- and fume-producing industrial and agricultural operations, combustion, and atmospheric photochemical reactions. Demolition, construction, and vehicular traffic are major sources of particulates in urban areas. Natural sources of particulates include wind-blown dust and ocean spray. Very small particulates of certain substances can cause direct lung damage or can contain absorbed gases that may be injurious. Particulates can also damage materials and reduce visibility. Control of PM_{10} is achieved through the control of dust at construction sites, the cleaning of paved roads, and the wetting or paving of frequently used unpaved roads. State PM_{10} standards have been exceeded an average of five times per year in Hawthorne between 1996 and 2000 (see Table 3.6-2).

Fine Particulate Matter ($PM_{2.5}$)

The sources, health effects, and control of $PM_{2.5}$ are similar to those of PM_{10}. In 1997, the EPA determined that the health effects of $PM_{2.5}$ were severe enough to warrant an additional standard. Long-term data for the project area are not yet available.

Diesel Particulate

In 1999, the ARB identified particulate emissions from diesel-fueled engines as a Toxic Air Contaminant (TAC). Once a substance is identified as a TAC, the ARB is required by law to determine if there is a need for further control. This is referred to as risk management (ARB 2000). The process of further studies is ongoing at ARB, with committees meeting to analyze both stationary and mobile diesel engine sources, as well as many other aspects of the problem. No guidance has

been issued on impact analysis or control measures. Therefore, other than recognition of ARB actions, no analysis can be made at this time for TAC impact from diesel engine exhaust. The status of impact analysis of diesel engine exhaust is not unlike the consideration of $PM_{2.5}$, which was defined as a federal criteria pollutant in 1997. As noted previously, analysis and control requirements for $PM_{2.5}$ have not been promulgated.

Existing Air Pollution Sources

Air quality at the project site and in the City of Torrance is affected by emissions from a variety of sources. These sources include industries and refineries near the project site, including the Exxon-Mobil Refinery and Dow Chemical manufacturing plant, and regional and local motor vehicle traffic on nearby major arterial streets, such as Crenshaw Boulevard, Prairie Avenue, Torrance Boulevard, and 190th Street.

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardio-respiratory diseases.

Residential areas are also considered to be sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent as the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the public.

Air pollution-sensitive receptors in the immediate vicinity of the project site include residential uses immediately to the east of the proposed roadway alignment between Crenshaw Boulevard and Van Ness Avenue and west of the project site south of Del Amo Boulevard. Additionally, Delthorne Park is located immediately southwest of the intersection of Del Amo Boulevard and Madrona Avenue/ Prairie Avenue, which is the western end of the project site. Other land uses immediately adjacent to the project site include the Exxon-Mobil Refinery to the north and the Dow Chemical manufacturing plant to the south, which are not considered sensitive receptors to air pollution.

3.6.2 Significance Criteria

The SCAQMD has established the following thresholds of significance for air quality for construction activities and project operation (SCAQMD 1993):

	Project Construction	Project Operation
Carbon Monoxide	550 pounds (lbs.) per day	550 lbs. per day
Reactive Organic Compounds	75 lbs. per day	55 lbs. per day
Nitrogen Oxides	100 lbs. per day	55 lbs. per day
Particulates	150 lbs. per day	150 lbs. per day

Additionally, if a project causes the state one-hour or eight-hour CO standard to be exceeded, then a CO "hot spot" is created. As such, it is considered that the project is likely to cause or contribute to a CO exceedance of the state air quality standard. However, there may be cases where the background concentration already exceeds the state one-hour or eight-hour standard; in these cases, the analysis should determine whether there will be a measurable increase, which is defined as one part per million (ppm) for the one-hour CO standard and 0.45 ppm for the eight-hour CO standard. Similarly, a measurable increase is considered likely to increase the frequency or severity of an existing CO violation.

3.6.3 Impacts

Alternative 1: No Action Alternative

The No Action Alternative would maintain the current local and regional circulation system and would not construct the extension of Del Amo Boulevard between Maple Avenue and Crenshaw Boulevard. Therefore, no short-term project emissions associated with construction and diesel exhaust would be generated.

However, long-term emissions associated with local traffic in the project area may create significant air quality impacts. Local roadways and intersections, including those intersections along 190th Street and Torrance Boulevard, would continue to deteriorate, experience unacceptable levels of service, and remain heavily congested. Consequently, as these roadways and intersections become more congested and traffic queues become longer, local pollutant concentrations at these locations may be exacerbated and contribute to the creation of pollutant hot spots, particularly CO and PM_{10}.

Curbside CO concentrations were estimated using the CALINE-4 dispersion model developed by Caltrans, using peak-hour traffic volumes and worst-case meteorological assumptions. Worst-case meteorological conditions include low wind speed and stable atmospheric conditions producing the highest CO concentrations for each case. Carbon monoxide concentrations were modeled for 10 intersections in the project vicinity with the No Action Alternative.

The results of the CO modeling, as shown in Table 3.6-3, indicate that future conditions without the roadway extension, which represents the No Action Alternative, would create or maintain CO hot spots at the five intersections along 190th Street and Torrance Boulevard as the 8-hour average CO standard would be exceeded. Therefore, significant impacts to air quality would result from the No Action Alternative.

Alternative 2: 55 MPH Design Speed with MSE Retaining Wall (Proposed Action)

Short-Term Emissions

Construction Emissions

With respect to the conformity of a project to the SIP and the Clean Air Act, the SCAQMD has advised that projects consistent with local General Plans are considered consistent with the air quality related regional plans. Consistency with the related plans means that a project is consistent with the goals, objectives, and assumptions in the respective plan to achieve the federal and state air quality standards. The proposed project is a planned roadway extension that is included in the current regional transportation plans (RTP) and regional transportation improvement programs (RTIP). The RTIP was approved by federal agencies on October 6, 2000, and the U.S. Department of Transportation (DOT) also adopted a Clean Air Act conformity determination for the RTIP on that date. Because the proposed Del Amo Boulevard Extension Project is consistent with the applicable RTP and RTIP, and because these have been found in conformance with the Clean Air Act, the proposed project is exempt from further federal Clean Air Act General Conformity analysis. However, the proposed project involves major construction. Therefore, a discussion of construction emissions, potential impacts, and measures to avoid or minimize the impacts is appropriate.

The principal sources of pollutant emissions during construction are fugitive dust and construction equipment engine exhaust. Fugitive dust would be created during site clearing, excavation, and grading; removal of pavement; vehicle travel on paved and unpaved roads; and material blown from unprotected graded areas, stockpiles, and haul trucks. Fugitive dust includes PM_{10} and $PM_{2.5}$, which are potential health hazards and also often contribute to visibility and nuisance impacts which occur when dust from construction activities is deposited on homes, vehicles, and plants. In construction equipment exhaust, the principal pollutants of concern are NO_x and ROC, the primary constituents in the formation of O_3, a regional non-attainment pollutant.

As presented in Table 3.6-4, construction-related emissions generated by the proposed project would remain below the SCAQMD thresholds of significance, with the exception of NO_x emissions during the utility relocation and construction of the roadway and overpass phases of construction. These emissions were estimated based on a mix of construction equipment and the number of truck and construction workers' trips assumed for the proposed project. Although these emissions would be temporary and would cease at the completion of construction activities, they may temporarily affect

local criteria pollutant concentrations in the project area, particularly NO_x levels. This would result in a short-term significant impact on air quality.

Table 3.6-3. Estimated Future Maximum CO Concentrations without and with the Del Amo Boulevard Extension

Modeled Intersection	Averaging Period[2]	CO Concentration (ppm)[1] Future without the Extension[3]	Future with the Extension[3]	Project Impact
Del Amo Blvd. and Hawthorne Blvd.	1-hour	11.5	11.5	0.0
	8-hour	8.9	8.9	0.0
Del Amo Blvd. and Prairie Ave./ Madrona Avenue	1-hour	11.4	11.5	0.1
	8-hour	8.9	8.9	0.0
Del Amo Blvd. and Crenshaw Blvd.	1-hour	10.3	11.1	0.8
	8-hour	8.1	8.7	0.6
Del Amo Blvd. and Van Ness Ave.	1-hour	8.4	9.2	0.8
	8-hour	6.8	7.3	0.5
Del Amo Blvd. and Western Ave.	1-hour	9.3	9.6	0.3
	8-hour	7.4	7.6	0.2
190th St. and Prairie Ave.	1-hour	12.6	11.2	*(1.4)*
	8-hour	**9.7**	8.7	*(1.0)*
190th St. and Crenshaw Blvd.	1-hour	12.4	11.8	*(0.6)*
	8-hour	**9.6**	**9.2**	*(0.4)*[4]
Torrance Blvd. and Hawthorne Blvd.	1-hour	12.7	12.6	*(0.1)*
	8-hour	**9.8**	**9.7**	*(0.1)*[4]
Torrance Blvd. and Madrona Ave.	1-hour	12.3	12.0	*(0.3)*
	8-hour	**9.5**	**9.3**	*(0.2)*[4]
Torrance Blvd. and Crenshaw Blvd.	1-hour	12.4	12.2	*(0.2)*
	8-hour	**9.6**	**9.4**	*(0.2)*[4]

Note: The state one-hour average CO standard is 20 ppm; the state and federal eight-hour average CO standard is 9.0 ppm. Values shown in bold indicate exceedance of applicable standard. These estimated concentrations are based on the traffic impact analysis prepared by Austin-Foust Associates, Inc.

(1) Modeled with the CALINE-4 dispersion model using EMFAC7G composite emission factors and assuming worst-case meteorological conditions. Concentrations presented above correspond to the highest concentration at a sensitive receptor location near the respective intersection.

(2) Eight-hour average local concentrations (calculated) are assumed to be 70% of local one-hour average concentrations.

(3) Future levels are estimated for 2005 and include worst-case background concentrations of 7.3 ppm, one-hour average, and 6.0 ppm, eight-hour average. Background concentrations are based on a three-year running average of the highest one-hour and eight-hour concentrations measured at the Hawthorne air monitoring station for 1998, 1999, and 2000; future background concentrations were estimated based on future CO emission trends, as described in the 1997 AQMP (SCAQMD 1996).

(4) In cases where concentrations already exceed the state 1-hour or 8-hour CO standard, such as the case for this intersection, the impact is determined based on whether or not a measurable increase would result. A measurable increase is defined as one ppm for the 1-hour CO standard and 0.45 ppm for the 8-hour CO standard (SCAQMD 1993). Since a slight reduction in CO concentrations is anticipated to occur at this intersection, no significant impacts to air quality would occur.

Table 3.6.4 Estimated Construction Emissions

Construction Activity (Approximate Duration)[a]	Estimated Emissions (lbs/day)			
	CO	ROC	NO_x	PM_{10}
Clearing/Grubbing (30 construction days)				
Construction equipment	0.00	4.38	40.56	3.55
Construction workers' trips	43.26	21.09	2.80	2.15
Dump/Haul trucks	2.93	18.24	0.24	0.12
Grading[b]	--	--	--	172.00
Total Clearing/Grubbing Emissions	*46.19*	*43.71*	*43.60*	***177.82***
Utility Relocation/Excavation (130 construction days)				
Construction equipment	0.00	10.33	57.63	10.51
Construction workers' trips	43.26	21.09	2.80	2.15
Soil disturbance during cutting[c]	--	--	--	54.50
Total Relocation/Excavation Emissions	*43.26*	*31.42*	*60.43*	*67.16*
Roadway/Overpass Construction/Roadway Widening (360 construction days)				
Construction equipment	0.00	9.17	71.46	6.31
Construction workers' trips	43.26	21.09	2.80	2.15
Material delivery trucks	5.60	1.47	26.56	1.95
Soil disturbance during filling[d]	--	--	--	5.71
Total Roadway/Overpass Construction/Roadway Widening Emissions	*49.90*	*31.79*	***100.82***	*16.12*
Daily Thresholds for Construction Emissions (lbs/day)	550	75	100	150

Note: Construction assumptions, including the estimated number and type of construction equipment, construction-related trips, area of disturbance, etc., are presented in Appendix A. Emissions shown in bold indicate exceedance of the threshold limit.

a. Assumes a construction duration of 24 months (a total of 520 work days, 5 work days per week).
b. Assumes 17.2 acres of disturbance; 220 pounds of PM_{10} per acre, per month spread over 30 days.
c. Assumes 8,800 cubic yards of cutting, which is equivalent to approximately 5.45 acres of disturbance; 26.4 pounds of PM_{10} per acre spread over 130 days.
d. Assumes 259.72 tons per day. (Derived from 74,800 cubic yards of fill, 2,500 pounds per cubic yard, and 2,000 pounds per ton, which is equivalent to approximately 93,500 tons of fill material disturbed over 360 days.)

Source: California Air Resources Board, URBEMIS2001 (Version 6.2.2); South Coast Air Quality Management District, *CEQA Air Quality Handbook*, April 1993.

Long-Term Emissions

Air Quality Conformity

The Clean Air Act Amendments of 1990 (Public Law 101-549, 104 Statute 2399) require a demonstration that federal actions conform to SIP and similar approved plans in areas that are designated as non-attainment. Transportation measures, such as the proposed action, are analyzed for conformity as part of RTP and RTIP. The proposed project is in SCAG's approved 2001 RTP Project List for Los Angeles County Local Highways. The 2002 RTIP was prepared to implement projects listed in the 2001 RTP. The roadway extension is also included in SCAG's Final 2002 RTIP (FY 2002/2003-2007/2008), approved by SCAG on August 8, 2002, and adopted by FHWA on October 4, 2002. The DOT also adopted a Clean Air Act conformity determination for the RTIP on that date. Because the proposed action is consistent with the applicable RTP and RTIP, and because these have been found in conformance with the Clean Air Act, the proposed action is exempt from further federal Clean Air Act General Conformity analysis. Therefore, it may be presumed that the proposed project would conform to the SIP, and there would be no regional air quality impact.

Local Emissions

The Transportation Conformity Rules require a statement that:

> Federal projects must not cause or contribute to any new localized CO or PM_{10} violations or increase the frequency or severity of any existing CO or PM_{10} violations in CO and PM_{10} non-attainment and maintenance areas.

The CO and PM_{10} requirements apply to the proposed project because the project site is in federal CO and PM_{10} non-attainment areas. The air quality analyses of projects included in the RTP and RTIP do not include the analyses of local CO impacts; these must be addressed on a project level.

As mentioned previously, curbside CO concentrations were estimated using the CALINE-4 dispersion model developed by Caltrans, using peak-hour traffic volumes and worst-case meteorological assumptions. The results of the CO modeling, as shown in Table 3.6-3, indicate that the diverted traffic resulting from the extension of Del Amo Boulevard would not create a CO hot spot at any one of the modeled intersections along Del Amo Boulevard. Also shown in the table, CO concentrations at intersections along the two alternate east-west routes, 190th Street and Torrance Boulevard, would be less as a result of the proposed action than with the No Action Alternative. Modeled intersections along Torrance Boulevard and the intersection of 190th Street and Crenshaw Boulevard would be considered as CO hot spots under prolonged worst-case meteorological conditions as concentrations at these intersections would be in exceedance of the state eight-hour CO standard. However, since the CO concentrations at these intersections would be less than with the No Action Alternative, the proposed action would not cause or contribute to any new localized CO

violation of the state eight-hour standard or increase the frequency or severity of the existing CO violation of the state eight-hour standard in a CO non-attainment area. Therefore, the extension of Del Amo Boulevard would not have a significant impact on local CO concentrations.

Since EPA has yet to publish guidance or methodologies on quantitative PM_{10} hot spot requirements (FHWA 2000), PM_{10} concentrations at the selected modeled intersections were not quantified. However, since the proposed action would not result in new traffic generation in the City of Torrance (the proposed action would result in the diversion of some traffic from the east-west routes, primarily Torrance Boulevard and 190th Street, onto Del Amo Boulevard), impacts to local PM_{10} concentrations are not anticipated to be significant.

Alternative 3: 55 MPH Design Speed with Type 1 Retaining Wall

Air quality impacts associated with Alternative 3 would be the same as those identified for Alternative 2, the proposed action. The difference in the type of retaining wall used to support the proposed bridge over the BNSF railroad tracks would not affect the impacts determined for Alternative 2. Short-term impacts associated with project construction would be considered significant under this alternative as the SCAQMD daily NO_x emissions threshold would be temporarily exceeded. Long-term emissions would be considered less than significant as air pollution concentrations at congested intersections would be improved.

Alternative 4: 50 MPH Design Speed with MSE Retaining Wall

Air quality impacts associated with Alternative 4 would be the same as those identified for Alternative 2, the proposed action. The difference in the design speed would not change the operation of the proposed extension of Del Amo Boulevard and would not affect the impacts determined for Alternative 2. Short-term impacts associated with project construction would be considered significant under this alternative as the SCAQMD daily NO_x emissions threshold would be temporarily exceeded. Long-term emissions would be considered less than significant as air pollution concentrations at congested intersections would be improved.

3.6.4 Mitigation Measures

The following measures shall be incorporated into the project under Alternative 2, 3, or 4 to reduce NO_x emissions associated with project construction, particularly during the utility relocation/excavation and roadway/overpass construction and roadway widening phases of construction:

- The project proponent shall ensure that all heavy construction equipment is equipped with particulate filters, as per the manufacture's instructions.

- The project proponent shall ensure that all heavy construction equipment is powered with low sulfur fuels, as feasible.

- All equipment shall be properly tuned and maintained.

Although dust emissions are not estimated to be significant, the following measures shall be incorporated into the project under Alternative 2, 3, or 4 to minimize emissions of fugitive dust, including PM_{10} and $PM_{2.5}$:

- Land disturbance shall be minimized to the extent feasible.
- Haul trucks shall be covered when loaded with fill.
- Surface of dirt piles shall be stabilized if not removed immediately.
- Paved streets shall be swept at least once per day where there is evidence of dirt that has been carried onto the roadway.
- Disturbed areas that will not be paved as part of the proposed action shall be revegetated to prevent soil erosion.

During high wind conditions:

- Cease all earth moving activities or apply water to soil not more than 15 minutes prior to moving such soil.

- For disturbed surfaces to be left inactive for several days apply water with a chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of six months; or apply chemical stabilizers prior to wind event; or apply water to all unstabilized disturbed areas 3 times per day; or utilize a combination of these actions.

- For unpaved roads, apply chemical stabilizers prior to wind event, or apply water once per hour during active operation, or stop all vehicular traffic.

- For open storage piles, apply water once per hour, or install temporary coverings.

- For paved road track-out, cover all haul vehicles, or comply with vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both public and private roads.

3.6.5 Significance After Mitigation

Construction

Table 3.6-5 presents construction emissions after implementation of the first mitigation measure identified above -- the use of gasoline fuel to power heavy construction equipment (whenever feasible). As shown in the table, construction emissions, particularly NO_x emissions, would be reduced to below the thresholds of significance throughout project construction. Implementation of the other mitigation measures identified would further reduce construction emissions. As a result, construction emissions would be considered less than significant with incorporation of mitigation measures.

Operation

The No Action Alternative would result in significant unavoidable air quality impacts due to continued traffic congestion. Alternatives 2, 3, and 4 would result in less than significant operational air quality impacts without mitigation.

Table 3.6.5 Estimated Construction Emissions After Mitigation

Construction Activity (Approximate Duration)	Estimated Emissions (lbs/day)			
	CO	ROC	NO_x	PM_{10}
Clearing/Grubbing (30 construction days)				
Construction equipment	0.00	6.01	40.04	3.46
Construction workers' trips	44.30	21.15	2.82	2.15
Dump/Haul trucks	3.67	18.29	0.29	0.15
Grading[b]	--	--	--	50.74
Total Clearing/Grubbing Emissions	*47.97*	*45.45*	*43.15*	*56.5*
ROADWAY/OVERPASS CONSTRUCTION/ROADWAY WIDENING				
Construction equipment	0.00	9.17	63.06	6.31
Construction workers' trips	44.30	21.15	2.82	2.15
Material delivery trucks	5.60	1.47	26.56	1.95
Soil disturbance during filling	--	--	--	5.71
Total Roadway/Overpass Construction/Roadway Widening Emissions	*49.90*	*31.79*	*92.44*	*16.12*
Daily Thresholds for Construction Emissions (lbs/day)	550	75	100	150

Source: California Air Resources Board, URBEMIS2001 (Version 6.2.2); South Coast Air Quality Management District, *CEQA Air Quality Handbook*, April 1993.

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3.7 NOISE

The purpose of this section is to identify, describe, and evaluate noise sources and potential noise conflicts associated with the development of the new roadway extension. The section will analyze the noise impacts generated by the proposed action, including both the short-term construction impacts and long-term operational impacts, and determine whether noise levels generated by the proposed action would result in perceptible or significant increases in noise levels, or noise levels exceeding State or local guidelines.

As part of the environmental review for the project, a technical noise study was prepared (Appendix E). The *Traffic Noise Analysis Protocol for New Highway Construction and Highway Reconstruction Projects,* Caltrans 1998, hereinafter referred to as the Protocol, contains policies, procedures and practices for evaluation of potential traffic and construction noise impacts. The Protocol is intended for use by sponsor agencies, and fulfills the noise analysis requirements of the California Environmental Quality Act (CEQA), the National Environmental Quality Act (NEPA), Title 23 United States Code of Federal Regulations, Part 772 (23 CFR 772), *Procedures for Abatement of Highway Traffic Noise and Construction Noise*, and Section 216 of the California Streets and Highway Code. The Protocol includes a screening procedure to determine whether a detailed analysis is necessary. The first step in the procedure is to determine if there are potentially impacted receivers. If there are no impacted receivers, no further analysis would be required.

There are no potentially impacted sensitive noise receivers, such as residences, schools, parks, etc., within the Del Amo Boulevard Extension project area. Therefore, further detailed analysis was not necessary under the NEPA or FHWA guidelines. Nevertheless, for the CEQA analysis, the City analyzed potential noise impacts in the adjacent residential areas.

3.7.1 Affected Environment

Fundamentals of Traffic Noise

Noise is defined as unwanted or objectionable sound. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance and, in the extreme, hearing impairment. The unit of measurement used to describe a noise level is the decibel (dB). The human ear is not equally sensitive to all frequencies within the sound spectrum. Therefore, the "A-weighted" noise scale, which weights the frequencies to which humans are sensitive, is used for measurements and standards. Noise levels using A-weighted measurements are written as dB(A) or dBA. Decibels are measured on a logarithmic scale, which quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dBA; a halving of the energy would result in a 3 dBA decrease. Table 3.7-1 shows the relationship of various noise levels to commonly experienced noise events.

Table 3.7-1. Sound Pressure Levels of Common Sounds and Noises

Sound Quality	Decibels	Sound Sources
Threshold of Feeling/Pain	120	Rocket Engine Private Jet Turbojet: 7,000 lbs. thrust
Deafening	110	Propeller aircraft Boiler factory Nearby riveter, drop hammer, thunder Subway and elevated trains
Very loud	90 80	Woodsaw, punch press Loud street noises Noisy factory, Screw machine Pneumatic drill Police whistle, portable sander
Loud	70	Noisy office Average traffic Normal radio Average factory
Moderate	60 50	Noisy home Average office Ordinary conversation Quiet radio
Faint	40 30	Quiet home Private office Average auditorium Quiet conversation
Very Faint Threshold of Audibility	20 10 0	Rustle of leaves Whisper Sound proof room

Source: AMB Beaird, Inc. 1970.

Human perception of noise has no simple correlation with acoustical energy. The perception of noise is not linear in terms of dBA or in terms of acoustical energy. Two noise sources do not "sound twice as loud" as one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increases or decreases; that a change of 5 dBA is readily perceptible, and that an increase (decrease) of 10 dBA sounds twice (half) as loud[1] (Caltrans 1998).

Average noise levels over a period of minutes or hours are usually expressed as dBA L_{eq}, or the equivalent noise level for that period of time. The period of time averaged may be specified; $L_{eq(3)}$ would be a three-hour average; when no period is specified, a one-hour average is assumed. The one-hour average L_{eq} is used in the FHWA noise abatement criteria.

Noise standards for land use compatibility, which are used for impact assessment in the City of Torrance, are stated in terms of the Community Noise Equivalent Level (CNEL), which is a 24-hour weighted average measure of noise. The computation of CNEL adds 5 dBA to the average hourly noise levels between 7:00 p.m. and 10:00 p.m. (evening hours) and 10 dBA to the average hourly noise levels between 10:00 p.m. and 7:00 a.m. (nighttime hours). This weighting accounts for the increased human sensitivity to noise in the evening and nighttime[2]. Generally, on typical urban streets, the CNEL is approximately equal to the loudest hour L_{eq}.

Noise Standards, Plans, Policies, and Guidelines

Noise-Land Use Compatibility

FHWA and Caltrans

The proposed project will involve federal funding. For projects with federal funding, FHWA noise assessment criteria apply; according to FHWA criteria, the "traffic characteristics that will yield the worst hourly traffic noise impact on a regular basis" will be used. The worst noise hour usually coincides with the peak traffic volume hour.

Federal highway noise evaluation and abatement policies are contained in the U.S. Code of Federal Regulations, 23 CFR Part 772, *Procedures for Abatement of Highway Traffic Noise and Construction Noise.* As defined in 23 CFR 772, Section 772.5(g), traffic noise impacts would occur when the predicted traffic noise levels approach or exceed the noise abatement criteria (NAC), as shown in Table 3.7-2, or when predicted traffic noise levels would substantially exceed the existing noise levels. A traffic noise impact is "significant" under CEQA when there is a substantial noise increase.

[1] The "trained" as opposed to "average" ear can detect changes of 2 dBA in normal environmental noise.

[2] A similar 24-hour weighted average is the Day-Night Average noise level (L_{dn} or DNL), which weights only the nighttime hours, and not the evening hours. CNEL is used primarily in California.

Table 3.7-2. FHWA Noise Abatement Criteria

Activity Category	Hourly A-Weighted Sound Level [1] (dBA)		Description of Activity Categories
	$L_{eq}(h)$[2]	$L_{10}(h)$[3]	
A	57 (Exterior)	60 (Exterior)	Lands of which serenity and quiet are of extraordinary significance and serve an important public need, and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (Exterior)	70 (Exterior)	Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (Exterior)	75 (Exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	--	--	Undeveloped lands.
E	52 (Interior)	55 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

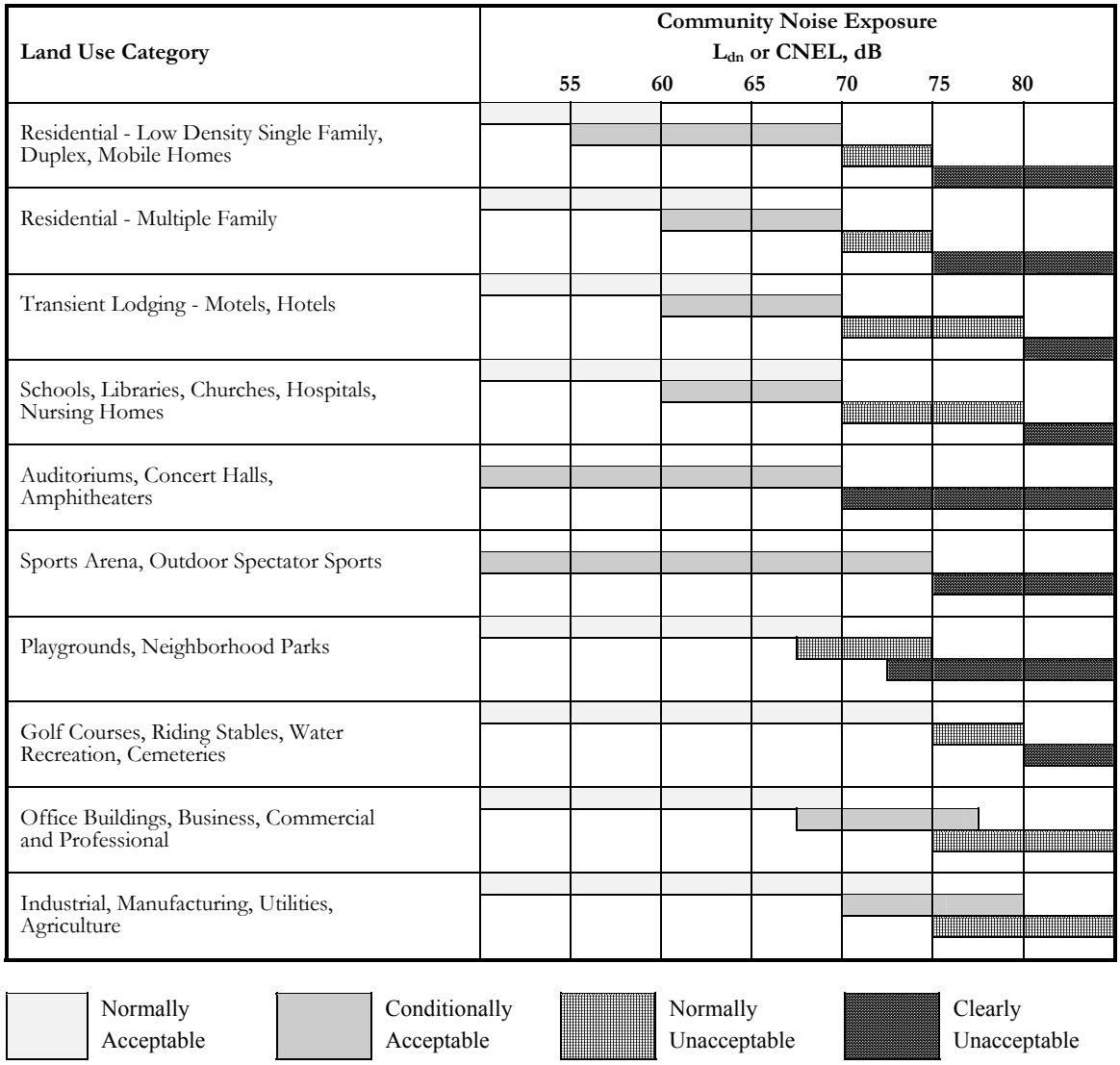
Notes:
[1] Either $L_{10}(h)$ or $L_{eq}(h)$ (but not both) may be used on a project.
[2] $L_{eq}(h)$ = Average hourly noise level.
[3] $L_{10}(h)$ = The noise level exceeded 10 percent of the time.

The interpretations of "approach or exceed" and "substantially exceed" vary among federal and state agencies. For California, a traffic noise impact would occur "when predicted noise levels associated with a project approach within 1 dBA, or exceed" the NAC. For residences, the NAC is 67 dBA L_{eq}. Therefore, an impact would occur when traffic noise is 66 dBA L_{eq} or greater. For businesses, the NAC is 72 dBA L_{eq}, and an impact would occur when traffic noise is 71 dBA L_{eq} or greater. A noise increase is considered by Caltrans to be substantial "when the predicted noise levels associated with the project exceed existing noise levels by 12 dBA, $L_{eq}(h)$" (Caltrans 1998).

City of Torrance

The City of Torrance has established numerical thresholds for acceptable noise/land use compatibility, as presented in Table 3.7-3; these thresholds are very similar to the state's noise compatibility guidelines. Generally, an exterior noise level threshold of 60 dBA, CNEL or less, is acceptable for low density residential development, and 65 dBA, CNEL or less, is acceptable for multi-family/high density residential development.

Table 3.7-3. Land Use Compatibility for Community Noise Environments



Specified land use is satisfactory based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirement is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

New construction or development should generally not be undertaken.

Source: City of Torrance 1992.

Construction Noise

Caltrans

The Caltrans Traffic Noise Analysis Protocol (Caltrans 1998) states,

> Construction noise is only substantial in exceptional cases, such as pile driving and crack and seat pavement rehabilitation operations. Standard Specifications… and Standard Special Provisions provide limits on construction noise levels and are used as appropriate. Normally, construction noise levels should not exceed 86 dBA (L_{max}) at a distance of 15 meters (49.2 feet).

City of Torrance

Construction noise in the City of Torrance is governed by the City's Municipal Code Section 46.3.1, Construction of Buildings and Projects. Construction is normally limited to the hours of 7:00 a.m. to 8:00 p.m. of any day. Heavy construction equipment, such as pile drivers, mechanical shovels, derricks, hoists, pneumatic hammers, compressors, or similar devices, are prohibited at any time within or adjacent to a residential area without first obtaining permission from the City's Director of Building and Safety. Such request for permission must include a list and type of equipment to be used, the requested hours and locations of use, and proof that the selection of equipment and construction techniques has been based on minimization of noise within the limitation of such equipment as is commercially available or combinations of such equipment and auxiliary sound barriers (City of Torrance 2000).

Existing Noise Levels

Measured Noise Levels

Noise levels were measured at three locations along Del Amo Boulevard on Wednesday, September 18, 2002, between the hours of 12:00 p.m. and 3:00 p.m. with a Larson-Davis Model 712 Type 2 sound level meter. The dominant noise sources in the project area were traffic along Del Amo Boulevard and intersecting roadways, including Crenshaw Boulevard and Madrona Avenue/Prairie Avenue. The weather was warm and sunny with a light wind.

Noise measurements were made at the following locations: (1) the north side of Del Amo Boulevard, approximately 700 feet east of Crenshaw Boulevard in the driveway of a single-family residence, (2) the south side of Del Amo Boulevard between Crenshaw Boulevard and Van Ness Avenue at a local park immediately adjacent to an abandoned church, and (3) the south side of Del Amo Boulevard at Madison Street (one block west of Madrona Avenue). Measurements (1) and (2) represent the residences on Del Amo Boulevard immediately east of the project site. Measurement (3) represents

the residences on Del Amo Boulevard west of the project site. The results of the noise measurements are presented in Table 3.7-4.

Table 3.7-4. Noise Measurements – September 18, 2002

Location	Measured Noise Level (dBA, L_{eq})	Comment
1. Along Del Amo Boulevard approximately 700 feet east of Crenshaw Boulevard in the driveway of a single-family residence at 2433 Del Amo Boulevard. The meter was placed approximately 50 feet from the roadway median.	63.8	The duration of the measurement period was approx. 18.5 minutes. Traffic along Del Amo Boulevard was the dominant noise source. There was a steady flow of autos and a few large trucks.
2. Along Del Amo Boulevard at a local park across from the single-family residence at 2307 Del Amo Boulevard. The meter was placed approximately 75 feet from the roadway median at the basketball court.	64.8	The duration of the measurement period was approx. 14.7 minutes. Traffic along Del Amo Boulevard was the dominant noise source. There was a steady flow of autos and a few large trucks.
3. Along Del Amo Boulevard on the west side of Madison Street (one block west of Madrona Avenue) in front of an apartment complex. The meter was placed approximately 75 feet from the roadway centerline.	71.5	The duration of the measurement period was approx. 16.1 minutes. Traffic along Del Amo Boulevard was the dominant noise source. There was a steady flow of autos, medium trucks, and large trucks.

Note: Larson Davis Model 712, SN 0244 was used. "Slow" detector, "A" weighting. Measurements were taken between 12:46 p.m. and 2:50 p.m.

The length of time necessary to obtain a representative measurement will vary with the variability of the noise level. When measuring traffic noise near freeways, relatively short measurements are usually adequate, as the noise source is quite steady. When measuring traffic noise near a roadway with sparse traffic, or in a location where there may be a variety of intermittent noise sources, relatively long measurements may be required. Each measurement requires the judgment of the person taking the measurements to evaluate the adequacy of the interval by observing the sound level meter display, especially the variability of the cumulative L_{eq}. For the measurements of this study, the measurement periods were judged sufficient to characterize the traffic noise at the site.

Calculated Noise Levels

As there are no sensitive noise receptors within the project area, noise modeling was not required under NEPA and FHWA guidelines. Nevertheless, for the CEQA analysis, the City analyzed potential noise impacts in the surrounding residential areas. Existing p.m. peak-hour noise levels along roadways in the project vicinity were calculated using the p.m. hour traffic volumes presented in the traffic study and the FHWA traffic noise model. A traffic mix of 95 percent automobiles and light trucks, 3 percent medium trucks, and 2 percent heavy trucks was assumed for the analyzed roadway segments.[3] A speed of 35 mph was assumed for all roadways. Existing p.m. peak-hour traffic noise

[3] Trucks are prohibited from using Del Amo Boulevard in the residential neighborhood east of Crenshaw Boulevard. The proposed project will not change this prohibition. The inclusion of trucks in the model reflects residents' statements that illegal truck use of Del Amo

levels at sensitive receptor locations along Del Amo Boulevard, Maple Avenue, Anza Avenue, Prospect Avenue, and Maricopa Street currently exceed the 60 dBA, CNEL for low density residential uses and 65 dBA, CNEL for multi-family residences.

Sensitive Receptors

Noise sensitive receptors are generally considered to be human activities or land uses that may be subject to the stress of significant interference from noise. Land uses, which are associated with sensitive receptors, include residential dwellings, mobile homes, hotels, motels, hospitals, nursing homes, education facilities, and libraries. Sensitive receptors may also include threatened or endangered noise-sensitive biological species.

Commercial and industrial land uses are not considered "noise sensitive" by most definitions. However, many jurisdictions and agencies have noise/land use compatibility standards or noise impact standards that apply to commercial and business uses. As described above, the FHWA NAC includes a standard that applies to commercial and business uses.

Residences located outside, but near the proposed alignment include single-family residences located on either side of Del Amo Boulevard east of Crenshaw Boulevard and on the south side of Del Amo Boulevard west of Madrona Avenue/Prairie Avenue. Land uses to the immediate north, south, and west of the proposed alignment consist primarily of industrial and manufacturing uses. Within one-half to one mile of project site are single family and multifamily residences, south of Maricopa Street and Torrance Boulevard, west of Madrona Avenue, and north of 190th Street.

3.7.2 Significance Criteria

As previously stated, a traffic noise impact would occur "when predicted noise levels associated with a project approach within 1 dBA, or exceed" the NAC. For residences, the NAC is 67 dBA, L_{eq}. Therefore, an impact would occur if traffic noise were increased to 66 dBA, L_{eq} or greater. For businesses, the NAC is 72, dBA L_{eq}, and an impact would occur when traffic noise were increased to 71 dBA, L_{eq} or greater. A noise increase is substantial "when the predicted noise levels associated with the project exceed existing noise levels by 12 dBA, L_{eq}(h)." Under CEQA, a traffic noise impact is significant when there is a substantial noise increase.

Boulevard occurs and that truck use of Del Amo Boulevard is allowed to the west of Crenshaw Boulevard. The results shown in Table 3.7-5 are included in the impacts discussion.

3.7.3 Impacts

Alternative 1: No Action Alternative

Construction Noise

The No Action Alternative would maintain the current local and regional circulation system and would not construct the extension of Del Amo Boulevard between Maple Avenue and Crenshaw Boulevard. Therefore, no temporary increases in noise levels due to project construction would occur.

Traffic Noise

Long-term noise levels associated with local traffic outside the project area would not substantially increase with the No Action Alternative. Noise levels were projected using the FHWA Highway Traffic Noise Prediction Model. This alternative would result in increases in noise levels along all of the analyzed roadway segments. These increases would range from 1 to 4 dBA, L_{eq} (Table 3.7-5) and would primarily be attributable to the growth of the surrounding community. The noise increases would not exceed existing noise levels by 12 dBA, L_{eq}; therefore, no significant impacts to ambient noise levels would result from the No Action Alternative since no substantial noise increases would occur.

Alternative 2: 55 MPH Design Speed with MSE Retaining Wall

Construction Noise

Construction noise would be generated by diesel-engine driven construction equipment, which would be used for roadway and retaining wall installation. Equipment would include tractors, loaders, fork lifts and cranes, concrete pumps, rollers, and pavers, which would be used for loading, unloading, placing materials, and paving. Diesel-engine driven trucks would bring materials to the site and remove construction debris from the site. Cranes would be used for materials handling during retaining wall erection. Generators are anticipated to be used to supply power for welders and air compressors.

Under load conditions, diesel-engine noise levels may be 85 to 90 dBA at a distance of 50 feet from the equipment. Construction equipment noise is considered to be a “point source” and is attenuated over distance at a rate of 6 dBA for each doubling of distance. Thus, a noise level of 85 dBA at 50 feet would be 79 dBA at 100 feet and 73 dBA at 200 feet from the source. During excavating, grading, and paving operations, equipment would move to different locations and undergo varying load cycles. Although peak noise levels may be 85 to 90 dBA at a distance of 50 feet during some

Table 3.7-5. Calculated Noise Levels

Roadway Segment			ESTIMATED NOISE LEVELS (dBA, L_{eq})[1]									Change in Noise Levels[2]		
			Existing Conditions			No Action Alternative			Proposed Action					
Roadway	**From**	**To**	**15 ft**	**50 ft**	**150 ft**	**15 ft**	**50 ft**	**150 ft**	**15 ft**	**50 ft**	**150 ft**	**15 ft**	**50 ft**	**150 ft**
190th Street	Western Avenue	Van Ness Avenue	77	72	67	78	73	68	78	73	68	0	0	0
190th Street	Van Ness Avenue	Crenshaw Boulevard	76	72	66	77	72	67	76	71	66	-1	-1	-1
190th Street	Crenshaw Boulevard	Prairie Avenue	77	73	67	78	73	68	76	71	66	-2	-2	-2
190th Street	Prairie Avenue	Hawthorne Boulevard	75	71	65	76	71	66	76	71	66	0	0	0
190th Street	Hawthorne Boulevard	Anza Avenue	76	72	66	77	72	67	77	72	67	0	0	0
Del Amo Boulevard	Western Avenue	Van Ness Avenue	71	67	61	75	70	65	75	71	65	0	0	0
Del Amo Boulevard	Van Ness Avenue	Crenshaw Boulevard	72	67	62	73	68	63	77	72	67	***4***	***4***	***4***
Del Amo Boulevard	Madrona Avenue	Hawthorne Boulevard	74	69	64	75	70	65	77	72	67	2	2	2
Del Amo Boulevard	Hawthorne Boulevard	Anza Avenue	75	71	65	76	71	66	77	72	67	1	1	1
Del Amo Boulevard	Anza Avenue	Prospect Avenue	75	70	65	76	71	66	77	72	67	1	1	1
Torrance Boulevard	Van Ness Avenue	Crenshaw Boulevard	77	73	67	78	73	68	78	73	68	0	0	0
Torrance Boulevard	Crenshaw Boulevard	Maple Avenue	77	72	67	78	73	68	76	72	66	-2	-2	-2
Torrance Boulevard	Maple Avenue	Madrona Avenue	77	72	67	78	73	68	76	71	66	-1	-1	-1
Torrance Boulevard	Madrona Avenue	Hawthorne Boulevard	77	73	67	78	73	68	77	72	67	-1	-1	-1
Torrance Boulevard	Hawthorne Boulevard	Anza Avenue	77	72	67	77	73	67	77	73	67	0	0	0
Torrance Boulevard	Anza Avenue	Prospect Avenue	76	71	66	77	72	67	77	72	67	0	0	0
Western Avenue	Torrance Boulevard	Del Amo Boulevard	77	72	67	77	73	67	78	73	68	0	0	0
Western Avenue	Del Amo Boulevard	190th Street	77	73	67	79	74	69	79	74	69	1	1	1
Van Ness Avenue	Torrance Boulevard	Del Amo Boulevard	71	66	61	71	67	61	71	66	61	0	0	0
Van Ness Avenue	Del Amo Boulevard	190th Street	73	68	63	74	69	64	74	70	64	0	0	0
Crenshaw Boulevard	Torrance Boulevard	Maricopa Avenue	78	73	68	79	74	69	79	75	69	0	0	0
Crenshaw Boulevard	Maricopa Avenue	Del Amo Boulevard	79	74	69	79	75	69	80	75	70	1	1	1
Crenshaw Boulevard	Del Amo Boulevard	190th Street	79	74	69	80	75	70	80	75	70	1	1	1
Crenshaw Boulevard	190th Street	182nd Street	78	73	68	79	74	69	79	74	69	0	0	0
Maple Avenue	Torrance Boulevard	Maricopa Avenue	73	68	63	73	69	63	72	68	62	-1	-1	-1
Maple Avenue	Maricopa Avenue	Madrona Avenue	73	68	63	73	69	63	73	68	63	0	0	0
Madrona Avenue	Torrance Boulevard	Del Amo Boulevard	77	72	67	78	73	68	77	73	67	0	0	0
Prairie Avenue	Del Amo Boulevard	190th Street	78	73	68	79	74	69	76	71	66	-3	-3	-3
Prairie Avenue	190th Street	182nd Street	76	72	66	77	72	67	77	72	67	0	0	0
Hawthorne Boulevard	Torrance Boulevard	Del Amo Boulevard	80	75	70	81	76	71	81	76	71	0	0	0
Hawthorne Boulevard	Del Amo Boulevard	190th Street	80	75	70	81	76	71	81	76	71	0	0	0
Hawthorne Boulevard	190th Street	182nd Street	80	75	70	81	76	71	80	76	70	0	0	0
Anza Avenue	Torrance Boulevard	Del Amo Boulevard	75	70	65	75	71	65	76	71	66	0	0	0
Anza Avenue	Del Amo Boulevard	190th Street	74	70	64	75	71	65	75	71	65	0	0	0
Prospect Avenue	Torrance Boulevard	Del Amo Boulevard	75	70	65	76	71	66	76	71	66	0	0	0
182nd Street	Hawthorne Boulevard	Prairie Avenue	74	69	64	75	70	65	74	69	64	-1	-1	-1
Maricopa Street	Madrona Avenue	Maple Avenue	72	67	62	72	68	62	72	67	62	-1	-1	-1

(1) Noise level estimates and projections were made using the U.S. Department of Transportation's FHWA Highway Traffic Noise Prediction Model and are based on the turning volumes presented in the traffic impact analysis included in the Project Study Report for the Del Amo Boulevard Extension project prepared by Holmes & Narver. All noise levels assume an average speed of 35 mph; vehicle mix is assumed to be 95 percent autos, 3 percent medium trucks, and two percent heavy trucks. Distances shown above are from the roadway centerline.

(2) "Change in Noise Levels" represents the change between the year 2020 No Action Alternative and the year 2020 Alternatives 2, 3, and 4 (diverted traffic with the Del Amo Boulevard extension).

construction activities, hourly average noise levels near the edge of the project site, at locations where the excavation and grading would occur, are anticipated to be 65 to 75 dBA L_{eq}. Average noise levels over longer periods of time would be less.

Pile driving would be performed for a period of approximately two months for construction of the retaining walls. Peak noise from pile drivers typically ranges from 93 to 104 dBA at 15 to 50 feet. The nearest sensitive receptors to construction areas where pile driving is anticipated are the residences immediately to the east of the proposed alignment; these sensitive receptors are located approximately 1,600 feet from the noise source. Pavement breakers, also notably loud equipment, would be used for removal of the existing pavement and may be required for modification of existing roadways (e.g., widening of the existing road between Maple Avenue and Madrona Avenue/Prairie Avenue and the modification of the Del Amo Boulevard intersections with Madrona Avenue/Prairie Avenue and Crenshaw Boulevard). The nearest sensitive receptors to this portion of the project are located approximately 500 feet of the roadway widening.

Noise can also be generated at construction staging areas. Staging area noise typically includes the loading and unloading of equipment and maintenance of construction equipment; both of these activities often combine diesel-engine noise and impact noise.

Grading and paving work would occur near the intersection of Del Amo Boulevard and Crenshaw Boulevard. During this work, short-term average noise levels may exceed 65 dBA, and peak noise levels may exceed 70 dBA, causing occasional speech interference at the residences located just east of Crenshaw Boulevard. Since no nighttime work would occur to comply with the City's noise ordinance, the construction noise impact would be adverse but would not be significant.

Although no significant noise impacts are anticipated during project construction, noise abatement measures identified in Section 3.7.4, Mitigation Measures, should be incorporated into the project to minimize the adverse noise impacts on sensitive receptors in the project area.

Traffic Noise

A detailed analysis of noise along the roadway segments in the project vicinity was completed using the FHWA Highway Traffic Noise Prediction Model. The analysis compares the noise levels with and without the proposed alignment in the year 2020. The results of the analysis are shown in Table 3.7-5.

As shown in Table 3.7-5, implementation of the proposed Alternatives 2, 3, or 4 would result in a reduction or no change in noise levels along 30 of the 37 analyzed roadway segments in the project vicinity when compared with the No Action Alternative. Six of the analyzed roadway segments would experience increases of 1 to 2 dBA. Although calculated noise levels continue to approach or exceed the NAC of 67 dBA, L_{eq}, the noise increases associated with all of the four alternatives would

not exceed existing noise levels by more than 4 dBA, L_{eq}. Therefore, the increases in noise levels at these 37 locations are not substantial and no significant traffic noise impacts would occur.

The segment of Del Amo Boulevard between Crenshaw Boulevard and Van Ness Avenue would experience the highest noise level increase of approximately 4 dBA when compared with the No Action Alternative. The future calculated noise level along this roadway segment, when compared to the existing calculated noise level, would result in a noise level increase of approximately 5 dBA. The noise increase between Crenshaw Boulevard and Van Ness Avenue over existing levels and the No Action Alternative would be less than the 12 dBA, L_{eq} threshold and would not be considered a substantial noise increase. Therefore, there would be no long-term significant noise impacts associated with the implementation of the proposed Alternative 2.

Alternative 3: 55 MPH Design Speed with Type 1 Retaining Wall

Noise impacts associated with Alternative 3 would be the same as those identified for Alternative 2. The difference in the type of retaining wall used to support the proposed bridge over the BNSF railroad tracks would not affect the impacts determined for Alternative 2. Short-term noise impacts associated with project construction would be considered adverse but not significant under this alternative. The long-term traffic noise increases would not exceed existing noise levels by more than 12 dBA, L_{eq}. Therefore, there would be no long-term significant noise impacts associated with the implementation of the proposed Alternative 3.

Alternative 4: 50 MPH Design Speed with MSE Retaining Wall

Noise impacts associated with Alternative 4 would be the same as those identified for Alternative 2. The difference in the design speed would not change the operation of the proposed extension of Del Amo Boulevard and would not affect the impacts determined for Alternative 2. Short-term noise impacts associated with project construction would be considered adverse but not significant under this alternative. The long-term traffic noise increases would not exceed existing noise levels by 12 dBA, L_{eq}. Therefore, there would be no long-term significant noise impacts associated with the implementation of the proposed Alternative 4.

3.7.4 Noise Abatement

According to FHWA and Caltrans policy, noise abatement must be considered where traffic noise impacts are identified. Noise abatement is considered at sensitive receptors, where frequent human use occurs, and a lowered noise level would be of benefit. Although there are no sensitive receptors within the project area, it is appropriate to consider noise abatement at the residential receptors immediately east and west of the project area on Del Amo Boulevard, where existing and future noisiest hour traffic noise levels may be 66 dBA L_{eq} or greater.

Noise abatement is normally addressed at exterior/first floor receptors, and not at second floor receptors. Noise abatement is evaluated for feasibility and reasonableness. Feasibility is an engineering consideration. Reasonableness of noise abatement is evaluated using the following factors: noise level changes, absolute noise levels, date of development along the highway, noise abatement benefits, life cycle of abatement measures, abatement costs, environmental impacts of abatement construction, public input, views/opinion of impacted residents, and social, economic, environmental, legal, and technological factors.

The single family residences on Del Amo Boulevard east of Crenshaw Avenue have existing and predicted future front yard noise levels equal to or greater than 66 dBA L_{eq}. The increase in traffic that would result from implementation of the proposed project would increase the noise level by 4 dBA. Noise abatement would not be feasible, that is, noise walls would not reduce noise levels by 5 dBA at these residences because the residences have driveways on Del Amo Boulevard, and walls could not be constructed across the driveways. In order for walls to be effective, they must be continuous.

The multi family residence complex on Del Amo Boulevard west of Madrona Avenue has some units located within 300 feet of the west end of the project area. Therefore, a quantitative impact analysis of existing and future traffic noise was performed. The analysis is included in Appendix E of this EIR/EA. There is an existing noise impact at one unit in the complex, which is the residence at 3402 Del Amo Boulevard, at the southwest corner of Del Amo Boulevard and Madrona Avenue. The existing noise level was calculated to be 68 dBA Leq, which exceeds the NAC of 67 dBA Leq. The future noise level at this residence was calculated at 69 dBA Leq. There are no existing or predicted future noise impacts at any of the other residences in the complex. Noise abatement for the residence at 3402 Del Amo Boulevard was investigated and was found to be not feasible. That is, a noise wall 8 feet high, which is the maximum height allowed at this property, would not reduce noise levels by 5 dBA or more.

3.7.5 Mitigation Measures

Construction Noise

As stated above, although no significant noise impacts are anticipated during project construction, the following noise abatement measures should be incorporated into the project to minimize the adverse noise impacts on sensitive receptors in the project area:

- Staging areas for the storage and maintenance of construction equipment shall be arranged so that the noisiest activities will be located at the furthest practicable distance from residences. Where feasible, stockpiled materials should be located to provide noise barriers between noisy activities and nearby residential receptors. Equipment maintenance and other noisy activities shall not be undertaken in staging areas near residential receptors.

- Contractors shall comply with Caltrans Standard Specifications Sections 7 and 42 and Standard Special Provisions for limits on construction noise levels.

- Contractors shall comply with all local noise level standards, regulations, and ordinances that apply to any work performed pursuant to the contract.

- Each internal combustion engine shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the project without said muffler.

Traffic Noise

There are no residences or other sensitive receptors within the project area. Therefore, there would be no traffic noise impacts within the project area, and no noise abatement is considered.

As described in Section 3.7.4 above, noise abatement was considered for the residences on Del Amo Boulevard east of Crenshaw Avenue. While noise abatement would not be feasible, it is the preliminary decision of the City of Torrance to consider noise abatement measures if requested by the affected homeowners during the 45-day for public review period of this EIR/EA.

Although a noise barrier would not achieve a 5 dBA noise reduction, the City will also consider noise abatement measures for the exterior use area of the residence at 3402 Del Amo Boulevard if requested by the property owner during the 45-day public review period of this EIR/EA.

Consistent with FHWA and Caltrans policy, the above preliminary abatement decision may be changed if pertinent parameters of the project change during the final project design. A final decision on the construction of noise abatement/mitigation will be made on completion of project design.

3.7.6 Significance After Mitigation

No significant noise impacts would result from any of the project alternatives.

3.8 HAZARDS AND HAZARDOUS MATERIALS

This section addresses the potential for the proposed action to expose people to hazards and hazardous wastes.

3.8.1 Affected Environment

Regulatory Setting

Hazardous substances are defined by state and Federal regulations as substances that must be regulated in order to protect the public health and the environment. Hazardous materials have certain chemical, physical, or infectious properties that cause them to be hazardous. Cal. Code Regs., Title 22, Chapter 11, Article 2, Section 66261 provides the following definition:

> A hazardous material is a substance or combination of substances which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, or disposed of or otherwise managed.

According to Title 22 (Cal. Code Regs., Chapter 11, Article 3), substances having a characteristic of toxicity, ignitability, corrosivity, or reactivity are considered hazardous. Hazardous wastes are hazardous substances that no longer have a practical use, such as materials that have been abandoned, discarded, spilled, or contaminated, or that are being stored prior to disposal.

Toxic substances may cause short-term or long-term health effects, ranging from temporary effects to permanent disability or death. Examples of toxic substances include most heavy metals, pesticides, benzene, gasoline, hexane, natural gas, sulfuric acid, lye, explosives, pressurized canisters, and radioactive and biohazardous materials. Soils may also be toxic because of accidental spilling of toxic substances.

Existing Land Uses

As discussed in Chapter 2.0, the project area is located near several industrial facilities, including the adjacent Exxon-Mobil Refinery and Dow Chemical manufacturing plant. The Exxon-Mobil Refinery, located immediately north of the proposed alignment, has a capacity to process approximately 130,000 barrels of gasoline per day. The 52-acre Dow Chemical site, located to the south, is one of the largest plastics production facilities in the western United States. Industrial activities at these sites have generated a number of hazards that would affect the proposed project, directly and indirectly.

Hazards

There are a number of potential hazards located to the north of the project site at the Exxon-Mobil Refinery. These hazards, which include elevated flare towers and storage tanks containing combustible materials, are shown in Figure 3.8-1 and are described below.

Elevated Flares

There are two flare towers located on the Exxon-Mobil property near the proposed alignment (see Figure 3.8-1). These towers, which burn excess gases from the refinery, are approximately 100 feet in height and are located approximately 500 feet from the proposed alignment at its nearest point. The heat of combustion value for the flare gases is 18,116 BTU/lb[1], and the fraction of heat radiation from each flare is 0.215. The flares are active intermittently, only when gas must be burned due to "upset" conditions (e.g., power outages or during equipment tests) at the refinery; otherwise, only a small pilot flame is visible at the top of the towers. When active, the height of the flame extends even further from the top of the structure.

Liquefied Petroleum Gas (LPG) Storage Area

There are two LPG storage tanks located on the Exxon-Mobil property near the project area. One tank has a capacity of 113,400 gallons and is used to store propane. The other tank stores butane and has a capacity of approximately 210,000 gallons. The two tanks are located 853 and 1,099 feet, respectively, from the fence line.

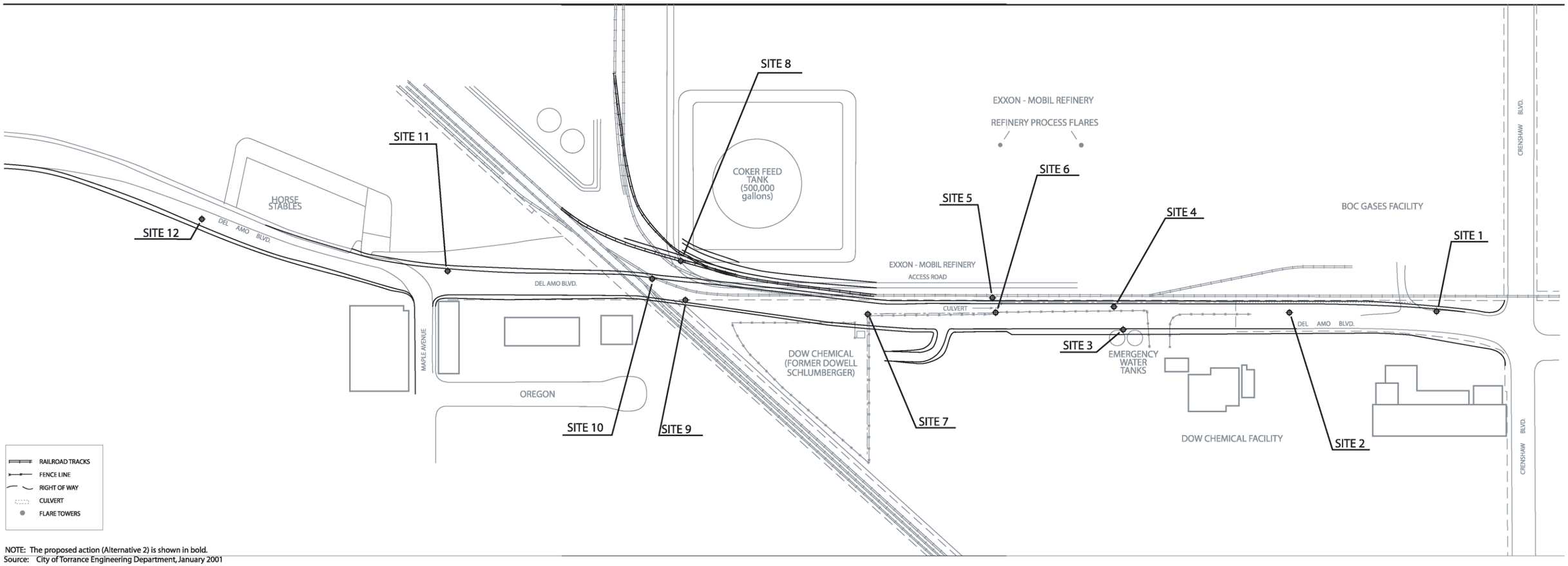
Coker Feed Tank

The 500,000-gallon capacity coker feed tank, which contains heated residuum (a relatively stable, nonvolatile material), is located on the Exxon-Mobil property, approximately 175 feet from the proposed roadway corridor. A dike, which surrounds the tank, is located immediately adjacent to the southern fenceline of the property. The tank has a nitrogen gas blanket, nitrogen purge, and vapor recovery system.

Hazardous Materials

A preliminary environmental site assessment completed in 1991 identified potential hazardous conditions along the proposed alignment due to past uses of the property (Schaefer Dixon 1991). In addition, a Phase II soil investigation report was prepared for this project in 2001, which included a limited number of soil samples to determine if environmental conditions identified in historical records could affect the proposed project.

[1] British thermal unit per pound.



NOTE: The proposed action (Alternative 2) is shown in bold.
Source: City of Torrance Engineering Department, January 2001

Figure 3.8-1
Soil Sampling Sites and Hazard Locations

Del Amo Boulevard Extension Project
00156 Del Amo Blvd/Soil Analysis 1 7/5/01

Figure 3.8-1. SOIL SAMPLING SITES AND HAZARD LOCATIONS (cont.)

Records Search

Groundwater is affected by releases of petroleum hydrocarbons and chlorinated solvents in several areas near the proposed alignment, as described in Section 3.4, Floodplain, Water Resources, and Hydrology. The Exxon-Mobil Refinery has ongoing investigations, monitoring, and remediation north and south of Del Amo Boulevard between Madrona Avenue/Prairie Avenue and Maple Avenue and north of the proposed alignment between the BNSF railroad ROW and Crenshaw Boulevard. Exxon-Mobil's investigations and remedial efforts span more than 10 years.

Files at RWQCB and the City indicate that Dow Chemical removed a leaking underground storage tank (UST) in 1995 but has no ongoing soil or groundwater investigations, monitoring, or remedial action. A brief summary of the UST soil excavation report is presented below.

Dow Chemical operated a 5,000-gallon gasoline tank and fuel dispenser for fleet refueling. The tank was located approximately 400 feet south of the fence line adjacent to the aboveground emergency water storage tanks. The UST, associated piping, and dispenser were removed in August 1995. Total petroleum hydrocarbons in the gasoline range were reported at a concentration of 9,600 ppm in soil samples collected from the bottom of the resulting excavation on the western side. In addition, BTEX concentrations were also reported in samples.

The excavation remained open until additional soil was removed in November 1995 to an approximate length and width of 30 feet by 40 feet and an approximate depth of 30 feet below ground surface. Samples taken from the perimeters of the larger excavation were below reporting limits for all petroleum-related compounds along the north, east, and south walls and from the bottom of the excavation. The excavation was filled with pea gravel to within five feet of ground surface and then filled to the surface with soil provided by Dow Chemical. Records do not indicate that additional work was requested by the lead regulatory agency.

Soil Sampling

For this project, a field investigation was undertaken to verify the presence or absence of potential contaminated conditions rather than determine the lateral and vertical extent of the conditions. A total of 12 locations were selected for soil testing. Two samples were planned at different depths at each location to estimate the volume of contamination, if any was present. Sample depths were kept shallow because grading and compacting activities for the foundation of the roadway are expected to occur within the first five to ten feet beneath the existing grade. The results of the soil sampling activities are summarized in Table 3.8-1. A complete list of analytical results and a map showing the soil sampling locations are provided in Appendix C.

As shown in Table 3.8-1, contaminants associated with refined petroleum were reported at four locations. Each of the locations are separated from each other by at least 200 feet indicating that

Table 3.8-1. Phase II Soil Sampling Results

Location		Contaminants	
		Tested	**Present**
1	Corner of Crenshaw Boulevard and Del Amo Boulevard	TPH, VOC	No
2	Unpaved parking area across from main entrance of Dow Chemical facility	TPH, VOC, CAM metals, semi-VOC	Yes
3	Between the emergency water storage tanks at Dow Chemical facility	TPH, VOC	No
4	North of emergency water storage tanks adjacent to storm channel	TPH, VOC	No
5	Adjacent to storm channel and west of Location 4	TPH, VOC	Yes
6	Adjacent to storm channel at entrance to culvert, south of Location 5	TPH, VOC	No
7	Adjacent to storm channel at entrance to former Dowell Schlumberger Facility	TPH, VOC	No
8	Intersection of "C" and 7th Streets inside Exxon-Mobil Refinery	TPH, VOC, CAM Metals, semi-VOC	Yes
9	Northwest corner of former Dowell Schlumberger facility parcel	TPH, VOC, CAM Metals, semi-VOC	Yes
10	Intersection of BNSF Railroad and SCRRA right-of-way rail spur	TPH, VOC	No
11	Drainage area at entrance to soils pile area	TPH, VOC	No
12	Western end of proposed alignment	TPH, VOC	No

TPH = Total petroleum hydrocarbons
VOC =Volatile organic compounds
CAM = California Assessment Manual
semi-VOC = Semi-volatile organic compounds

the contaminants likely originate from different sources. In general, when contaminants were reported in one or both samples from the same location, they were reported at lower concentrations in samples collected five feet beneath the surface than in samples collected six inches beneath the surface. This difference in concentration usually indicates that the quantity of contaminant released was small or the physical properties of the contaminant limit the movement of the contaminant through the soil. Additional testing results from the Phase II Soil Investigation are provided in Appendix C.

Groundwater Contamination

Groundwater contamination under the project site is discussed in Appendix C and Section 3.4, Floodplain, Water Resources, and Hydrology, of this EIR/EA. In general, groundwater contamination has resulted from releases of petroleum hydrocarbons and chlorinated solvents in several areas near the proposed alignment. The shallow perched aquifer and underlying Gage-Gardena aquifer contain non-aqueous phase hydrocarbons and dissolved constituents of petroleum hydrocarbons. Other dissolved petroleum related constituents and chlorinated solvents were also detected in these aquifers. Samples from the deeper Lynwood-Silverado aquifer also contain BTEX at concentrations near reporting limits.

3.8.2 Significance Criteria

The proposed action would result in significant hazards or hazardous materials impacts if the project would:

- create a substantial distraction to motorists;
- create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- be located on a site that is included on a list of hazardous materials sites compiled pursuant to government code section 65962.5 and, as a result, would create a significant hazard to the public or the environment; or
- impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

3.8.3 Impacts

Alternative 1: No Action Alternative

Implementation of the No Action Alternative would result in the continued use of the site in its existing condition. The soil and groundwater contamination that occurs at various locations on site would remain, and the potential exposure to hazardous materials during construction activities would not occur. Impacts related to hazards or hazardous materials would not occur under this alternative.

Alternative 2: 55 MPH Design Speed with MSE Retaining Wall

Hazards

In May 1999, a Hazards Analysis was conducted for the Del Amo Boulevard Extension project. This report, included in Appendix F, analyzed potential overpressure and thermal hazards associated with events that could potentially impact motorists, pedestrians, or vehicles on the proposed Del Amo Boulevard extension. The results of this analysis and the recommended mitigation measures are summarized below.

Elevated Flares

The roadway would traverse the southern boundary of the Exxon-Mobil property, within approximately 500 feet of the elevated flare towers. These towers would be visible on the north side of the road to vehicles traveling between Crenshaw Boulevard and Maple Avenue. Operation of the

flares may attract the attention of drivers, resulting in hazardous driving conditions along the proposed roadway.

The flare towers are operated frequently on an intermittent basis, as needed at the refinery. No historical data is available regarding the frequency of activation of the flares. The process is unpredictable, and there is no typical hour or duration. In the event that the flare towers are active or become active while traffic is on Del Amo Boulevard, motorists traveling in both directions may be distracted by the flames from the tower. In particular, cars traveling eastbound would be most susceptible to distractions. Eastbound traffic between Prairie Avenue and the flare towers would have the most unobstructed view of the towers from the highest roadway elevation. If a motorist became distracted by the flames, the likelihood for an accident would increase. The potential for distractions would be greatest during the nighttime, when the flames would be most visible in contrast to the surrounding night sky. Although the central median along the Del Amo Boulevard extension would reduce the potential for head-on collisions, impacts related to driver distraction would be potentially significant.

The hazards analysis included in Appendix F also analyzed the effect of the heat generated by the flare towers at the proposed roadway. The "likely longer-duration event" could yield a heat flux of approximately 2 kiloWatts per square meter (kW/m^2), compared to the solar radiation on a clear, hot summer day, which is approximately 1 kW/m^2. For peak (non-credible worst-case) scenarios, the conservatively calculated radiant heat flux is only slightly larger than the EPA's threshold of 5 kW/m^2 (Risk Management Professionals 1999).

Worst-case flaring events would be of short duration. During unit upsets, operators of the Exxon-Mobil Refinery implement emergency operating procedures to gain control of the unit and minimize the hydrocarbons directed to the flare. As indicated in the hazards analysis, the current location of the elevated and ground flares is considered acceptable in relation to the roadway. The proposed roadway would not include bicycle lanes or a pedestrian sidewalk on the north side of the road between Crenshaw Boulevard and Maple Avenue; however, these facilities would remain in consideration as an option on the south side of Del Amo Boulevard between Crenshaw Boulevard and Maple Avenue. This would avoid potential heat impacts to potentially susceptible persons. Accordingly, impacts related to heat from the flare towers would be less than significant.

Liquefied Petroleum Gas (LPG) Storage Area

The risk of upset at the Exxon-Mobil Refinery, although unlikely, would expose drivers to a potentially significant impact. An unconfined vapor cloud explosion (UVCE) in the LPG storage area could result in a "vapor cloud fire" near the site. Based on the heat flux hazard analysis prepared for this project, the fenceline overpressure would be approximately 1 pound per square inch gauge (psig). Although impacts are unlikely, the potential hazards are only marginally acceptable and, therefore, considered potentially significant.

Coker Feed Tank

Construction of the roadway would require removal of a portion of the berm surrounding the 500,000-gallon storage tank. The berm would be replaced as part of the project; therefore, this alternative would not affect the reliability and safety of the facility.

The new roadway would pass within approximately 200 feet of the tank. Although the residuum in the tank is considered a flammable material, it is difficult to ignite and is considered a relatively stable non-volatile material that would not be expected to have a boil-over potential (Risk Management Professionals 1999). If combustion occurs, sulfur dioxide would be released into the air. Due to the proximity of the tank to the proposed roadway, the risk of upset would pose a potentially significant effect at the roadway.

Soil Contamination

Construction of the roadway would require approximately 8,800 cubic yards of soil excavation and disposal. As described above, some of this soil may be contaminated with TPH, VOCs, and CAM metals. At a minimum, soil contamination would be expected to occur at the following locations: (1) unpaved parking area across from main entrance of the Dow Chemical facility; (2) north and west of the emergency water storage tanks near the railroad spur; (3) intersection of "C" Street and 7th Street inside Exxon-Mobil Refinery; and (4) northwest corner of former Dowell Schlumberger Facility parcel. Exposure to contaminated soils would be considered a potentially significant impact to public health and worker safety.

Groundwater Contamination

The proposed action would not expose construction workers or the general public to groundwater contamination, nor would it exacerbate existing groundwater contamination under the site. Impacts related to hazards from groundwater contamination would be less than significant.

Other Hazards

There are no existing or proposed schools within one-quarter mile of the project site. Therefore, impacts related to hazards or hazardous materials at school sites are not anticipated.

Completion of the Del Amo Boulevard extension would facilitate emergency access throughout the City by completing an important programmed roadway segment. As discussed above, however, the project is located in an area subject to potential safety hazards from nearby industrial activities. If an emergency (e.g., fire or explosion) were to occur at the industrial sites adjacent to the alignment, motorists may be unable to safely exit the area. This would result in potentially significant impacts to public safety during emergency situations.

The project would not impair implementation of or physically interfere with adopted emergency response or evacuation plans.

Alternative 3: 55 MPH Design Speed with Type 1 Retaining Wall

Under this alternative, the location of the road would be the same as Alternative 2. Alternative 3 would require approximately 43,800 cubic yards of fill material more than Alternative 2, and the footprint would be slightly larger; however, the amount of excavation would be the same for both alternatives. Accordingly, Alternative 3 would result in impacts to hazards and hazardous materials similar to those described under Alternative 2. Impacts related to soil contamination, risk or upset, driver distraction, and emergency evacuation would be potentially significant, while impacts to groundwater contamination, heat flux, and schools would be less than significant.

Alternative 4: 50 MPH Design Speed with MSE Retaining Wall

Under this alternative, the location of the road would be the same as Alternative 2. Alternative 4 would require approximately 2,800 cubic yards of fill material less than Alternative 2 because this design speed would allow the use of shorter vertical curves, reducing the roadway fill that would be required. Accordingly, Alternative 4 would result in impacts to hazards and hazardous materials similar to those described under Alternative 2. Impacts related to soil contamination, risk or upset, driver distraction, and emergency evacuation would be potentially significant, while impacts to groundwater contamination, heat flux, and schools would be less than significant.

3.8.4 Mitigation Measures

Impacts related to hazards and hazardous materials would be reduced for Alternatives 2, 3, and 4 through the implementation of the following mitigation measures:

Soil Contamination

- The City shall prepare and implement a soil remediation plan for the project. Under the Resource Conservation and Recovery Act (RCRA), the current property owners may be required to implement soil remediation prior to the City's acquisition of the road right-of-way. The soil remediation plan shall incorporate the results and recommendations provided in the Phase II Soil Investigation Report prepared for this EIR/EA. The plan shall characterize the extent of soil contamination in the project area and identify appropriate methods for removal and disposal of contaminated soil. Additional testing may be required to determine the extent of contamination within the areas of excavation.

  In areas of suspected contamination, surface samples shall be analyzed using appropriate collection and sampling techniques. During excavation, soils shall be segregated, sampled, and tested to determine the appropriate disposal and treatment options, which could include in-situ

remediation. If the soils exceed the applicable screening criteria established by the RWQCB or are classified as hazardous (according to Resource Conservation and Recovery Act [RCRA] and Cal. Code Regs. Title 22), soils shall be hauled to a Class I landfill or other appropriate soil treatment and recycling facility.

- Soil remediation and the costs associated on the land dedicated by the Exxon Mobil Corporation will be the responsibility of Exxon Mobil, as stated in a Memorandum of Understanding dated May 11, 1999 between the City of Torrance and the Exxon Mobil Corporation (formerly Mobil Oil Corporation).

- The City shall enter into an agreement with Dow Chemical regarding disposal of any contaminated soil encountered during roadway work. This agreement shall be included in the ROW Memorandum of Understanding for the project.

- The construction contractor shall hire a certified industrial hygienist to prepare a worker health and safety plan for the project. This plan must conform to U.S. Occupational Health and Safety Administration (OSHA) requirements for construction sites with hazardous materials present during construction. An independent consultant shall be hired to monitor compliance with the plan.

Hazards

A number of the following mitigation measures were recommended as part of the hazard analysis conducted for the project (Appendix F). The page numbers in parenthesis following some of the mitigation measures indicate where the measures can be found in Appendix F. The City would be responsible for implementing these measures; however, the cost of implementation shall be established in a written agreement between the City and Exxon-Mobil.

<u>Risk of Upset</u>

- "No Loitering" signs shall be installed on the southern fenceline of the Exxon-Mobil Refinery; sign posting shall require permission from and coordination with Exxon-Mobil (page 49).

- Traffic signalization or equivalent safety measure for the proposed roadway shall be implemented so that traffic, even during rush hour, is not backed up and "stalled" at the point closest to the elevated flare towers and the LPG storage area (page 49).

- The frequency of testing and inspection of equipment in the LPG storage area shall be increased to further minimize the likelihood of a potential hydrocarbon release (page 50).

- Ambient hydrocarbon detectors shall be installed on the southern perimeter of the South Oil Movements LPG Storage Area. A total of four detectors, the exact locations to be determined by the Exxon-Mobil Refinery, shall be installed (page 50).

- Fire hydrants shall be required every 300 feet along the proposed Del Amo Boulevard extension.

- Sidewalks or bicycle paths shall not be permitted on the north side of Del Amo Boulevard between Crenshaw Boulevard and Maple Avenue.

Driver Distraction

- The safety report recommends that signage be placed along both ends of the Del Amo Boulevard extension, suggesting that motorists focus on their driving, even while a flaring event is in progress (page 49). Prior to implementation of this measure, the City would make a final decision on whether or not the signs would be more of a distraction to drivers.

- A brief article regarding the proposed project shall be prepared and presented in the Community Report prepared by Exxon-Mobil. The article, meant to minimize the potential for driver distraction, shall inform the community of the potential for flaring events to occur while driving on the new roadway segment (page 50).

Emergency Response and Evacuation

- Remotely operated physical barriers (e.g., crossing gates) shall be constructed on both ends of the Del Amo Boulevard extension. The operation of these barriers shall be integrated with the operation of the existing barrier on Crenshaw Boulevard south of 190th Street. The City and Exxon-Mobil shall prepare a joint activation protocol for the barriers (page 50).

- Traffic signalization shall include emergency traffic light sequencing capabilities for Del Amo Boulevard (page 49).

- A median break similar to the ones installed on Crenshaw Boulevard between Del Amo Boulevard and 190th Street shall be provided in the final design of the roadway improvements.

- The traffic flow diagrams in the Safety Advisor's Evaluation of Traffic Control Systems shall be updated to include the Del Amo Boulevard extension. Familiarization training shall be provided to Torrance Police Department personnel regarding the changes in traffic flow and the project's safety features (e.g., remotely operated barriers, etc.) (page 50).

- A physical barrier shall be considered along the north side of the proposed roadway to resist the potential overpressure from an explosion and to mitigate potential radiation from such an explosion and flares.

3.8.5 Significance After Mitigation

Alternative 1 would not result in impacts to hazards or hazardous materials. Significant impacts associated with Alternatives 2, 3 and 4 would be reduced to less than significant levels after implementation of the mitigation measures identified above.

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3.9 CULTURAL RESOURCES

A Historic Property Survey Report (HPSR), which includes a negative Archaeological Survey Report (ASR) and a Historic Resources Evaluation Report (HRER), was prepared for the project (Appendix J). The HPSR/ASR/HRER was submitted to Caltrans, FHWA, and the State Historic Preservation Office in May 2003. This section reflects the findings of the HPSR/ASR/HRER.

3.9.1 Affected Environment

Regional Prehistory

The Los Angeles area was initially inhabited approximately 11,500 years ago by highly mobile foragers who mainly focused on hunting terrestrial game. Approximately 3,000 years ago, these indigenous populations began to form settlements and make technological advances.

The project site is located in an area once inhabited by the Gabrieleño or Tongva peoples. At the time of contact with the Spanish in 1769, their territory extended from the San Fernando Valley in the north to Laguna Niguel to the south, and from Topanga Canyon in the west to San Bernardino in the east. They lived in villages near water sources with secondary hunting and gathering camps in the surrounding area. The ancestors of the Tongva/Gabrieleño peoples were Shoshonean speakers who migrated to the Los Angeles region around 500 B.C.

History of the City of Torrance

Jared Sidney Torrance founded the City of Torrance in 1911, when he purchased approximately 3,000 acres of the Rancho San Pedro from the Dominguez family. Torrance wanted to build a planned residential and industrial community and hired the Olmsted Brothers of Boston, Massachusetts, to design his vision of a planned garden-industrial community. By 1921, petroleum was discovered in the City of Torrance, which greatly increased interest in the community. The City of Torrance was incorporated in 1921.

Records and Literature Search

Initial investigations for this project began with a records search, conducted on November 27, 2000 and updated on April 28, 2003, at the South Central Coastal Information Center (SCCIC), at California State University, Fullerton. This search included a review of resources that are listed on the National Register of Historic Places (National Register), the California Historical Landmarks, and California Points of Historical Interest. Research was also conducted at the following places: the First American Corporation real estate database <https://fwprodweb1.firstam.com> (for assessor's information), the Los Angeles Public Library (Sanborn Fire Insurance maps and historic photographs), and the City of Torrance Planning Department (for building permits). A tour of the Dow Chemical manufacturing plant was given by Fred Smalling, who provided information on the

dates of construction for the buildings and structures on that property. Information from all of the abovementioned sources was used to confirm that one parcel within the APE had buildings that were built prior to 1957 (Appendix J). In addition, the research showed that two of the three railroads that pass through the area were constructed prior to 1957.

As described in the Negative Archaeological Survey Report (ASR) (Appendix J), the records search revealed that no archaeological sites had been previously recorded within the project APE. One archaeological site, however, had been recorded within a 1-mile radius of the project site. Site CA-LAN-100, recorded by F. H. Racer in 1939, is located at the intersection of 190th Street and Hawthorne Boulevard. Racer indicates that a single mano and a single metate were observed at the site. The records search also provided information about the built environment. It showed that there are no National Register, California State Historical Landmarks, or Historic-Cultural Monuments within the project APE. There are, however, one National Register resource and 29 Historic Resource Inventory listings within a 1-mile radius of the project site. The majority of these resources are to the south of the project area and consist mostly of residences built between 1910 and 1930.

Also as part of this investigation, EDAW conducted a Native American/Interested Parties contact program to inform the local community of the proposed project and to address any concerns regarding Traditional Cultural Properties or other resources that might be affected by the project. The contact program involved contacting local Native American representatives and the Torrance Historical Society to solicit comments and concerns regarding the project. To date, one comment has been received. This response was received from Mr. Anthony Morales, Gabrieliño Tribal Chairperson, who requested that the Tribe be involved in all phases of ground-disturbing activities and/or preservation of sites and that caution be taken because this project falls within the highly sensitive Alameda Corridor. A copy of the contact letters are appended to the ASR.

3.9.2 Significance Criteria

Federal

Section 106 of the National Historic Preservation Act requires Federal agencies to take into account the effects of their undertakings on historic properties (resources that qualify for inclusion on the National Register of Historic Places) and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The Section 106 process seek to accommodate historic preservation concerns with the needs of Federal undertaking through consultation among the Agency Official and other parties with an interest in the effects of the undertaking. The goal for consultation is to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize, or mitigate any adverse effects on historic properties. Regulations for implementing Section 106 are provided in 36 CFR Part 800.

State

The CEQA Guidelines establish that a project would have a significant effect on cultural resources if it would result in one or more of the following:

- cause a substantial adverse change in the significance of a historical or archaeological resource (Cal. Code Regs., Title 14, § 15064.5), or
- disturb any human remains, including those interred outside of formal cemeteries.

Additionally, a cultural resource is considered "historically significant" under CEQA if the resource meets the criteria for listing on the California Register of Historical Resources (California Register). The California Register was designed to be used by state and local agencies, private groups, and citizens to identify existing historical resources within the state and to indicate which of those resources should be protected, to the extent prudent and feasible, from substantial adverse change. The following criteria have been established for the California Register (Pub. Res. Code § 5024.1; Cal. Code Regs., Title 14, § 4852). A resource is considered significant if it:

- is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- is associated with the lives of persons important in our past;
- embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- has yielded, or may be likely to yield, information important in prehistory or history.

Additionally, any California site eligible for the National Register is considered eligible for the California Register. When considering a resource for listing on the California Register, the resource must be old enough so that sufficient time has passed to obtain a scholarly perspective on the events or individuals associated with the resource. A resource that is more than 50 years old meets this criterion, but more recent resources may not. Resources less than 50 years old must be exceptionally significant to be considered for listing on the California Register or the National Register.

3.9.3 Impacts

Alternative 1: No Action Alternative

The No Action Alternative would result in the continued use of the site in its existing condition. Since the proposed bridge and roadway extension would not be constructed, no ground disturbance, which could result in the uncovering of archaeological resources, would occur. No impacts to cultural resources would occur under this alternative.

Alternative 2: 55 MPH Design Speed with MSE Retaining Wall

Historic Resources

Two railroads and one complex (which includes seven building/structures built prior to 1957) have been identified in the APE as structures built before 1957 (Appendix J). They have been recorded and provisionally evaluated as not eligible for listing on the National Register. Within the APE, four properties were treated under the "Caltrans Interim Policy for the Treatment of Buildings Constructed in 1957 or Later."

Archaeological Resources

The project site has been altered by previous construction activities, and this surface disturbance may have destroyed evidence of past human occupation within the APE. Site CA-LAN-100, located at the intersection of 190th Street and Hawthorne Boulevard, which is nearly ¾ of a mile from the project area. Project construction and operation will not affect this resource. Although it is possible that subsurface archaeological artifacts may be discovered during construction of the roadway extension, the probability of encountering buried archaeological resources is low. Impacts to archaeological resources are considered to be not significant.

Alternative 3: 55 MPH Design Speed with Type 1 Retaining Wall

Impacts associated with this alternative would be similar to those identified for Alternative 2. Alternative 3 would require approximately 8,800 cubic yards of excavation, which is the same as required for Alternative 2. Therefore, the level of significance of impacts associated with Alternative 3 would be the same as those described for Alternative 2.

Alternative 4: 50 MPH Design Speed with MSE Retaining Wall

Impacts associated with this alternative would be similar to those identified for Alternative 2. Alternative 4 would require approximately 8,800 cubic yards of excavation, which is the same as required for Alternative 2. Therefore, the level of significance of impacts associated with Alternative 4 would be the same as those described for Alternative 2.

3.9.4 Mitigation Measures

The following mitigation measures would reduce impacts associated with archaeological resources to a less than significant level:

- The City will be responsible for providing an archaeological monitor during excavation. If any cultural resources are found during site excavation and other ground-disturbing activities, work shall be halted in the area immediately until the resource can be assessed by a qualified archaeologist and recommendations for treatment can be made.

- In the event that archaeological artifacts are recovered, the disposition of those artifacts will be undertaken in consultation with culturally affiliated Native Americans.

- In the event that human remains are found during the excavation process, the City shall immediately halt all excavation and comply with the provisions of Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98, which mandates the process to be followed in the event of an accidental discovery of human remains in a location other than a dedicated cemetery.

No significant impacts to historic resources would occur as a result of the proposed project; therefore, no additional mitigation measures are required.

3.9.5 Significance After Mitigation

Alternative 1 would not affect cultural resources. Impacts associated with Alternatives 2, 3, and 4 would be less than significant after mitigation.

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3.10 BIOLOGICAL RESOURCES

This section evaluates existing biological resources at the site and potential impacts associated with development of the project alternatives. Information in this section is derived from a biological survey completed as part of this EIR/EA process, which involved a site survey and report prepared by a trained, professional biologist. A copy of the report is presented in Appendix G. Correspondence from the US Army Corps of Engineers is also included in Appendix G.

3.10.1 Affected Environment

The project site is located within the South Coast Bioregion, an area which extends from the southern half of Ventura County to the Mexican border, and east to the edge of Mojave Desert. The project site is predominantly surrounded by built environments, including the Exxon-Mobil Refinery to the north, and the Dow Chemical facility to the south. The project site is not located within any local, regional, or state habitat conservation areas.

Vegetation

Across much of the project site the vegetation is disturbed. Weedy species noted on-site include Bermuda grass (*Cynodon dactylis*), horseweed (*Conyza canadensis*), filaree (*Erodium* sp.), castor bean (*Ricinus communis*), and pampas grass (*Cortaderia* sp). An unlined drainage ditch is located along the eastern portion of the site (Figure 3.10-1); however, the dominant species of wild oats (*Avena* sp.) filaree, mustard (*Brassica* sp.), and pampas grass, are upland, rather than riverine, species.

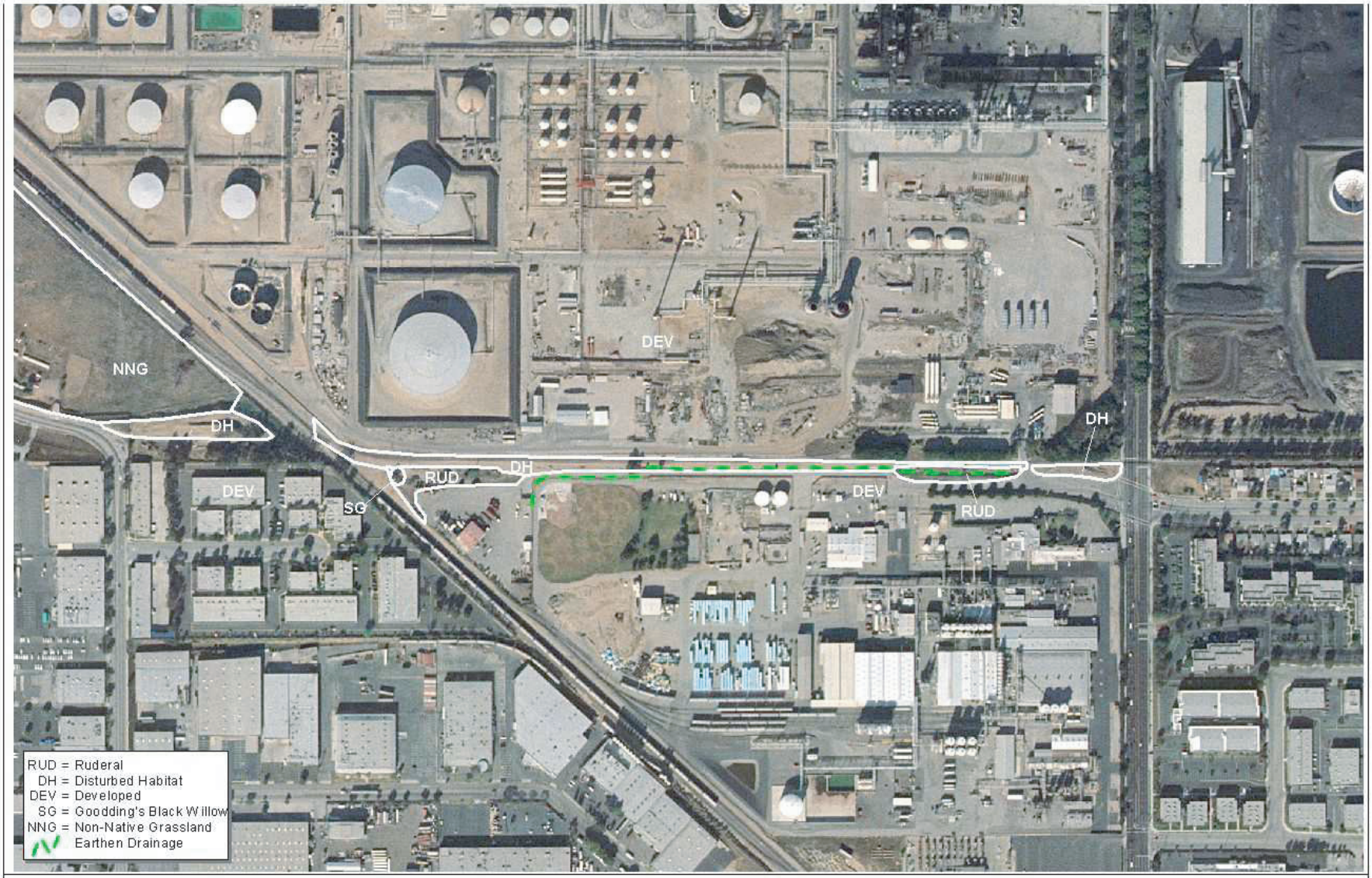
The western end of the site, west of the BNSF Railroad track but east of the horse stables, is dominated by disturbed habitat, ornamental trees, and non-native grasslands. This area could not be surveyed on foot because it was private property and fenced. Observations were made from outside of the fence at Maple Avenue.

There is one isolated, mature Goodding's black willow (*Salix gooddingii*) at the fork in the railroad tracks (see Figure 3.10-1). This isolated tree provides very little value as wildlife habitat, as there is no understory vegetation under this tree and railroad repair equipment is stored beneath its canopy. This willow is located approximately 400 feet from the drainage and is not associated with any existing drainage features. Though a logical argument could be made that the presence of this tree is an indication of a historical stream, the conditions on site have been present for such a long time, that they now represent the normal conditions.

According to the U.S. Army Corps of Engineers (ACOE) 1987 Wetlands Delineation Manual, an area must meet specific criteria for hydrophytic vegetation, hydrology, and hydric soils in order to be designated as jurisdictional wetlands. Certain species, such as pigweed (*Chenopodium* sp.), Mexican

Del Amo Boulevard Extension

00156 Del Amo Blvd Extension\Projects\veg map fig.apr 12/18/00



Source: Landiscor Aerials

NORTH

No Scale

Figure 3.10-1
On-site Biological Resources

sprangletop (*Leptochloa uninervia*), and dallis grass (*Paspalum dilatatum*), are typical of such wetlands.

The unlined drainage on site does not meet the hydrophytic vegetation criteria as there were fewer than 50 percent wetland species within the dominant species. Pursuant to the 1987 Manual, if an area does not meet the hydrophytic vegetation criteria, the site is not a wetland and the on site determination does not have to proceed investigating the presence of hydrological and hydric soil field indicators, unless there is evidence that the site has been significantly altered.

Though there is evidence of periodic clearing of vegetation within the drainage for flood control, there is no evidence that hydrophytic plants would dominate this drainage in the absence of the periodic clearing. There is not enough water to support hydrophytic vegetation, and as such, it is determined that this drainage does not support wetlands under the jurisdiction of ACOE.

The drainage on the Del Amo Boulevard Extension site is a fairly straight ditch that was excavated on an upland site. Non-tidal drainages excavated on dry land, such this drainage, are usually not considered "waters of the U.S." under the jurisdiction of ACOE. A review of the USGS topographic map for the Torrance Quad did not reveal the presence of a historical blue-line stream at this location. Based on the present site conditions, and the reasonable assumption that these conditions have been present for some time, this drainage does not qualify as ACOE "waters of the U.S." Correspondence from the Los Angeles District of the Corps of Engineers (Appendix G) indicates their concurrence with this determination.

Under Sections 1600-1607 of the California Fish and Game Code, the CDFG regulates activities that would alter the flow, bed channel, or bank of streams, rivers, and lakes. The drainage on site is not likely to support aquatic life as it appears to only convey water immediately after a storm event. For a majority of the year, this drainage is dry, and no riparian vegetation occurs along the drainage. The site is so disturbed and isolated that only urban fringe wildlife use the site. Stream-dependent wildlife do not use the site due to the lack of long-term standing water. As such, the drainage lacks any habitat that would be considered riparian by CDFG, which also regulates jurisdictional drainages, and does not fall under the jurisdiction of CDFG.

Wildlife

The pocket gopher (*Thomomys bottae*) was the only wildlife species observed on site during the survey. Urban fringe species, such as the Norway rat (*Rattus rattus*), opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), and house sparrow (*Passer domesticus*), are the only wildlife species expected to use the site.

The California Department of Fish and Game (CDFG) Natural Diversity Data Base (NDDB) reports several sensitive species known to be located within the U.S. Geological Survey 7.5-minute Torrance Quadrangle map (Torrance Quad), which encompasses the project site. Table 3.10-1 lists these

species and their sensitivity status. As indicated in this table, no federally or state-listed threatened or endangered species are expected to occur on the project site.

Table 3.10-1. Sensitive Species Known from the Vicinity of Project Site

Species Name	Sensitivity Status	Potential for Occurrence
Southern tarplant (*Hemizonia parryi* ssp. australis)	USFWS: SOC CNPS List 1B	This species occurs in estuaries, vernal pools and mesic grasslands. This species would not occur on site due to the lack of suitable habitat and the disturbed condition of the site.
Brand's phacelia (*Phacelia stellaris*)	CNPS List 1B	This species is considered extirpated from Los Angeles County. This species occurs in coastal dune and coastal sage scrub habitats. This species would not occur on site due to the lack of suitable habitat and the disturbed condition of the site.
Monarch butterfly (*Danaus plexippus*)	CDFG: Special Animal	This migratory species roosts in large groves of trees, especially eucalyptus. This species could potentially roost in the large groves of eucalyptus in the industrial parks adjacent to the site.
Palos Verdes blue butterfly (*Glaucopsyche lygdamus palosverdesensis*)	USFWS: FE	This species is currently only known from the Palos Verdes Peninsula. This species is restricted to a single host plant, the southern California locoweed (*Astragalus trichopodes* var. *lonchus*), which grows in coastal sage scrub. This species would not occur on site due to the lack of suitable habitat and the disturbed condition of the site.
San Diego horned lizard (*Phrynosoma coronatum blainvillei*)	CDFG: CSC and Protected	This species typically occurs in sage scrub, chaparral, and woodland communities. This species is not expected to occur on site due to the lack of suitable habitat and the disturbed condition of the site.
Coastal California gnatcatcher (*Polioptila californica californica*)	USFWS: FT CDFG: CSC	This species occurs mostly in sage scrub habitats. This species would not occur on site due to the lack of suitable habitat and the disturbed condition of the site.
California least tern (*Sterna antillarum browni*)	USFWS: FE CDFG: FE	This species nests colonially on bare sandy beaches, estuaries, and mudflats. This species would not occur on site due to the lack of suitable habitat and the disturbed condition of the site.
Agelaius tricolor (nesting colony) (*Agelaius tricolor*)	CDFG: CSC	This species nests in areas of freshwater marsh. This species would not occur on site due to the lack of suitable habitat and the disturbed condition of the site.
Pacific pocket mouse (*Perognathus longimembris pacificus*)	USFWS: FE CDFG: CSC	Only a few populations of this species are known to be extant. This species inhabits coastal strand, sand dunes, ruderal vegetation on river alluvium, and open coastal sage scrub on marine terraces. This species would not occur on site due to the lack of suitable habitat and the disturbed condition of the site.

U.S. Fish and Wild Service (USFWS)
FE = Endangered; FT = Threatened; SOC = Species of Concern.
California Department of Fish and Game (CDFG)
SE = Endangered; CSC = Species of Special Concern.
California Native Plant Society (CNPS) (Skinner and Pavlik 1994)
List 1B - Plants rare and endangered in California and elsewhere.

3.10.2 Significance Criteria

A significant impact would occur if the project would:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or U.S. Fish and Wildlife Service (USFWS);
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFG or USFWS;
- have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident of migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.

3.10.3 Impacts

Alternative 1: No Action Alternative

Implementation of this alternative would result in the continued use of the site in its existing condition. The existing land uses on site would remain, and impacts to biological resources would not occur.

Alternative 2: 55 MPH Design Speed with MSE Retaining Wall

Vegetation

As described above, the solitary willow tree on site does not provide viable wildlife habitat. This particular willow tree is not considered a sensitive resource, and its loss would not be a significant impact. There are no oak trees within the project area.

While some vegetation, including marginal riparian stands and the lone willow tree, would be removed as part of the proposed action, this vegetation is not considered to have significant intrinsic value or significant value as wildlife habitat. As such, the impact to vegetation would be less than significant, and no mitigation would be required.

Wildlife

As indicated in Table 3.10-1, no federally or state-listed threatened or endangered species are expected to occur on the project site. Furthermore, the low habitat value of the project site means that it is unlikely that any significant migratory species would use the site. However, there is the potential for migratory nongame native bird species to nest at the site. Implementation of mitigation would reduce impacts to below the level of significance.

Plan Consistency

There are no plans specific to this locality which would be impacted by this development. Therefore, this alternative would not conflict with preservation policies and ordinances.

Alternative 3: 55 MPH Design Speed with Type 1 Retaining Wall

The impacts of Alternative 3 on biological resources would be identical to those identified for Alternative 2. As with Alternative 2, Alternative 3 would not affect sensitive species, wetlands, or wildlife, and would not conflict with preservation policies and ordinances with the implementation of mitigation. Accordingly, Alternative 3 would result in less than significant impacts to biological resources.

Alternative 4: 50 MPH Design Speed with MSE Retaining Wall

The impacts of Alternative 4 on biological resources would be identical to those identified for Alternative 2. As with Alternative 2, Alternative 4 would not affect sensitive species, wetlands, or wildlife, and would not conflict with preservation policies and ordinances with the implementation of mitigation. Accordingly, Alternative 4 would result in less than significant impacts to biological resources.

3.10.4 Mitigation Measures

The following mitigation measure shall be implemented for Alternatives 2, 3, and 4:

- All tree and shrub removal shall occur outside of the nesting bird season (April 1- October 1) for migratory nongame native bird species, in accordance with the federal Migratory Bird Treaty Act. If nesting season cannot be avoided, a pre-construction nesting bird survey shall be conducted to determine the presence/absence of nesting birds. Any positive findings of presence of nesting birds shall be followed by consultation with the California Department of Fish and Game.

3.1.5 Significance after Mitigation

Alternative 1 would not result in impacts to biological resources. Alternatives 2, 3, and 4 would result in less than significant impacts after implementation of the mitigation measure identified above.

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3.11 PUBLIC SERVICES AND UTILITIES

This section describes the affected environment, significance criteria, impacts, mitigation measures, and significance after mitigation for public services and utilities. In particular, the following issues are discussed: fire protection, police protection, electricity, parks and recreation, sewage, storm water drainage, water supply, and other utilities owned by companies in the vicinity of the project site.

3.11.1 Affected Environment

Fire Protection

The City of Torrance Fire Department has jurisdiction over the project site. In addition to fire-fighting duties, the City of Torrance Fire Department also provides pre-hospital emergency medical care for all injuries and illness calls within the City of Torrance. The Fire Department operates six fire stations within the City. Four of the six fire stations are located in the project vicinity. Information on these four stations is shown in Table 3.11-1.

Table 3.11-1. City of Torrance Fire Stations

Fire Station No.	Location	Engine Nos.	Rescue Nos.	Truck Nos.
1	1701 Crenshaw Boulevard	91, 97	91	91
3	3535 West 182nd Street	93	93	--
5	3940 Del Amo Boulevard	95	--	--
6	21401 Del Amo Circle	96	96	96

The response order for the eastern end of the project site is currently Station 1, then Station 3. At the western end of the project site the primary responder is Station 5, then Station 1 and Station 6. The average response time within this area of the City is 4 minutes.

Current staffing and equipment levels are considered adequate; however, the Fire Department plans to add a paramedic assessment team to Station 5 to improve service to the western portion of the City. Construction of a new fire station, Station Number 7, on the northeast corner of Del Amo Boulevard and Van Ness Avenue, is due to commence in 2005. This station is expected to house an additional paramedic rescue unit (Thompson 2001).

Police Protection

The Torrance Police Department, located at 3300 Civic Center Drive, provides law enforcement services for the project area. Response time to emergency calls is estimated at between three to five minutes from either of the two units which routinely patrol the area.

Schools

The proposed project area is within the Torrance Unified School District. There are approximately 16 schools within a two-mile radius of the project site (Figure 3.11-1). The closest school to the project area is Madrona Middle School, located approximately one-mile south of the proposed project.

Electricity

Electrical power at the project site is provided by SCE. Belowground and aboveground distribution lines, carrying 50,000 and 4,000 volts, respectively, are provided within the City by SCE. Distribution lines conveyed by large pylons carry between 16,000 and 1 million volts. On the Exxon-Mobil Refinery site, SCE provides 16,000- and 4,000-volt power lines; however, the refinery may operate additional lines (Schreiver 2002).

Parks and Recreation

There are approximately 25 public/regional parks located within a 2.5-mile radius of the project site, but there is only one park located within the immediate project vicinity. This park is a private baseball park located inside the gates of the Dow Chemical manufacturing plant. There are no other parklands within the project area.

Sewage

The project site is located within Los Angeles County Sanitation District Number 5. The Sanitation District maintains a 24-inch trunk sewer and sewer laterals that traverse the project site.

Solid Waste

The City does not use a specific landfill for the disposal of solid waste. The solid waste generated in the City is properly disposed of by private contractors.

Storm Drainage

The project site, like much of the City, is relatively flat to gently undulating. The intersection of Crenshaw Boulevard and Del Amo Boulevard lies approximately 35 feet lower than the intersection of Maple Avenue and Del Amo Boulevard. An overgrown, existing drainage channel runs parallel to the Dow Chemical site boundary. Occasional flooding may occur; however, the project site does not fall within an identified floodplain (see Section 3.4, Floodplain, Water Resources, and Hydrology). The City of Torrance and the Los Angeles County Flood Control District provide flood protection and storm water services to the project site. No formal storm water facilities are located at the project site.

Figure 3.11-1
Location Map of Schools in the Vicinity

Water Supply

The Metropolitan Water District (MWD) provides most of the City's potable water from the Colorado River Aqueduct and the State of California Water Project aqueduct. The 24-inch Dominguez Water line traverses the project site.

Other On-site Utilities

Several private utility lines cross the project site or would be affected by the proposed project. These include a 20-inch Chevron Oil Company line, an 8-inch Mobil Oil Company line, and a 16-inch Arco Company line. The locations of these lines are shown in Figure 2.3-1 in Chapter 2.0 of this document.

3.11.2 Significance Criteria

A significant effect on public services and utilities would occur if the project would:

- result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:
  - fire protection
  - police protection
  - schools
  - parks
  - other public facilities;
- exceed wastewater treatment requirements of the RWQCB;
- require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- require new or expanded entitlements for water supply;
- result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs; or
- conflict with federal, state, and local statutes and regulations related to solid waste.

3.11.3 Impacts

Alternative 1: No Action Alternative

Implementation of this alternative would result in the continued use of the site in its existing condition (e.g., access road, railroad activity, storage). The existing land uses on site would remain; therefore, no foreseeable disturbance to under- and aboveground utilities would occur. The No Action Alternative would not provide the benefits associated with the roadway extension, such as improved emergency response times and improved traffic circulation. Impacts to public services and utilities would be less than significant under Alternative 1.

Alternative 2: 55 MPH Design Speed with MSE Retaining Wall

Fire Protection

The expansion of Del Amo Boulevard would improve the Fire Department's ability to promptly travel in an east-west direction through the City, thus improving response times to emergencies. The project would not require new or physically altered fire protection facilities; therefore, impacts would be less than significant.

Police Protection

The proposed project would not generate traffic but would redistribute traffic from 190th Street and Torrance Boulevard. Police response times to emergency and other calls would be expected to decrease as a result of the project. However, increased police presence may be required along the proposed project to control traffic speeds. The project would have a less than significant impact on police protection, as no new or physically altered police protection facilities would be required.

Schools

The proposed project would not result in an increase in population that would require construction of any new schools. The proposed project is not in the immediate vicinity of any schools. The nearest school to the proposed project site, Madrona Middle School, is approximately one-mile south of the project site. The nearest school on Del Amo Boulevard is West High School, located approximately 1.25 miles west of the project site. Construction and operation of the proposed project would not impact the daily operation of any schools in the project vicinity.

Electricity

The electrical uses at the project site include streetlights along Del Amo Boulevard, and associated traffic signal improvements. A new traffic signal would be constructed at the intersection of Del Amo Boulevard/Maple Avenue, and traffic signals would be modified at the Del Amo Boulevard

intersections with Prairie Avenue and Crenshaw Boulevard. The demand for electricity would be low and would be accommodated by existing power supplies in the area. Impacts would be less than significant.

Sewage

The proposed roadway extension would not impact existing sewer capabilities.

Solid Waste

Operation of the proposed roadway extension would not result in the generation of solid waste. There would be a limited amount of solid waste generated from project construction. Recyclable solid waste such as asphalt and concrete shall be disposed of at an appropriate recycling facility. Solid waste resulting from project construction would be properly disposed of at a certified landfill at the discretion of the hired contractors.

Storm Water Drainage

The extension of Del Amo Boulevard would increase the amount of storm water runoff due to the increase in paved surfaces; however, the project would include catch basins and a new 24-inch storm drain to accommodate the increase in surface runoff. The new system would connect to the existing municipal storm water drainage network, which has adequate capacity to handle the increase in flows. Impacts would be less than significant.

Utility Lines

A number of pipes, wires, and underground utilities which traverse the site, would be affected by Alternative 2. These include electricity lines, a 24-inch trunk sewer and sewer lateral, a 24-inch Dominguez Water Company line, a 20-inch Chevron Oil Company line, an 8-inch Exxon-Mobil Oil Company line, and a 16-inch Arco Company line. The potential disturbance of underground utilities, including petroleum pipelines, during construction would be a significant impact, as such events could interrupt service or unleash fuel and lead to a possible fire or explosion. Approval from the responsible agencies for the identification and removal or relocation of each utility would be required prior to commencement of construction.

Alternative 3: 55 MPH Design Speed with Type 1 Retaining Wall

The impacts of Alternative 3 on public services and utilities would be identical to those identified for Alternative 2. Alternative 3 would occupy the same land, require approximately the same quantity of excavation, and have the same traffic distribution as Alternative 2. Potentially significant impacts associated with utility relocations would occur and impacts to fire protection, police protection, electricity, and storm water drainage would be less than significant.

Alternative 4: 50 MPH Design Speed with MSE Retaining Wall

The impacts of Alternative 4 on public services and utilities would be identical to those identified for Alternative 2. Alternative 4 would occupy the same land, require approximately the same quantity of excavation, and have the same traffic distribution as Alternative 2. Potentially significant impacts associated with utility relocations would occur and impacts to fire protection, police protection, electricity, and storm water drainage would be less than significant.

3.11.4 Mitigation Measures

The following mitigation measures shall be implemented for Alternatives 2, 3, and 4:

- Prior to excavation activities, a detailed utility relocation plan shall be prepared by a Registered Civil Engineer, which outlines the proposed relocation of all utilities along the roadway alignment. This plan shall be submitted to the City Fire Department, Engineering Department, and other City departments for review and approval. All utility relocation activities will be undertaken in accordance with the approved plan prior to construction of the Del Amo Boulevard extension.

- Prior to construction, the construction contractor shall coordinate with all utility providers and provide advance notice to adjacent property owners to minimize disruptions to utility services from utility relocations.

- Solid waste shall be disposed of at recycling facilities and certified landfills, at the discretion of the hired contractor. The project specifications and special provisions shall include guidelines for asphalt and concrete materials to be sent to an appropriate recycling facility and, for proper disposal of non-recyclable solid waste generated during project construction.

3.11.5 Significance after Mitigation

Alternative 1 would result in no impacts to public services and utilities. Alternatives 2, 3, and 4 would result in less than significant impacts after implementation of the mitigation measures identified above.

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3.12 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

This section discusses the social and economic impacts of the proposed Del Amo Boulevard Extension project. The analysis addresses direct and indirect employment impacts, consequential demographic impacts, and estimated changes in the demand for local housing and public services. Potential effects on low-income and minority populations, as well as children aged 19 years and under, are also evaluated in accordance with applicable presidential executive orders.

3.12.1 Affected Environment

Federal Regulatory Setting

Environmental justice issues encompass a broad range of impacts covered by NEPA, including impacts on the natural and physical environment, and related social, cultural, and economic effects. Environmental justice concerns may arise from impacts to the health of minority, low-income, and Native American populations. Executive Order 12898 (Environmental Justice, 59 Fed. Reg. 7629 [1994]) requires federal agencies to achieve environmental justice by addressing "disproportionately high and adverse human health and environmental effects on minority and low-income populations." If minority populations are found to be located in the proximity of a proposed project, a determination must then be made as to whether the implementation/development of the proposed project may cause disproportionately high and adverse human health or environmental effects on these populations.

On April 21, 1997, Executive Order 13045, "Environmental Health and Safety Risks to Children," was signed by President Bill Clinton. It was designed to focus federal attention on actions that affect human health and safety conditions that may disproportionately affect children. Executive Order 13045 requires that federal agencies, to the extent permitted by the law, and appropriate and consistent with the agency's mission, shall make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children. This Executive Order also requires each agency to ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.

In accordance with U.S. DOT and Federal Highway Administration Western Resource Center guidance, a low-income population is defined as one with a median income at or below the Department of Health and Human Services (HHS) poverty guidelines. Currently, HHS uses the 2002 U.S. Census Bureau poverty thresholds. In 2002, the poverty threshold for a family of four was $18,556.

Local and Regional Context

When the City of Torrance was incorporated in 1921 it was home to 1,800 people. The City experienced substantial growth during the 1950s and 1960s, at which time most of the City's housing stock was constructed. During that period, population increased at an average rate of over 30 percent per year. Population growth slowed during the 1980s and 1990s. As the City is now largely built out, population has remained relatively stable. Preliminary estimates from the 2000 Census suggest that the City is home to approximately 138,000 residents. By 2025, the population is projected to reach 150,700. The City represents approximately 1.5 percent of the population of the greater Los Angeles-Long Beach area.

Land Acquisition

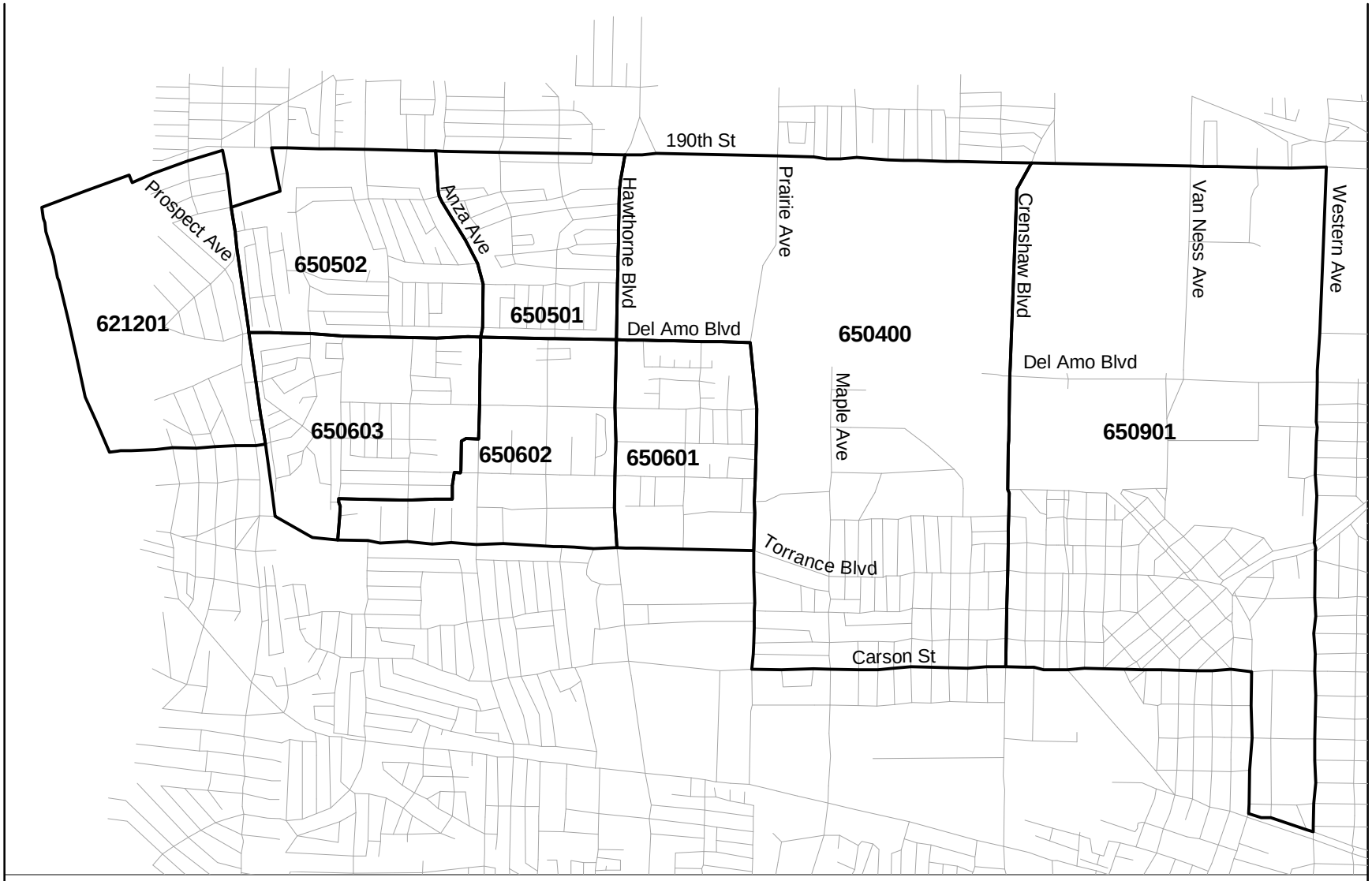
To acquire private property, the Federal government must follow the guidelines of the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 U.S.C. § 4601 [1996]). The Act was created to ensure the fair and consistent treatment of owners of real property, the fair and consistent treatment of displaced persons, and the efficient and cost effective implementation of regulations by Federal agencies. The Act also contains provisions for just compensation, policies for acquisition, and relocation requirements.

California's State Relocation Law (California Government Code Chapter 16 Section 7260 et seq.) applies to programs or projects which cause displacement. The law requires that problems associated with displacement be resolved to minimize adverse impacts on displaced persons and to expedite program or project advancement and completion. Relocation assistance can also be provided under this law.

Race and Ethnicity

The project area lies within eight census tracts, as shown in Figure 3.12-1. A basic demographic profile of each census tract is shown in Table 3.12-1. The most current available data have been used to determine if there are minority or low-income populations in the possible impact area. Then, a secondary analysis is undertaken to determine if those populations would be disproportionately affected.

The percentage of minority residents within the eight census tracts ranged from 27.5 percent (Tract 6212.01) to 58.7 percent (Tract 6506.02). These numbers fall well below the numbers for Los Angeles County and the City of Los Angeles, which have minority populations of 68.9 percent and 70.3 percent, respectively. However, several tracts have substantially higher proportions of minority populations than the City average. Tracts 6506.01 and 6506.02 register minority populations of 56.2 percent and 58.7 percent respectively, which both exceed the average City minority population of 47.6 percent (Table 3.12-2).



Sources: TIGER\Line Files

1000 0 1000 2000 3000 4000 Feet

Scale: 1"= 1000'

Figure 3.12-1
Census Tracts Surrounding
Del Amo Boulevard

Table 3.12-1. Demographic Profile of Potentially Affected Census Tracts in the Study Area

Race/Ethnic Group	6212.01	6504.00	6505.01	6505.02	6506.01	6506.02	6506.03	6509.01
White	4,974	2,663	2,260	2,887	3,991	3,186	2,317	3,723
Hispanic	861	442	311	353	1,186	648	266	1,505
Non-Hispanic White	4,476	2,375	2,078	2,654	3,426	2,844	2,163	3,028
Black	148	56	9	19	381	202	24	116
American Indian or Alaskan Native	27	19	14	18	26	17	4	43
Asian	437	953	634	957	2,459	2,948	1,347	567
Native Hawaiian or Pacific Islander	17	13	5	6	17	21	7	30
Other Race	242	115	105	74	507	243	114	662
Two or More Races	330	161	134	166	437	265	144	289
Total Minority	1,699	1,605	1,083	1,473	4,392	4,038	1,794	2,402
Percent Minority[1]	*27.5*	*40.3*	*34.3*	*35.7*	*56.2*	*58.7*	*45.3*	*44.2*
Total Population	6,175	3,980	3,161	4,127	7,818	6,882	3,957	5,430

[1]Roughly defined as all races/ethnicities shown in the table, except whites and non-Hispanic whites.

Source: U.S. Census Bureau, 2000

Table 3.12-2. Demographics of Study Area Compared to Torrance, City of Los Angeles, and County of Los Angeles

	Study Area		Torrance		City of LA		County of LA	
Race/Ethnic Group	**Number**	**% of Total**	**Number**	**% of Total**	**Number**	**% of Total**	**Number**	**% of Total**
White	26,001	*62.6*	81,605	*59.2*	1,734,036	*46.9*	4,637,062	*48.7*
Hispanic	5,572	*13.4*	17,637	*12.8*	1,719,073	*46.5*	4,242,213	*44.6*
Non-Hispanic White	23,044	*55.5*	72,234	*52.4*	1,099,188	*29.7*	2,959,614	*31.1*
Black	955	*2.3*	3,022	*2.2*	415,195	*11.2*	930,957	*9.8*
American Indian or Alaskan Native	168	*0.4*	560	*0.4*	29,412	*0.8*	76,988	*0.8*
Asian	10,338	*24.9*	39,462	*28.6*	369,254	*10.0*	1,137,500	*11.9*
Native Hawaiian or Pacific Islander	116	*0.3*	481	*0.3*	5,915	*0.2*	27,053	*0.3*
Other Race	2,062	*5.0*	6,307	*4.6*	949,720	*25.7*	2,239,997	*23.5*
Two or More Races	1,926	*4.6*	6,509	*4.7*	191,288	*5.2*	489,781	*4.9*
Total Minority	18,486	*44.5*	65,712	*47.6*	2,595,632	*70.3*	6,559,724	*68.9*
Total Population	41,530	*100.0*	137,946	*100.0*	3,694,820	*100.0*	9,519,338	*100.0*

Source: U.S. Census Bureau, 2000

Income

The 2000 Census includes median household per capita income data from 1999 as shown in Table 3.12-3. The data indicates that Tract 6506.01 recorded the lowest median household income of the eight tracts, at $41,748. The poverty threshold for a family of four was $17,029 in 1999 and $18,556 in 2002. Therefore, the median household income in 1999 for all eight of the potentially affected census tracts was well above the nationwide poverty threshold for both the 1999 and the 2002 poverty thresholds.

Table 3.12-3. Median Household and Per Capita Income for the Study Area in 1999

Census Tracts	6212.01	6504.00	6505.01	6505.02	6506.01	6506.02	6506.03	6509.01
Median Household Income	$72,059	$67,683	$70,968	$75,696	$41,748	$45,549	$62,184	$47,205
Per Capita Income	$35,992	$26,977	$26,696	$37,324	$24,303	$23,178	$28,121	$24,587

Source: U.S. Census Bureau, 2000

Age

The median age of the City has been increasing over time, from 33 years in 1980 to 38.7 in 2000. This pattern has resulted from substantial increases in the proportion of people aged over 65 years, and a decrease in the working age population. The proportion of people under 18 years has remained relatively stable for the past two decades.

The eight census tracts within the study area have 19-year old and under populations ranging from 20.8 percent to 28.9 percent (Table 3.12-4). The equivalent averages for the City of Los Angeles and Los Angeles County are 29.5 percent and 31.0 percent, respectively, while the average for the City of Torrance is 25.1 percent (Table 3.12-5). The eight census tracts therefore have approximately the same to slightly lower proportions of people in this age category compared to the City average, and substantially lower proportions compared to the greater Los Angeles area averages.

Table 3.12-4. Age Distribution in the Study Area

Census Tracts	6212.01	6504.00	6505.01	6505.02	6506.01	6506.02	6506.03	6509.01
Total Population	6,175	3,980	3,161	4,127	7,818	6,882	3,957	5,430
19 and Under	1,282	1,095	912	1,039	1,700	1,631	1,016	1,357
% 19 and Under	*20.8*	*27.5*	*28.9*	*25.2*	*21.7*	*23.7*	*25.7*	*25.0*

Source: U.S. Census Bureau, 2000

Table 3.12-5. Comparison of Population in the Study Area, City of Torrance, City of Los Angeles and County of Los Angeles

Census Tracts	Project Area	Torrance	City of LA	County of LA
Total Population	41,530	137,946	3,694,820	9,519,338
19 and Under	10,032	34,687	1,091,049	2,946,796
% 19 and Under	*24.2*	*25.1*	*29.5*	*31.0*

Source: U.S. Census Bureau, 2000

Generally, the eight-tract study area around the project site is characterized by a lower percentage of minorities and a slightly lower percentage of population under the age of 19 than the remainder of the cities of Torrance and Los Angeles or the County of Los Angeles. Additionally, the population's income is well above the nationwide poverty threshold.

3.12.2 Significance Criteria

A significant effect would occur if the project would:

- induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure);
- displace substantial numbers of existing homes, necessitating the construction of replacement housing elsewhere;
- displace substantial numbers of people, necessitating the construction of replacement housing elsewhere; or
- disproportionately affect minority or low-income populations, or children.

3.12.3 Impacts

Alternative 1: No Action Alternative

In the absence of the roadway extension project, traffic in the project area would continue to travel on 190th Street, Torrance Boulevard, and Maricopa Avenue (Maple Avenue to Crenshaw Boulevard) for east-west travel. Under Alternative 1, persons residing along these streets would be increasingly affected, both directly and indirectly, by increases in traffic and congestion, noise, and air pollution. The No Action Alternative would not have any impact on the population size or housing stock within or near the project area. Since no development or improvements would occur, this alternative would not remove any existing housing, provide access to any undeveloped areas, or induce unplanned development in the City. Consequently, this alternative would result in less than significant impacts to population and housing in the region. Socioeconomic and environmental justice impacts would be less than significant.

Alternative 2: 55 MPH Design Speed with MSE Retaining Wall

Population/Housing/Growth Inducement

Alternative 2 would redistribute existing traffic but would not increase traffic generation (see Section 3.5, Transportation and Circulation). As such, this alternative is not expected to have any impact on the population size or housing stock within or near the project area. The road improvements would not remove any existing housing, provide access to any undeveloped areas, or induce unplanned development in the City. Consequently, Alternative 2 would result in less than significant impacts to population and housing in the region.

Land Acquisition

Alternative 2 would require acquisition of ROW from Dow Chemical, Exxon-Mobil, and SCRRA. An easement would also need to be secured from SCRRA, and facilities on the Exxon-Mobil and Dow Chemical sites would consequently need to be modified.

The acquisition of property would not affect structures of human habitation, nor would displacement and relocation of people be necessitated. Furthermore, those properties which would be affected by the acquisitions are large, industrial premises which may more easily accommodate relatively small losses of land and would directly benefit from the presence of the road extension. Acquisition of the land would be subject to appropriate compensation, as determined through negotiations between the City and landowners. There would be no significant impact on parties from which property would be acquired because they would be compensated. The proposed action would also be required to comply with the guidelines of the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 to ensure just compensation for land acquisitions. Therefore, the impact of the proposed roadway on neighboring premises would be less than significant.

Environmental Justice

Minority Populations

Alternative 2 would not have a disproportionate impact on minority populations within the project area. Two of the eight census tracts, 6506.01 and 6506.02, register a minority population greater than the 47.6 percent average for the City of Torrance. However, neither of these tracts would be adversely impacted to the same degree as Census Tract 6509.01. According to the traffic studies conducted for this report (see Section 3.5, Transportation and Circulation), Tract 6509.01 would experience the largest increase in vehicular traffic on completion of the project. Tract 6506.01 would experience the second largest increase in traffic, an increase which would equally affect Tract 6504.00. Although minority populations make up a smaller proportion of the population for Tract 6504.00, this tract would be impacted more than other census tracts, as the majority of the construction would occur within the tract. Accordingly, minority populations would not be disproportionately affected under Alternative 2.

Income

Alternative 2 would not have any disproportionate impacts on low-income populations, as none have been identified within the project area.

Children

The proposed project would not have a disproportionate effect on children. Four census tracts have slightly higher percentages of children under 19 years old than the City of Torrance average. Of these, census tract 6504.00 would experience the greatest traffic increase and resulting noise and safety impacts. However, the other three tracts (6505.01, 6505.02, and 6506.03) would have minimal traffic increases. Other tracts (6506.01 and 6509.01) within the project vicinity would also be affected; however, these have lower proportions of children under 19 years old than the City average. Thus, tracts with both higher and lower than City averages for the proportion of children under 19 years old would be affected by the proposed development.

The census tracts which would be affected by the proposed development are highly mixed with respect to income levels, minority composition, and proportion of children. Several tracts have populations which exhibit greater than City average proportions of low income, minority, and child populations. However, the greatest impacts resulting from the proposed project would occur on tracts which do not exhibit unduly high levels of such population groups. Consequently, Alternative 2 would not result in substantially disproportionate impacts to populations with a higher percentage of children.

Alternative 3: 55 MPH Design Speed with Type 1 Retaining Wall

The socioeconomic impacts of Alternative 3 would be identical to those identified for Alternative 2. As with Alternative 2, Alternative 3 would not disproportionately impact minority or low-income populations, or children. Accordingly, Alternative 3 would result in less than significant socioeconomic and environmental justice impacts.

Alternative 4: 50 MPH Design Speed with MSE Retaining Wall

The socioeconomic impacts of Alternative 4 would be identical to those identified for Alternative 2. As with Alternative 2, Alternative 4 would not disproportionately impact minority or low-income populations, or children. Accordingly, Alternative 4 would result in less than significant socioeconomic and environmental justice impacts.

3.12.4 Mitigation Measures

No mitigation measures are required for any of the project alternatives.

3.12.5 Significance after Mitigation

No significant socioeconomic impacts would result from any of the project alternatives.

CHAPTER 4.0
SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

CEQA Guidelines (Cal. Code Regs., Title 14, § 15126.2[b]) and NEPA regulations (40 C.F.R. § 1502.1) require a description of any significant impacts that can be mitigated but not to a less than significant level. An analysis of environmental impacts caused by the proposed action has been conducted and is contained in this Draft EIR/EA. Twelve issue areas were analyzed in detail in Chapter 3.0. As discussed below, two issues have been found to result in significant unavoidable adverse impacts.

According to the environmental impact analysis presented in Chapter 3.0 of this Draft EIR/EA, significant unavoidable adverse impacts on transportation and circulation and air quality (see Section 3.5 and 3.6 for a detailed discussion).

Some impacts determined to be significant under CEQA would not be of sufficient magnitude to be determined significant under NEPA. In the case of the Del Amo Boulevard Extension project, although there would be significant unavoidable local impacts on transportation and circulation and air quality, these impacts are not of sufficient magnitude to be considered significant under NEPA.

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CHAPTER 5.0
EFFECTS FOUND NOT TO BE SIGNIFICANT

Section 15128 of the CEQA Guidelines requires the identification of impacts of a project that were determined not to be significant and that were not discussed in detail in the impact section of the EIR. Therefore, the following sections present a brief discussion of environmental issues that were not found to be significant for this project.

5.1 Agricultural Resources

There is no designated farmland within the project area; therefore, no impacts to Prime, Unique, or Statewide Important Farmland would occur. Similarly, no conflicts with existing zoning for agricultural uses would occur.

5.2 Mineral Resources

The proposed project is located in a developed industrial area in the City of Torrance. An oil refinery is located in the vicinity of the proposed project; however, paving 0.7 mile in order to connect the existing road and widening the existing road between Maple Avenue and Prairie Avenue would not result in the loss of availability of any oil resources. Additionally, the proposed project would not result in the loss of availability of any other mineral resource that would be of future value; therefore, there is no potential for significant impacts on mineral resources.

5.3 Recreation

Delthorne Park is located on Madrona Avenue, immediately southwest of the proposed alignment. The proposed roadway would not increase the use of existing recreational facilities or include or require the construction or expansion of any new recreational facilities. A private recreation area within the Dow Chemical manufacturing plant may be reconfigured as a result of the roadway extension; however, a 4(f) evaluation is not required as this facility would not be open to the public and would remain for private use only.

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CHAPTER 6.0
OTHER CONSIDERATIONS REQUIRED BY CEQA/NEPA

This chapter addresses other topics required by CEQA and NEPA in an EIR/EA. These include an analysis of growth-inducing impacts (CEQA); a discussion of cumulative impacts (CEQA and NEPA), and the identification of any irreversible and irretrievable commitments of resources (CEQA).

6.1 GROWTH-INDUCING IMPACTS

According to Section 15126.2 (d) of the CEQA Guidelines, growth-inducing impacts of the proposed project shall be discussed in the EIR; this topic is not evaluated under NEPA. Growth-inducing impacts are those effects of the proposed project that might foster economic or population growth or the construction of new housing, either directly or indirectly, in the surrounding environment. According to CEQA, increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects.

Induced growth is any growth which exceeds planned growth and results from new development which would not have taken place without the implementation of the proposed project. Typically, the growth-inducing potential of a project would be considered significant if it results in growth or population concentration that exceeds those assumptions included in pertinent master plans, land use plans, or projections made by regional planning authorities. However, the creation of growth-inducing potential does not automatically lead to growth, whether it would be below or in exceedance of a projected level. Under CEQA, it must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

The environmental effects of induced growth are secondary or indirect impacts of the proposed project. Secondary effects of growth could result in significant, adverse environmental impacts, which could include increased demand on community or public services, increased traffic and noise, degradation of air and water quality, and conversion of agricultural land and open space to developed uses.

Implementation of the proposed action is not considered growth-inducing because the new roadway extension would serve to alleviate traffic congestion at locations that are currently experiencing unacceptable levels of service and provide an alternate continuous thoroughfare between 190th Street and Torrance Boulevard in the City. The proposed action would complete Del Amo Boulevard as a major arterial as proposed in the City's Circulation Element of the General Plan and would improve Del Amo Boulevard as a major highway as proposed in the Los Angeles County Master Plan of Highways. Given the built-out, industrial nature of the project area, the proposed action would not provide public access to any previously undeveloped areas. Accordingly, these improvements to Del Amo Boulevard would not induce substantial population growth in the project area.

The Relationship Between Local Short-Term Uses and Long-Term Productivity

Implementation of the proposed action would result in local short-term impacts and would utilize resources during construction, as described in Chapter 3 of this environmental document. The construction of the proposed Del Amo Boulevard improvements would, however, contribute to the maintenance and enhancement of long-term productivity by improving the circulation network in the City of Torrance. Each of the build alternatives evaluated in the environmental document would have similar short-term effects and similar positive contributions to the long-term improvements in the area.

The proposed improvements for Del Amo Boulevard will implement the City of Torrance's General Plan, which considers the need for the present and future traffic network to serve the citizens of the City in the context of projected land use development. The local short-term impacts and use of resources needed to implement the proposed action would be consistent with the maintenance and enhancement of long-term productivity in the project area by improving the local transportation network.

6.2 CUMULATIVE IMPACTS

According to Section 15355 of the CEQA Guidelines, cumulative impacts refer to:

> Two or more individual effects which, when considered together are considerable or which compound or increase other environmental effects. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

Section 15130(a) of the CEQA Guidelines states that:

> An EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable.... Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

According to Section 15130 (b)(1)(A) of the CEQA Guidelines, a list of past, present, and probable future projects producing related or cumulative impacts may be used as the basis of the cumulative impacts analysis. Federal regulations implementing NEPA (40 C.F.R. §§ 1500-1508) also requires that the cumulative impacts of a proposed action be assessed. NEPA defines a cumulative impact as an "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions."

Table 6.2-1 presents the list of cumulative projects compiled for the preparation of this Draft EIR/EA. Cumulative impacts associated with these projects are discussed below.

6.2.1 Land Use and Planning

Development of the proposed action, in conjunction with other cumulative projects in the City of Torrance, would not result in cumulative impacts to land use and planning. Each cumulative project would be subject to independent environmental review, which would include land use conformity analyses, to ensure that no significant cumulative impacts related to land use compatibility and consistency would occur.

6.2.2 Aesthetics, Light, and Glare

The cumulative projects identified above would be consistent with the types of uses within their respective area and, therefore, are not anticipated to have the potential to combine with the proposed action to create a cumulative aesthetic impact.

Table 6.2-1. Cumulative Project List

Applicant/Location	Description	Status
Development Projects		
Toyota Motor Sales USA South of 195th Street between Van Ness Avenue and Western Avenue	Expansion of the Toyota Motor Sales campus: construction of 992,000 square feet of new building area and construction of a new parking structure	Approved (Planning Commission [P.C.] 1/17/01); in plan check
Kendrick Construction 444 Alaska Avenue (between Columbia Street and California Street)	Construction of 25,125 square feet of warehouse /manufacturing facility.	Approved (P.C. 10/17/01)
803 Amapola Avenue	Construction of 13 residential condominium units	Approved (P.C. 8/15/01); in plan check
2264 Dominguez Street	Construction of 13 residential condominium units	Tie vote (P.C. 10/3/01); Approved (C.C. 12/11/01)
Transportation Projects		
Crenshaw Boulevard at 208th Street Intersection	Opticom Signal Preemption equipment installation Phase III	No activity on this project
Torrance Boulevard at Maple Avenue intersection	Opticom Signal Preemption equipment installation Phase III	No activity on this project
Torrance Boulevard at Crenshaw Boulevard Intersection	Installation of a right-turn-only lane from westbound Torrance Boulevard to northbound Crenshaw Boulevard	Pre-construction work
Torrance Boulevard at Hawthorne Boulevard Intersection	Installation of a right-turn-only lane from westbound Torrance Boulevard to northbound Hawthorne Boulevard. This will be accomplished by widening the northwest corner	Design completed
Hawthorne/Del Amo Boulevard Intersection Capacity Enhancement	Installation of eastbound and westbound right-turn-only lanes on Del Amo Boulevard	Design Phase

Source: City of Torrance Planning Department Activity Report, July 1, 2001 – December 31, 2001.

6.2.3 Geology and Soils

The proposed action, in conjunction with cumulative development projects in the area, would result in the exposure of new structures and people to seismic hazards. All new structures would be required to incorporate the required seismic safety standards to reduce impacts associated with seismic hazards to less than significant levels. No cumulative geologic impacts are anticipated as a result of the proposed action and the projects listed in Table 6.2-1.

6.2.4 Floodplain, Water Resources, and Hydrology

The proposed action and cumulative development projects would be developed on sites that are already covered with impervious and semi-impervious surfaces. No substantial changes in absorption rates, drainage patterns, surface runoff, surface and groundwater quality, groundwater flow, and the quantity of groundwater are anticipated to occur as a result of implementation of the proposed action and other cumulative projects. Additionally, each project would be required to comply with water quality and waste discharge requirements to ensure that no impacts to groundwater or surface water quality would occur.

6.2.5 Transportation and Circulation

The traffic study conducted for the proposed roadway extension analyzed long-term traffic forecasts (2020 traffic volumes) with and without the proposed action. The forecasts were based on the City's 1992 General Plan Circulation Analysis Evaluation. Traffic impacts resulting from the proposed action, in conjunction with other cumulative projects, are analyzed in Section 3.5, Transportation and Circulation, as the traffic forecasts with the proposed action include a 20 percent ambient growth, accounting for cumulative projects in the area.

6.2.6 Air Quality

The proposed action, in conjunction with other cumulative development projects in the area, would generate short-term air pollutant emissions from construction and long-term emissions primarily from new vehicle trips. Each of the development projects would generate additional vehicle trips in the project vicinity, potentially contributing to existing air quality violations. All development projects would be required to comply with the SCAQMD's air pollution control measures. Implementation of these measures would reduce air emissions; however, cumulative air quality impacts related to mobile source emissions from the proposed action and other cumulative development projects in the area would be significant and unavoidable.

6.2.7 Noise

The increased level of traffic associated with cumulative development would result in increased noise on local roadways. In particular, the development of almost one million square feet of new use at the Toyota Motor Sales campus would add a significant number of vehicles to local roadways, particularly Van Ness Avenue. Because existing noise levels in the project area already exceed the maximum allowable noise levels and Caltrans' NAC, traffic noise impacts would occur. However, noise level increases would be no greater than 12 dBA over existing levels, which would not be considered a substantial increase, as defined by Caltrans. Therefore, no significant cumulative noise impacts are anticipated.

6.2.8 Hazards and Hazardous Materials

The proposed action and other cumulative projects are not expected to use large quantities of hazardous materials that would create a potential risk to public health and safety. Other cumulative development projects are anticipated to use small quantities of commonly used hazardous materials, such as cleaning solvents, paint, and fertilizers, which pose no unwarranted risks to public health and safety with proper handling and storage. No reasonably foreseeable projects have been identified at the Dow Chemical manufacturing plant and the Exxon-Mobil Refinery. As such, no cumulative hazards are anticipated with respect to these neighboring properties.

When considered together, development of the proposed action and cumulative projects would not affect, interfere with, or alter the City's emergency evacuation routes. Therefore, no significant cumulative impacts to public health and safety are anticipated.

6.2.9 Cultural Resources

The proposed project would have no adverse effect on archaeological resources. Other cumulative development projects in the area could result in the disturbance of archaeological and/or historic resources in the area. However, each cumulative development project would be responsible for implementing the necessary measures to protect any existing cultural resources in the area. Therefore, no significant cumulative impacts are anticipated to occur to these resources.

6.2.10 Biological Resources

All of the cumulative development projects would be constructed on land that has been previously disturbed or developed, avoiding impacts to biological resources. As such, no cumulative impacts to biological resources would occur.

6.2.11 Public Services and Utilities

The proposed action, as discussed in Section 3.11, Public Services and Utilities, would not substantially increase the demand for public services and utilities. However, the proposed action, in conjunction with

other cumulative development projects, would increase the demand for police and fire protection and emergency medical services in the area. In particular, the addition of residential units and the development of almost one million square feet at the Toyota Motor Sales campus may result in the need for additional police and fire personnel and other public facilities. The cumulative impacts to the school system as a result of the addition of 26 residential units are not anticipated to be a significant impact because they are not anticipated to generate a substantial number of students to impact school enrollment.

The cumulative development projects would result in an increased demand for water and increased generation of wastewater and solid waste. These increases would have significant long-term cumulative impacts on available water supply and sewage treatment and landfill capacity; however, the proposed action's contribution to these impacts would not be cumulatively considerable.

6.2.12 Socioeconomics

The proposed action, in conjunction with other cumulative projects, would not have any adverse impacts on minority and low-income populations. In particular, development of almost one million square feet of space at the Toyota Motor Sales campus would improve the local economy by introducing more jobs to the area. The cumulative projects would have overall beneficial social and economic effects.

6.3 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Section 21100(b)(2)(B) and Section 15126.2(c) of the CEQA Guidelines require that an EIR analyze the extent to which the proposed project's primary and secondary effects would impact the environment and commit nonrenewable resources to uses that future generations will not be able to reverse or retrieve.

Construction of the proposed roadway extension would result in the use of nonrenewable resources, including fossil fuels, natural gas, and water and building materials such as concrete and steel. However, the proposed action is not anticipated to consume substantial amounts of energy in a wasteful manner, and it is unlikely to result in significant impacts as a result of consumption of utilities. Development of the new roadway extension would not result in an irreversible or irretrievable commitment of resources.

CHAPTER 7.0
REFERENCES

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Austin-Foust Associates, Inc.
1999 *Projected Year 2020 Buildout Travel Forecasts for the Del Amo Extension*. June.

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Risk Management Professionals
1999 *Del Amo Boulevard Extension Hazard Analysis*. Prepared for the City of Torrance, Fire Department. May 5.

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1998 *Final Phase I Environmental Site Assessment, Del Amo Boulevard Extension*. Prepared by Schaefer Dixon for the City of Torrance. July 25.

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1994 *Draft 1994 Air Quality Management Plan: Meeting the Clean Air Challenge*. April.
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2000 *Regional Transportation Improvement Program (RTIP)*. October 6.
1998 *Regional Transportation Plan (RTP)*. April.

Thompson, Don
2001 Operations Chief, Torrance Fire Department. Personal communication. May.

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2000 http://factfinder.census.gov/servlet/BasicFactsServlet
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U.S. Department of Health and Human Services
2003 http://aspe.hhs.gov/poverty/03poverty.htm

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2000 *Federal Register Document: Approval and Promulgation of State Implementation Plan; California – South Coast*. April 10.
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CHAPTER 8.0
CONSULTATION AND COORDINATION

Scoping Process

In accordance with the CEQA Guidelines, a Notice of Preparation (NOP) was distributed on December 13, 2001, to public agencies and organizations as well as private organizations and individuals with a possible interest in the project. The purpose of the NOP was to provide notification that the lead agency (City) plans to prepare an EIR and to solicit input on the scope and contents of the EIR. Over 500 copies of the NOP were distributed; nine written responses were received from various agencies, organizations, and individuals. A copy of the NOP and those responses are included in Appendix A of this Draft EIR/EA.

The City of Torrance held two scoping meetings, the first on May 21, 2001, and the second on May 23, 2001. Members of the public and agency representatives attended the scoping meetings. Following is a summary of issues, concerns, and requests raised at the scoping meeting:

- increased traffic on Del Amo Boulevard, which would primarily affect the residences located east of the proposed improvements between Crenshaw Boulevard and Van Ness Avenue;
- safety issues involving children's crossing mid-block between Crenshaw Boulevard and Van Ness Avenue and vehicle speed on Del Amo Boulevard;
- existing illegal truck traffic and the potential increase of such traffic on Del Amo Boulevard between Crenshaw Boulevard and Van Ness Avenue as a result of the proposed project;
- the need for addition of crosswalks, stop signs, speed bumps, and traffic signals on Del Amo Boulevard between Crenshaw Boulevard and Van Ness Avenue;
- potential use of the railroad right-of-way as a bike path and other pedestrian-friendly uses;
- conversion of a nearby City-owned church property into a new park could attract more children on Del Amo Boulevard
- removal of the roadway median on Del Amo Boulevard between Crenshaw Boulevard and Van Ness Avenue to accommodate bike lanes; and
- the need to consider alternative routes/alignments to complete missing segments of Del Amo Boulevard.

Public Comment Period

The original Draft EIR/EA was circulated for 45 days for public review and comment from December 2, 2002 through January 15, 2003. During this period, comments from the general public, organizations, and agencies regarding environmental issues raised in the Draft EIR/EA and the Draft EIR/EAs accuracy and completeness were submitted to the lead agency. The document is being recirculated in conformance with the California Department of Transportation's (Caltrans) and the Federal Highway Administration's

(FHWA) National Environmental Policy Act (NEPA) guidelines. Comments submitted on the original Draft EIR/EA have been addressed throughout the document; the responses can be found in Section 11.0, Response to Comments.

The Recirculated Draft EIR/EA will be circulated for 45 days. Comments may be sent in writing to the following address:

Mr. Craig Bilezerian
City of Torrance
Engineering Department
3031 Torrance Boulevard
Torrance, CA 90503
(310) 618-2820

General questions about this Recirculated Draft EIR/EA and related processes should also be directed to the contact listed above. The City will prepare written responses to comments on the Draft EIR/EA if they are (1) submitted as written letters and delivered to the address above by 5:00 p.m. on the last day of the public review period identified in the Notice of Availability, or (2) presented verbally at the public hearing on the Recirculated Draft EIR/EA that will be held during the public review period. Upon completion of the public review period, a Final EIR/EA will be prepared that will include the comments on the Recirculated Draft EIR/EA received during the formal public review period and responses to those comments.

Agencies/Organizations/Persons Contacted

State of California

Chamberlain, Ryan, Caltrans District 7
Chander, Satish, P.E., Chief, Office of Local Programs & Alameda Corridors, Caltrans District 7
Cole, Anthony, Senior Transportation Planner, Caltrans District 7
Kaufman, Jim, Caltrans District 7
Parikh, Smita, Caltrans District 7
Tang, Dennis, Site Cleanup Unit, Los Angeles Regional Water Quality Control Board

Southern California Association of Governments

Ayala, Rosemary, contacted December 6, 2000

County of Los Angeles

Maselbas, Paul, Senior Engineer, Department of Public Works, contacted May 9, 2001

City of Torrance

Isomoto, Jane, Planning Manager, contacted March 2002
Leinweder, Robert, Police Department, contacted June 13, 2001
Liu, Ken, Inspector, Fire Prevention Division, Fire Department
Santana, Danny, Planning Department, contacted March 5, 2002
Thompson, Don, Division/Operations Chief, Fire Department, contacted May 2001

City of Carson

Ghiam, Massoud, Associate Engineer, Engineering Department, contacted May 9, 2001

The Dow Chemical Company

Siemak, Sally, Southern California Regional Affairs Leader
Smalling, Fred, Engineering Manager

Exxon-Mobil Refinery

Goracy, Richard
Noushkam, Negar
Reed, Dennis

Southern California Edison

Schreiver, David, Planning Supervisor, contacted March 11, 2002

Austin-Foust Associates, Inc.

Foust, Joe, Principal, contacted January 31, 2001 and March 2002
Kelly, Patrick, contacted March 19, 2002

DMJM+Harris (formerly Holmes & Narver)

Muth, Andrew, P.E., Principal Engineer, contacted March 2002

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CHAPTER 9.0
EIR/EA PREPARERS

The following firms, individuals, and agency staff contributed to the preparation of this EIR/EA:

CITY OF TORRANCE (CEQA Lead Agency)
3031 Torrance Boulevard
Torrance, California 90503

Richard Burtt, P.E., Engineering Director, Engineering Department
James Biery, P.E., Senior Division Engineer, Engineering Department
Craig Bilezerian, P.E., Project Manager, Engineering Department
Jane Isomoto, Planning Manager, Planning Department

EDAW, INC. (Environmental Consultant)
3780 Wilshire Boulevard, Suite 250
Los Angeles, CA 90010

Tom Larkin, Principal-in-Charge
Eric Wilson, Project Manager
Kimberlee Myers, Environmental Analyst
Jennifer Dean, Environmental Analyst
Elizabeth Candela, Environmental Analyst
Marty Watson, Environmental Analyst
Madonna Marcelo, Environmental Analyst
Teri Fenner, QA/QC Program Coordinator
Jim Kurtz, Air and Noise Specialist
Bill Maddux, Air and Noise Specialist
John Messina, Biologist
Therese Tempereau, Technical Editor
Dan Brady, Graphic Artist
Eric Coughlin, GIS Analyst
Will Bailey, Graphic Artist
Chris Collins, AutoCad Specialist
Nick Larkin, Student Intern

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CHAPTER 10.0
ACRONYMS

AAM	annual arithmetic mean
ACOE	Army Corps of Engineers
AGM	annual geometric mean
APE	area of potential effect
AQMP	Air Quality Management Plan
ARB	California Air Resources Board
BMPs	Best Management Practices
BNSF	Burlington Northern Santa Fe
BTEX	benzene, toluene, ethylbenzene and total xylenes
BTU/lb	British Thermal Units per pound
Caltrans	California Department of Transportation
CAM	California Assessment Manual
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDMG	California Division of Mines and Geology
CGS	California Geological Survey
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act of 1970
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CPUC	California Public Utilities Commission
CSC	Species of Special Concern (under CDFG criteria)
dB	Decibel
dB(A)	decibel A-weighted
DDT	dichlorodiphenyltrichloroethane
DOT	Department of Transportation
DTSC	Department of Toxic Substances Control
EA	Environmental Assessment
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
FE	endangered (under USFWS criteria)
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
FT	threatened (under USFWS criteria)
FTIP	Federal Transportation Improvement Program
H_2S	hydrogen sulfide
HCM	Highway Capacity Manual
HHS	U.S. Department of Health and Human Services
kW/m^2	kiloWatts per square meter
LACDPW	Los Angeles County Department of Public Works
LOS	levels of service
LPG	Liquefied Petroleum Gas
MMRP	mitigation monitoring and reporting program
mph	miles per hour
MSE	mechanically stabilized embankment

msl	mean sea level
MWD	Metropolitan Water District
NAC	noise abatement criteria
NDDB	Natural Diversity Data Base
NEPA	National Environmental Policy Act of 1969
NO	nitric oxide
NO_2	nitrogen dioxide
NO_x	oxides of nitrogen
NOA	Notice of Availability
NOI	Notice of Intent
NOP	Notice of Preparation
NPDES	National Pollution Discharge Elimination System
O_3	ozone
OSHA	Occupational Health and Safety Administration
PAHs	polycyclic aromatic hydrocarbons
Pb	lead
PCBs	poly-chlorinated biphenyls
PCC	Portland-cement concrete
PES	Preliminary Environmental Study
PM_{10}	particulate matter
$PM_{2.5}$	fine particulate matter
PUC	Public Utilities Commission
RCRA	Resource Conservation and Recovery Act
ROC	reactive organic compounds
ROW	right-of-way
RTIP	Regional Transportation Improvement Programs
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
SCE	Southern California Edison
SCRRA	Southern California Regional Rail Authority
SE	endangered (under CDFG criteria)
SIP	State Implementation Plan
SO_2	sulfur dioxide
SOC	Species of Concern
SWPPP	Storm Water Pollution Prevention Plan
TAC	Toxic Air Contaminant
TMDLs	Total Maximum Daily Loads
TPH	total petroleum hydrocarbons
USFWS	U.S. Fish and Wildlife Service
UST	underground storage tank
UVCE	unconfined vapor cloud explosion
V/C	volume-to-capacity
VOC	volatile organic compounds

CHAPTER 11.0
RESPONSE TO COMMENTS

The EIR/EA was originally distributed for public review on December 2, 2002, initiating a 45-day public review period pursuant to CEQA and its implementing guidelines. During this public review period, a total of 16 timely letters were received, and one letter was received after the close of the review period. Six of the letters were from public agencies, one was received from a private company, and nine were received from citizens. The late letter was received from an agency and is listed last in this response to comments. The comment letters from the original Draft EIR/EA are listed in the following table and the corresponding City responses are provided in this section, following a copy of the submitted letter(s). A number of the comment letters were duplicates. In these cases, the first letter has been marked with comment numbers, and the duplicates are on the following pages. The Draft EIR/EA is being recirculated for public review. The comment letters received during the public review period for the Recirculated Draft will be addressed in the Final EIR/EA.

Table 11-1. List of Comment Letters from Draft EIR/EA

Letter No.	Agency/Organization/Individual	Date Received
1	Department of Toxic Substances Control *Signed: Harlan R. Jeche, Unit Chief*	January 13, 2003
2	California Department of Transportation *Signed: Jeffrey M. Smith, AICP, Senior Regional Planner*	January 13, 2003
3	Southern California Association of Governments *Signed: Jeffrey M. Smith, AICP, Senior Regional Planner*	January 14, 2003
4	South Coast Air Quality Management District *Signed: Steve Smith, Ph.D., Program Supervisor*	January 21, 2003
5	County of Los Angeles Fire Department *Signed: David R. Leininger, Chief, Forestry Division*	January 9, 2003
6	County Sanitation Districts of Los Angeles County *Signed: Darrell Hatch, Project Engineer*	January 3, 2003
7	Dow Chemical Company *Signed: Fred J. Smalling, Engineering Manager*	January 13, 2003
8	Mediterranean Villas Board *Signed: Five members of the board*	January 9, 2003
9	Citizen Letter 1 *Signed: Doyle and Trudy Wolfgang*	December 5, 2002 January 15, 2003
10	Citizen Letter 2 *Signed: 23 citizens*	January 8, 2003
11	Citizen Letter 3 *Signed: 11 citizens*	December 26,2002
12	Citizen Letter 4 *Signed: Mary Agnes Hunt*	January 13, 2003
13	Citizen Letter 5 *Signed: Marianna Lutz*	January 13, 2003
14	Citizen Letter 6 *Signed: Thomas L. Smith*	January 13, 2003

15	Citizen Letter 7 *Signed: Elaine De Orio, Yvonne De Orio*	January 14, 2003
16	Citizen Letter 8 *Signed: John L. Lyons*	January 15, 2003
17	County of Los Angeles Department of Public Works *Signed: Rod H. Kubumoto*	January 27, 2003

Jim

Department of Toxic Substances Control

Edwin F. Lowry, Director
1011 N. Grandview Avenue
Glendale, California 91201

Winston H. Hickox
Agency Secretary
California Environmental
Protection Agency

Gray Davis
Governor

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JAN 13 2002
ENGINEERING DEPARTMENT
CITY OF TORRANCE

January 8, 2003

Mr. Richard Burtt
City of Torrance Engineering Department
3031 Torrance Boulevard
Torrance, California 90503

NOTICE OF COMPLETION OF DRAFT ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL ASSESSMENT FOR DEL AMO BOULEVARD EXTENSION PROJECT, SCH NO. 2001121087

Dear Mr. Burtt:

The Department of Toxic Substances Control (DTSC) has received your Notice of Completion of draft Environmental Impact Report/Environmental Assessment (EIR/EA) for the project mentioned above.

Based on the review of the document, DTSC comments are as follows:

> If during construction of the project, soil contamination is suspected, construction in the area should stop, and appropriate health and safety procedures should be implemented. If it is determined that contaminated soils exists, the EIR/EA should identify how any required investigation and/or remediation will be conducted, and which government agency will provide regulatory oversight. 1-1

DTSC provides guidance for Preliminary Endangerment Assessment preparation and cleanup oversight through the Voluntary Cleanup Program (VCP). For additional information on the VCP please visit DTSC's web site at www.dtsc.ca.gov. If you would

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like to meet and discuss this matter further, please contact Mr. Alberto Valmidiano, Project Manager, at (818) 551-2870 or me, at (818) 551-2877.

Sincerely,

Harlan R. Jeche

Harlan R. Jeche
Unit Chief
Southern California Cleanup Operations Branch – Glendale Office

Enclosure

cc: Governor's Office of Planning and Research
State Clearinghouse
P. O. Box 3044
Sacramento, California 95812-3044

Mr. Guenther W. Moskat, Chief
Planning and Environmental Analysis Section
CEQA Tracking Center
Department of Toxic Substances Control
P. O. Box 806
Sacramento, California 95812-0806

Department of Toxic Substances Control

Edwin F. Lowry, Director
1001 "I" Street, 25th Floor
P.O. Box 806
Sacramento, California 95812-0806

Winston H. Hickox
Agency Secretary
California Environmental
Protection Agency

Gray D:
Govern

DEPARTMENT OF TOXIC SUBSTANCES CONTROL
SOUTHERN CALIFORNIA SITE MITIGATION BRANCH
DEC 0 6 2002
RECEIVED

MEMORANDUM

TO: Sayareh Amirebrahimi, Branch Chief
Site Mitigation Program, Region 3

FROM: Guenther W. Moskat, Chief
Planning and Environmental Analysis Section

DATE: December 4, 2002

SUBJECT: TRANSMITTAL AND REVIEW OF LEAD AGENCY ENVIRONMENTAL DOCUMENTS FOR
Del Amo Boulevard Extension Project EIR/EA -2001121087

The Department has received the project listed above. The project is being referred to you as a:

- ☑ Non-Essential/Information Item Only
- ☐ Sensitive Land Use Project
- ☐ Non-Sensitive land Use Project

A Courtesy Copy of the Notice of Completion Transmittal Form has also been sent to:

- ☑ Permitting Branch (document not included)

The Department is encouraged to review this project and if applicable make comments pertaining to the project as it relates to hazardous waste and/or any activities which may fall within the Department's jurisdiction. Please have your staff: 1) conduct its review of the attached document prior to the end of the comment period; 2) complete the applicable items below' stating whether the department made comments or that no comments were necessary for the document; and 3) return this original transmittal sheet and a copy of any response letter from your office to:

Planning & Environmental Analysis Section (PEAS)
CEQA Tracking Center
1001 I Street, 22nd Floor
P.O. Box 806
Sacramento, California 95812-0806
Fax (916) 323-3215

Date Comment Period Began: 12/02/2002

Comments due to OPR: 01/15/2003

Reviewed by: [signature] Date: 01/08/03

COMMENTS have been prepared and a copy has been provided to PEAS via:

- ☒ Attached Copy
- ☐ FAX (916) 323-3215

NO COMMENTS NECESSARY because;

- ☐ All Department concerns have been adequately addressed; OR
- ☐ Project does not fall within the Department's areas of responsibility

Thank you for your assistance with this project. If you have any questions, please contact Ken Tipon, CEQA Tracking Center, at (916) 322-5266.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Web-site at www.dtsc.ca.gov.

Letter 1: Department of Toxic Substances Control

Comment No.	Response
1-1	The mitigation measures provided in Section 3.08, page 3.8-10 of the EIR/EA addresses soil contamination. Soil remediation on the Exxon-Mobil property will be the responsibility of Exxon-Mobil, as agreed to in a Memorandum of Understanding (MOU) with the City of Torrance dated May 11, 1999 (page 2-11). The City and Dow Chemical will enter into an MOU during the design phase of the project to determine the following: soil remediation and associated cost responsibility; site access; and costs associated with the relocation of the water storage tanks (page 2-11).

DEPARTMENT OF TRANSPORTATION
DISTRICT 7, REGIONAL PLANNING
IGR/CEQA BRANCH
120 S. SPRING STREET
LOS ANGELES, CA 90012
PHONE (213) 897-4429
FAX (213) 897-1337

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ENGINEERING DEPARTMENT
CITY OF TORRANCE

January 8, 2002

IGR/CEQA cs/021210
DEIR
City of Torrance
Del Amo Blvd. Extension Project
Vic. LA-405-41.31
SCH # 2001121087

Mr. Richard Burtt
City of Torrance
3031 Torrance Blvd.
Torrance, CA 90503

Dear Mr. Burtt:

Thank you for including the California Department of Transportation in the environmental review process for the above-mentioned project. Based on the information received, we have the following comments:

We recommend approving the Del Amo Boulevard Extension Project since the project will improve the traffic flow and circulation system in the area. 2-1

We recommend that construction related truck trips on State highways be limited to off-peak commute periods. Transport of over-size or over-weight vehicles on State highways will need a Transportation Permit from the California Department of Transportation. 2-2

We recommend that the local agency initiate relinquishment proceedings to enable transfer of conventional State highways from the State over to the local agency. 2-3

The proposed project will need to conform with the National Pollution Discharge Elimination System (NPDES) requirements relating to construction activities and Post-Construction Storm Water Management. To the maximum extent practicable, Best Management Practices will need to be implemented to address storm water runoff from new development. The responsible water quality control agencies will need to review storm water runoff facilities and drainage plans. 2-4

If you have any questions regarding our response, refer to our internal IGR/CEQA Record # cs/021210, and please do not hesitate to contact me at (213) 897-4429.

Sincerely,

STEPHEN BUSWELL
IGR/CEQA Branch Chief

cc: Mr. Scott Morgan, State Clearinghouse

Letter 2: California Department of Transportation

Comment No.	Response
2-1	Caltrans' recommendation to approve the Del Amo Boulevard Extension Project has been noted.
2-2	A sentence was added to the mitigation measure in Section 3.05, page 3.5-17 to address over-size and over-weight vehicles.
2-3	Comment noted. No response required.
2-4	National Pollution Discharge Elimination System (NPDES) requirements are addressed in Section 3.04, on pages 3.4-1 and 3.4-5. The proposed project would conform with NPDES requirements and Best Management Practices would be implemented. In addition, because the project area would be more than five acres in size, a Storm Water Pollution Prevention Plan (SWPPP) permit would be required for construction.

RECEIVED
JAN 14 2003
ENGINEERING DEPARTMENT
CITY OF TORRANCE

SOUTHERN CALIFORNIA
ASSOCIATION of GOVERNMENTS
Main Office
818 West Seventh Street
12th Floor
Los Angeles, California
90017-3435

t (213) 236-1800
f (213) 236-1825

www.scag.ca.gov

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Orange County: Charles Smith, Orange County • Ron Bates, Los Alamitos • Art Brown, Buena Park • Lou Bone, Tustin • Cathryn DeYoung, Laguna Niguel • Richard Dixon, Lake Forest • Alta Duke, La Palma • Shirley McCracken, Anaheim • Bev Perry, Brea • Tod Ridgeway, Newport Beach

Riverside County: Bob Buster, Riverside County • Ron Loveridge, Riverside • Greg Pettis, Cathedral City • Ron Roberts, Temecula • Jan Rudman, Corona • Charles White, Moreno Valley

San Bernardino County: Bill Alexander, Rancho Cucamonga • Lawrence Dale, Barstow • Lee Ann Garcia, Grand Terrace • Susan Lien, San Bernardino • Gary Ovitt, Ontario • Deborah Robertson, Rialto

Ventura County: Judy Mikels, Ventura County • Glen Becerra, Simi Valley • Carl Morehouse, San Buenaventura • Toni Young, Port Hueneme

Riverside County Transportation Commission: Robin Lowe, Hemet

Ventura County Transportation Commission: Bill Davis, Simi Valley

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January 10, 2003

Mr. Craig Bilezerian
Project Manager
City of Torrance
Engineering Department
3031 Torrance Boulevard
Torrance, CA 90503

RE: Comments on the Draft Environmental Impact Report for the Del Amo Boulevard Extension Project – SCAG No. I 20020630

Dear Mr. Bilezerian:

Thank you for submitting the Draft Environmental Impact Report for the Del Amo Boulevard Extension Project SCAG for review and comment. As areawide clearinghouse for regionally significant projects, SCAG reviews the consistency of local plans, projects, and programs with regional plans. This activity is based on SCAG's responsibilities as a regional planning organization pursuant to state and federal laws and regulations. Guidance provided by these reviews is intended to assist local agencies and project sponsors to take actions that contribute to the attainment of regional goals and policies.

It is recognized that the proposed Project considers the widening and extension of Del Amo Boulevard between Crenshaw Boulevard and Prairie Avenue. The proposed Project includes the construction of a four-lane roadway with optional bicycle lanes in each direction, and the construction of a new bridge over the Burlington Northern Santa Fe railroad tracks. The proposed Project is in the City of Torrance.

SCAG has evaluated the Draft Environmental Impact Report for the Del Amo Boulevard Extension Project and have determined that the proposed Project is regionally significant and directly relates to the policies and strategies in SCAG's Regional Comprehensive Plan and Guide (RCPG) and Regional Transportation Plan (RTP). The proposed Project involves the construction or expansion of principle arterials. In addition, the proposed Project is consistent with the 2001 RTP, and listed in the 2000/01 – 2005/06 Regional Transportation Improvement Program (RTIP) (Project ID. No. LA000389). 3-1

Policies of SCAG's RCPG and RTP, which may be applicable to your project, are outlined in the attachment. If you have any questions regarding the attached comments, please contact me at (213) 236-1867. Thank you.

Sincerely,

JEFFREY M. SMITH, AICP
Senior Regional Planner
Intergovernmental Review

COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE DEL AMO BOULEVARD EXTENSION PROJECT SCAG NO. I 20020630

PROJECT DESCRIPTION

The proposed Project considers the widening and extension of Del Amo Boulevard between Crenshaw Boulevard and Prairie Avenue. The proposed Project includes the construction of a four-lane roadway with optional bicycle lanes in each direction, and the construction of a new bridge over the Burlington Northern Sante Fe railroad tracks. The proposed Project is in the City of Torrance.

INTRODUCTION TO SCAG REVIEW PROCESS

The document that provides the primary reference for SCAG's project review activity is the Regional Comprehensive Plan and Guide (RCPG). The RCPG chapters fall into three categories: core, ancillary, and bridge. The Growth Management (adopted June 1994), Regional Transportation Plan (adopted April 2001), Air Quality (adopted October 1995), Hazardous Waste Management (adopted November 1994), and Water Quality (adopted January 1995) chapters constitute the core chapters. These core chapters respond directly to federal and state planning requirements. The core chapters constitute the base on which local governments ensure consistency of their plans with applicable regional plans under CEQA. The Air Quality and Growth Management chapters contain both core and ancillary policies, which are differentiated in the comment portion of this letter. The Regional Transportation Plan (RTP) constitutes the region's Transportation Plan. The RTP policies are incorporated into the RCPG.

Ancillary chapters are those on the Economy, Housing, Human Resources and Services, Finance, Open Space and Conservation, Water Resources, Energy, and Integrated Solid Waste Management. These chapters address important issues facing the region and may reflect other regional plans. Ancillary chapters, however, do not contain actions or policies required of local government. Hence, they are entirely advisory and establish no new mandates or policies for the region.

Bridge chapters include the Strategy and Implementation chapters, functioning as links between the Core and Ancillary chapters of the RCPG.

Each of the applicable policies related to the proposed project are identified by number

and reproduced below in italics followed by SCAG staff comments regarding the consistency of the Project with those policies.

GENERAL SCAG STAFF COMMENTS

1. The proposed Project is consistent with the Regional Transportation Plan (RTP) and listed in the 2000/01 – 2005/06 Regional Transportation Improvement Program (RTIP) (Project ID. No. LA000389. 3-2

2. The Final EIR should address the relationships (consistency with core policies and support of ancillary policies) to SCAG's Regional Comprehensive Plan and Guide and Regional Transportation Plan and discuss any inconsistencies between the proposed project and applicable regional plans. 3-3

CONSISTENCY WITH REGIONAL COMPREHENSIVE PLAN AND GUIDE POLICIES

The Growth Management Chapter (GMC) of the Regional Comprehensive Plan and Guide contains a number of policies that are particularly applicable to the Draft EIR for the Del Amo Boulevard Extension Project.

3.03 The timing, financing, and location of public facilities, utility systems, and transportation systems shall be used by SCAG to implement the region's growth policies.

GMC POLICIES RELATED TO THE RCPG GOAL TO IMPROVE THE REGIONAL QUALITY OF LIFE

The Growth Management goals to attain mobility and clean air goals and to develop urban forms that enhance quality of life, that accommodate a diversity of life styles, that preserve open space and natural resources, and that are aesthetically pleasing and preserve the character of communities, enhance the regional strategic goal of maintaining the regional quality of life. The evaluation of the proposed project in relation to the following policies would be intended to provide direction for plan implementation, and does not allude to regional mandates.

3.18 Encourage planned development in locations least likely to cause environmental impacts.

SCAG staff comments. The Project is proposed in a manner, which will minimize 3-4

environmental impacts. Mitigation measures included in the Draft EIR are recommended to address identified impacts. The Project is supportive of this ancillary RCPG policy. 3-4 cont

3.20 *Support the protection of vital resources such as wetlands, groundwater recharge areas, woodlands, production lands, and land containing unique and endangered plants and animals.*

SCAG staff comments. The Draft EIR in Section 3.10 (Biological Resources) includes discussions on the Projects' impact on biological resources. Mitigation measures are recommended for impacts related to the removal nesting/native bird habitat. The Project is supportive of this ancillary RCPG policy. 3-5

3.21 *Encourage the implementation of measures aimed at the preservation and protection of recorded and unrecorded cultural resources and archaeological sites.*

SCAG staff comments. The Draft EIR in Section 3.9 (Cultural Resources) includes discussions on the Projects' impact on historic and archaeological resources. Mitigation measures are recommended for impacts related to the cultural resources. The Project is supportive of this ancillary RCPG policy. 3-6

3.22 *Discourage development, or encourage the use of special design requirements, in areas with steep slopes, high fire, flood, and seismic hazards.*

SCAG staff comments. The Draft EIR in Section 3.3 (Geology/Soils) identifies potential impacts related to ground rupture, ground motion, settlement, liquefaction, expansive soils, excavation and grading. Mitigation measures are recommended to address identified impacts through the implementation of building codes and specific requirements and/or project design. The Project is supportive of this ancillary RCPG policy. 3-7

3.23 *Encourage mitigation measures that reduce noise in certain locations, measures aimed at preservation of biological and ecological resources, measures that would reduce exposure to seismic hazards, minimize earthquake damage, and to develop emergency response and recovery plans.*

SCAG staff comments. The Draft EIR in Section 3. 7 (Noise) includes discussions on the Projects' impact due to construction. Mitigation measures are recommended for impacts related to construction noise. The Project is supportive of this ancillary RCPG policy. 3-8

REGIONAL TRANSPORTATION PLAN

The Regional Transportation Plan (RTP) also has policies pertinent to this proposed project. This chapter links the goal of sustaining mobility with the goals of fostering economic development, enhancing the environment, reducing energy consumption, promoting transportation-friendly development patterns, and encouraging fair and equitable access to residents affected by socio-economic, geographic and commercial limitations. Among the relevant policies of this chapter are the following:

4.01 Transportation investments shall be based on SCAG's adopted Regional performance Indicators.

4.02 Transportation investments shall mitigate environmental impacts to an acceptable level.

SCAG staff comments. The Draft EIR identifies environmental impacts and details the measures mitigate these impacts. Pages ES-4 through ES-16 provide for an environmental evaluation and recommended mitigation measures. The Project is consistent with this core RTP policy. 3-9

4.03 Major Investment Studies and other studies of regional transportation facilities shall include consideration of freight movement.

4.04 Transportation Control Measures shall be a priority.

4.16 Maintaining and operating the existing transportation system will be a priority over expanding capacity.

SCAG staff comments. The Draft EIR, in Chapter 1 (Introduction/Project and Need) discusses the need for the proposed Project and proposed improvements, which will help to maintain and operate the existing transportation system. The Project is supportive or this core RTP policy. 3-10

AIR QUALITY CHAPTER CORE ACTIONS

The Air Quality Chapter core actions related to the proposed project includes:

5.07 Determine specific programs and associated actions needed (e.g., indirect source rules, enhanced use of telecommunications, provision of community based shuttle services, provision of demand management based programs, or vehicle-miles-

traveled/emission fees) so that options to command and control regulations can be assessed.

5.11 Through the environmental document review process, ensure that plans at all levels of government (regional, air basin, county, subregional and local) consider air quality, land use, transportation and economic relationships to ensure consistency and minimize conflicts.

WATER QUALITY CHAPTER RECOMMENDATIONS AND POLICY OPTIONS

The Water Quality Chapter core recommendations and policy options relate to the two water quality goals: to restore and maintain the chemical, physical and biological integrity of the nation's water; and, to achieve and maintain water quality objectives that are necessary to protect all beneficial uses of all waters.

11.07 Encourage water reclamation throughout the region where it is cost-effective, feasible, and appropriate to reduce reliance on imported water and wastewater discharges. Current administrative impediments to increased use of wastewater should be addressed.

CONCLUSIONS

1. As noted in the staff comments, the Draft Environmental Impact Report for the Del Amo Boulevard Extension Project is consistent with or supports some of the core and ancillary policies in the Regional Comprehensive Plan and Guide and Regional Transportation Plan. 3-11

2. As noted in the General Staff Comments, the proposed Project is consistent with the Regional Transportation Plan (RTP) and listed in the 2000/01 – 2005/06 Regional Transportation Improvement Program (RTIP) (Project ID. No. LA000389. 3-12

3. As noted in the General Staff Comments, the Final EIR should address the relationships (consistency with core policies and support of ancillary policies) to SCAG's Regional Comprehensive Plan and Guide and Regional Transportation Plan and discuss any inconsistencies between the proposed project and applicable regional plans. 3-13

4. All feasible measures needed to mitigate any potentially negative regional impacts associated with the proposed project should be implemented and monitored, as required by CEQA. 3-14

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

Roles and Authorities

THE SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS (SCAG) is a *Joint Powers Agency* established under California Government Code Section 6502 et seq. Under federal and state law, SCAG is designated as a Council of Governments (COG), a Regional Transportation Planning Agency (RTPA), and a Metropolitan Planning Organization (MPO). SCAG's mandated roles and responsibilities include the following:

SCAG is designated by the federal government as the Region's *Metropolitan Planning Organization* and mandated to maintain a continuing, cooperative, and comprehensive transportation planning process resulting in a Regional Transportation Plan and a Regional Transportation Improvement Program pursuant to 23 U.S.C. '134, 49 U.S.C. '5301 et seq., 23 C.F.R. '450, and 49 C.F.R. '613. SCAG is also the designated *Regional Transportation Planning Agency*, and as such is responsible for both preparation of the Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP) under California Government Code Section 65080 and 65082 respectively.

SCAG is responsible for developing the demographic projections and the integrated land use, housing, employment, and transportation programs, measures, and strategies portions of the *South Coast Air Quality Management Plan*, pursuant to California Health and Safety Code Section 40460(b)-(c). SCAG is also designated under 42 U.S.C. '7504(a) as a *Co-Lead Agency* for air quality planning for the Central Coast and Southeast Desert Air Basin District.

SCAG is responsible under the Federal Clean Air Act for determining *Conformity* of Projects, Plans and Programs to the State Implementation Plan, pursuant to 42 U.S.C. '7506.

Pursuant to California Government Code Section 65089.2, SCAG is responsible for *reviewing all Congestion Management Plans (CMPs) for consistency with regional transportation plans* required by Section 65080 of the Government Code. SCAG must also evaluate the consistency and compatibility of such programs within the region.

SCAG is the authorized regional agency for *Inter-Governmental Review* of Programs proposed for federal financial assistance and direct development activities, pursuant to Presidential Executive Order 12,372 (replacing A-95 Review).

SCAG reviews, pursuant to Public Resources Code Sections 21083 and 21087, Environmental Impacts Reports of projects of regional significance for consistency with regional plans [California Environmental Quality Act Guidelines Sections 15206 and 15125(b)].

Pursuant to 33 U.S.C. '1288(a)(2) (Section 208 of the Federal Water Pollution Control Act), SCAG is the authorized *Areawide Waste Treatment Management Planning Agency*.

SCAG is responsible for preparation of the *Regional Housing Needs Assessment*, pursuant to California Government Code Section 65584(a).

SCAG is responsible (with the Association of Bay Area Governments, the Sacramento Area Council of Governments, and the Association of Monterey Bay Area Governments) for preparing the *Southern California Hazardous Waste Management Plan* pursuant to California Health and Safety Code Section 25135.3.

Revised July 2001

Letter 3: Southern California Association of Governments

Comment No.	Response
3-1	SCAG's determination that the proposed project is regionally significant and directly relates to the policies and strategies in SCAG's Regional Comprehensive Plan and Guide (RCPG) and Regional Transportation Plan (RTP) is noted.
3-2	One paragraph was added to Section 3.01, Land Use, page 3.1-2, to acknowledge SCAG's determination that the Project is consistent with the RTP and that the project is listed in the 2000/01 – 2005/06 Regional Transportation Improvement Program (RTIP). The RTP and RTIP project listings for Del Amo Boulevard are included in Appendix I, SCAG RTP/RTIP Programming.
3-3	A paragraph has been added to Section 3.01, Land Use and Planning, to discuss the project's consistency with SCAG's Regional Comprehensive Plan and Guide and Regional Transportation Plan (page 3.1-5).
3-4 through 3-8	SCAG's acknowledgement of the Project's consistency with RCPG policies is noted.
3-9 through 3-10	SCAG's acknowledgement of the Project's consistency with RTP policies is noted.
3-11	Please see response to comment 3-1.
3-12	Please see response to comment 3-2.
3-13	Please see response to comment 3-3.
3-14	All feasible measures needed to mitigate any potentially negative regional impacts associated with the proposed project shall be implemented and monitored, as required by CEQA.

South Coast
Air Quality Management District
21865 E. Copley Drive, Diamond Bar, CA 91765-4182
(909) 396-2000 • www.aqmd.gov

FAXED: JANUARY 21, 2003

January 21, 2003

Craig Bilezerian
City of Torrance
Department of Engineering
3031 Torrance Boulevard
Torrance, CA 90503

Dear Mr. Bilezerian:

Draft Environmental Impact Report for the Del Amo Boulevard Extension Project

The South Coast Air Quality Management District (AQMD) appreciates the opportunity to comment on the above-mentioned document. The following comments are meant as guidance for the Lead Agency and should be incorporated in the Final Environmental Impact Report. We apologize for sending this comment letter after the close of the comment period.

Pursuant to Public Resources Code Section 21092.5, please provide the AQMD with written responses to all comments contained herein prior to the certification of the Final Environmental Impact Report. The AQMD would be happy to work with the Lead Agency to address these issues and any other questions that may arise. Please contact Charles Blankson, Ph.D., Transportation Specialist – CEQA Section, at (909) 396-3304 if you have any questions regarding these comments. 4-1

Sincerely

Steve Smith

Steve Smith, Ph.D.
Program Supervisor, CEQA Section
Planning, Rule Development & Area Sources

Attachment

SS:CB

LAC021203-05
Control Number

Draft Environmental Impact Report (DEIR) for the Del Amo Boulevard Extension Project

1. **URBEMIS 7G:** The Lead Agency uses URBEMIS 7G to estimate the project's air quality impacts, as shown in Appendix D. Please note that URBEMIS 2001 became available for use in March 2002. URBEMIS 2001 uses emissions factors for on-road mobile sources that are more current than those used in URBEMIS 7G. The most current on-road emission factors are substantially higher than previous factors. The lead agency is therefore advised to use URBEMIS 2001 to estimate project's on-road mobile emissions. The URBEMIS 2001 model is available on the California Air Resources Board website: www.arb.ca.gov. 4-2

2. **Mitigation Measures:** To reduce NO_X emissions from heavy construction equipment during project construction, the Lead Agency proposes on page 3.6-13 of the DEIR the use of gasoline fuel instead of diesel fuel. According to federal Environmental Protection Agency AP-42 Report, gasoline-fueled construction equipment discharges more carbon monoxide and reactive organic compounds than diesel-fueled equipment. (See Table A9-8-A on page A9-82 of the AQMD 1993 CEQA Air Quality Handbook.) AQMD staff recommends the use of alternative clean fuel such as natural gas instead of gasoline- or diesel-powered equipment. If diesel equipment has to be used because of the lack of any clean fuel alternatives, it is recommended that the lead agency require the use of particulate filters and low sulfur diesel as defined in AQMD Rule 431.2, i.e. with less than 15 ppm sulfur content. 4-3

Letter 4: South Coast Air Quality Management District

Comment No.	Response
4-1	Responses to all SCAQMD comments are provided below.
4-2	Construction emissions related to the proposed Del Amo Boulevard Extension project have been recalculated using URBEMIS 2001. These calculations have replaced the URBEMIS 7G datasheets in the Air Quality Impact Analysis technical report. The revised emissions projections and the mitigated emissions projections tables have been revised in the technical appendix. The assumptions used in the previous analysis were not modified. Section 3.06 of the EIR/EA has also been updated to include the URBEMIS 2001 data, and acknowledges that the project PM_{10} emissions from the grading operations will exceed applicable SCAQMD thresholds. Additionally, during construction of the proposed project, applicable SCAQMD NO_x thresholds will be exceeded. Air quality mitigation measures will reduce these impacts to below the level of significance. Please see pages 3.6-14 through 3.6-15 of the EIR/EA.
4-3	The air quality mitigation measure has been revised to require particulate filters and low sulfur fuel, as feasible, for all heavy construction equipment. The mitigation measure requiring the use of gasoline has been removed from the mitigation measures and replaced with the following mitigation measures (page 3.6-14 of the EIR/EA): • The project proponent shall ensure that all heavy construction equipment is equipped with particulate filters, as per the manufacture's instructions. • The project proponent shall ensure that all heavy construction equipment is powered with low sulfur fuels, as feasible.

COUNTY OF LOS ANGELES
FIRE DEPARTMENT
1320 NORTH EASTERN AVENUE
LOS ANGELES, CALIFORNIA 90063-3294
(323) 890-4330

P. MICHAEL FREEMAN
FIRE CHIEF
FORESTER & FIRE WARDEN

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ENGINEERING DEPARTMENT
CITY OF TORRANCE

January 6, 2003

Mr. Craig Bilezerian
City of Torrance
Engineering Department
3031 Torrance Boulevard
Torrance, CA 90503

Dear Mr. Bilezerian:

DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE DEL AMO BOULEVARD EXTENSION PROJECT, EIR/EA, STATE CLEARING HOUSE #2001121087, "CITY OF TORRANCE" – (EIR #1545/2002)

The Draft Environmental Impact Report for the proposed Del Amo Boulevard Extension Project has been reviewed by the Planning Section, Land Development Unit, and Forestry Division of the County of Los Angeles Fire Department. The following are their comments:

LAND DEVELOPMENT UNIT:

This project is located entirely in the City of Torrance. Therefore, the City of Torrance Fire Department has jurisdiction concerning this project and will be setting conditions. This project is located in close proximity to a jurisdictional area of the County of Los Angeles Fire Department. However, the project is unlikely to have an impact requiring comment from the County of Los Angeles Fire Department, Land Development Unit. 5-1

The County of Los Angeles Fire Department, Land Development Unit appreciates the opportunity to comment on this project. Should any questions arise, please contact Inspector J. Scott Greenelsh at (323) 890-4235.

FORESTRY DIVISION:

The statutory responsibilities of the County of Los Angeles Fire Department, Forestry Division include erosion control, watershed management, rare and endangered species, vegetation, fuel modification for Very High Fire Hazard Severity Zones or Fire Zone 4, archeological and cultural resources and the County Oak Tree Ordinance. The areas germane to these statutory responsibilities of the County of Los Angeles Fire Department have been addressed. 5-2

If you have any additional questions, please contact this office at (323) 890-4330.

Very truly yours,

David R. Leininger

DAVID R. LEININGER, CHIEF, FORESTRY DIVISION
PREVENTION BUREAU

DRL:lc

Letter 5: County of Los Angeles Fire Department

Comment No.	Response
5-1	It is understood that the City of Torrance Fire Department has jurisdiction over the project area and that the project is located in close proximity to the jurisdictional area of the County of Los Angeles Fire Department. It has been noted that the project does not require comment from the County of Los Angeles Fire Department, Land Development Unit.
5-2	The County of Los Angeles Fire Department, Forestry Division's determination that the EIR/EA addressed the areas germane to the statutory responsibilities of the County of Los Angeles Fire Department has been noted.

WATER RECLAMATION
SOLID WASTE MANAGEMENT

COUNTY SANITATION DISTRICTS
OF LOS ANGELES COUNTY

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
Telephone: (562) 699-7411, FAX: (562) 699-5422
www.lacsd.org

JAMES F. STAHL
Chief Engineer and General Manager

December 31, 2002

File No: 05-00.04-00

Mr. Craig Bilezerian, Project Manager
Engineering Department
City of Torrance
3031 Torrance Boulevard
Torrance, CA 90503

Dear Mr. Bilezerian:

Del Amo Boulevard Extension Project

The County Sanitation Districts of Los Angeles County (Districts) received a Draft Environmental Impact Report/Environmental Assessment for the subject project on December 2, 2002. The proposed project is located within the jurisdictional boundaries of District No. 5. We offer the following comments regarding the subject project:

1. The project proposes to relocate the Districts' North Torrance Trunk Sewer, Section 2, over which it will be constructed. Relocation of a Districts' sewer requires a detailed review of all plans and specifications and the City of Torrance will also be required to enter into a Sewer Relocation Agreement that requires approval by the Districts' Board of Directors. Please be aware that this process can take several months to complete. 6-1

2. The Districts cannot issue a more detailed response to or permit construction of the proposed project until more detailed project plans and specifications which incorporate Districts' sewer lines are submitted. In order to prepare these plans, you will need to submit a map of the proposed sewer realignment, when available, to the attention of Mr. Tommy Sung of the Districts' Sewer Design Section and Ms. Jane Fong of the Districts' Planning & Property Management Section at the address shown above. The Districts will then provide you with the plans for all Districts' facilities which will be impacted by the proposed project. Then, when revised plans which incorporate our sewer have been prepared, please submit copies of the same for our review and comment. 6-2

If you have any questions, please contact the undersigned at (562) 699-7411, extension 2766.

Very truly yours,

James F. Stahl

Darrell Hatch
Project Engineer
Planning & Property Management Section

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CITY OF TORRANCE

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Letter 6: County Sanitation Districts of Los Angeles County

Comment No.	Response
6-1	It is understood that the relocation of the Districts' North Torrance Trunk Sewer, Section 2, requires a detailed review of all plans and specifications. The City of Torrance will enter into a Sewer Relocation Agreement that requires approval of the Districts' Board of Directors.
6-2	The plans and specifications that incorporate the Districts' sewer lines will be submitted to the Districts for comment. Guidelines provided by the Districts in the comment letter will be adhered to prior to submission of the plans and specifications.

DOW

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JAN 1 5 2003

ENGINEERING DEPARTMENT
CITY OF TORRANCE

The Dow Chemical Company
Continental Operations
305 Crenshaw Boulevard
Torrance, California 90503
310 • 533-5200

January 13, 2003

Mr. Craig Bilezerian
City of Torrance
Engineering Department
3031 Torrance Boulevard
Torrance, California 90503

Re: EXPANSION AND EXTENSION OF DEL AMO BOULEVARD

Dear Mr. Bilezerian:

On behalf of The Dow Chemical Company ("Dow"), I have reviewed the draft Environmental Impact Report (EIR) for the Del Amo Expansion project and have the following comments with respect to the issues that Dow has raised in previous communications

1. The extension of Del Amo Boulevard will require the acquisition of several acres of land that has for many years been part of Dow's manufacturing operations in Torrance. The EIR recognizes the fact that landowners will be compensated for any land that is required for the right of way and we understand that the fair market value of the property to be acquired will be determined at a later date. 7-1

2. We expect that should the City proceed with the expansion of Del Amo Boulevard, access to the Dow facility through the Main Gate located on Del Amo Boulevard will be severely impacted by construction activities, as well as by the increased traffic following the completion of the project. The EIR addresses this issue and acknowledges the need to maintain adequate access to our facility. It is imperative that access be maintained in order to avoid severe economic loss. It is our understanding that the provision of permanent facilities, such as turn lanes or signals, will be addressed during the design phase of this project. 7-2

3. There is a storm water outfall on the northern edge of the Dow property that drains to a culvert bordering Del Amo Boulevard. The EIR addresses the issue of storm water and includes a proposal to install a 24" storm drain as part of the project. There is no specific mention of whether our facility will be given access to this storm drain for our storm water outfall. Our property has historically drained through this outfall and needs to continue to do so. We anticipate that access to the new storm drain will be necessary and that the details of this will be addressed during the design phase of this project. 7-3

4. Two large storage tanks containing fire protection water are located in the path of the proposed project. The EIR acknowledges the need to remove these tanks from the right of way of the proposed road. We understand that the details with respect to the relocation or replacement of these tanks will be determined during the design phase of this project and such relocation or replacement will be at the sole expense of the City. 7-4

Should the City ultimately decide to pursue the expansion of Del Amo Blvd., we reiterate our desire to actively participate during the planning, design and construction phases of this project. We would greatly appreciate the opportunity to meet with the City representatives at the appropriate time to begin a dialogue and further clarify all of the issues of concern outlined here. Should you have any questions regarding these comments, please feel free to contact me at 310-224-5407. 7-5

Sincerely,

Fred J. Smalling
Engineering Manager

Cc: Lee Trusty
Operations Director

Patricia Behmlander
Legal Department

Richard Bouton
Torrance Site Leader

Letter 7: Dow Chemical Company

Comment No.	Response
7-1	Dow Chemical Company will be paid fair market value for the property to be acquired for completion of the proposed project; the property's value will be determined at a later date.
7-2	It is understood that it is imperative to maintain adequate access to the Dow Chemical Company facility. Permanent facilities, to be finalized during the design phase of the project, will be constructed in order to maintain access to the Dow Chemical facility.
7-3	It is understood the Dow Chemical currently uses a storm water outfall that drains to a culvert bordering Del Amo Boulevard. A new 24" storm drain is proposed as part of the project. The proposed project would not impede Dow Chemical's use of a storm drain outfall. The details of storm drain use will be included in the MOA between the City of Torrance and Dow Chemical, to be completed during the design phase of the proposed project.
7-4	The relocation of the two large storage tanks containing fire protection water will be finalized during the design phase of the project. The details of the relocation and the physical relocation of the tanks will be included in the MOA between the City of Torrance and Dow Chemical, to be completed during the design phase of the proposed project.
7-5	Dow Chemical Company will have the opportunity to actively participate during the planning, design, and construction phases of the project. A meeting will be scheduled between the City of Torrance and Dow Chemical Company to further clarify issues related to the Dow Chemical facility prior to the finalization of design plans.

January 6, 2003

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JAN 09 2002
ENGINEERING DEPARTMENT
CITY OF TORRANCE

Craig Bilezerian
City of Torrance
Engineering Department
3031 Torrance Blvd.
Torrance, CA 90503

Dear Mr. Bilezerian,

On behalf of the 59 family units of the Mediterranean Villas Condominium Association, we, the Mediterranean Villas Board, reject your Del Amo Blvd. Extension Project.

Since our location is at the corner of Del Amo and Madrona, we will be the first residences to be directly affected by this proposal. Behind us is a city park which has continual use by people of all ages. We feel that the following problems will occur:

Considerably more traffic | 8-1
Noise, dirt and pollution | 8-2
Easier access for the criminal elements | 8-3
Additional vehicle exhaust poisoning the lungs | 8-4
More traffic accidents, as the corner is hazardous already | 8-5
Driveway access for our homeowners | 8-6

We therefore disagree with this quote directly from your notice dated December 2, 2002 which states, " Impacts to geology and soils, noise, hazards and hazardous materials, cultural resources, and public services and utilities would be less than significant with the implementation of recommended mitigation measures." Specifically what are these measures? | 8-7
Are you going to limit the cars, have 24-hour police coverage for our units and others, monitor the pollution, and prevent accidents??? | 8-8

Lastly, your notice includes this last irrefutable sentence, which you yourselves admit, and therefore should in itself negate the entire project, " The proposed project would result in significant unavoidable adverse impacts to air quality and transportation and circulation." | 8-9

A copy of this letter is being sent to the Daily Breeze, the Torrance City Council, Dan Walker--City of Torrance Mayor, and Sue Herbers--City Clerk,

Sincerely,

Judy Miller

Judy Miller, Chairperson, The Mediterranean Villas Homeowners Association

Ted Jones

1st Vice Chair, Ted Jones

Cass Adams

2nd Vice Chair, Cass Adams

Ginny Mondabaugh

Treasurer, Ginny Mondabaugh

Diane Cheney

Diane Cheney, Secretary

Letter 8: Mediterranean Villas Board

Comment No.	Response
8-1	The proposed project will increase traffic on Del Amo Boulevard from the existing conditions; however, the project would reduce congestion on streets in the surrounding area compared to the No Project alternative. One of the primary purposes of the project is to provide an additional east-west route between Hawthorne Boulevard and Western Avenue to relieve existing and future congestion along adjacent east-west streets in the City, including 190th Street, 182nd Street, and Torrance Boulevard between Hawthorne Boulevard and Western Avenue (page 1-4). Long term traffic congestion in the project vicinity would be lessened as a result of the proposed project. In addition, the extension is included in the City's Circulation Element of the General Plan, as well as the Los Angeles County Master Plan of Highways.
8-2	As determined in the Noise Impact Analysis, short-term noise impacts associated with project construction would be considered adverse but not significant under this alternative. No substantial increases in noise levels are anticipated for the 36 locations analyzed; therefore, significant traffic noise impacts would not occur. Please refer to Section 3.07, Noise of the EIR/EA. Short-term air quality impacts associated with project construction would be significant under this alternative as the SCAQMD daily NO_x emissions threshold would be temporarily exceeded. Long-term air emissions would be less than significant as air pollution concentrations at congested intersections would be improved. Mitigation measures to reduce short-term impacts are provided in Section 3.06, Air Quality of the EIR/EA.
8-3	The Torrance Police Department, located at 3300 Civic Center Drive, provides law enforcement services for the project area. Police response times to emergency and other calls would be expected to decrease as a result of the project due to the redistribution of traffic from 190th Street and Torrance Boulevard. Please refer to Section 3.11, Public Services and Utilities of the EIR/EA.
8-4	Please see response to comment 8-2.
8-5	The proposed project will constitute a new roadway. The existing roadway is a discontinuous segment; therefore, there are no accident data available. Accident data on the east and west end of the proposed roadway were analyzed; new language and collision diagrams are included in Section 3.05, Transportation and Circulation, page 3.5-8 through 3.5-10.
8-6	Project construction and implementation would not block driveway access at the corner of Madrona Avenue and Del Amo Boulevard.
8-7	The project mitigation measures are summarized in the Executive Summary of the EIR/EA.

8-8 The roadway extension will allow normal traffic flow and police protection that is typical of the area. The nearest air quality monitoring station is located at 5234 W 120th Street in the City of Hawthorne. Air quality data are available at the Air Resources Board website http://www.arb.ca.gov.

8-9 Significant unavoidable adverse impacts resulting from air emissions are short term and would occur only during the construction phase of the project. Due to existing and projected traffic congestion in the project area, significant unavoidable adverse impacts resulting from traffic and circulation would occur in all project alternatives, including the Alternative 1, No Project. CEQA guidelines (Section 15093 (a)) state that the decision-making agency can balance, as applicable, the economic, legal, social, technological, or other benefits of a proposed project against its unavoidable environmental risks when determining whether or how to approve a project. If the specific economic, legal, social, technological, or other benefits of a proposed project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered "acceptable." Should be project be approved by the City Council, the City will prepare a Statement of Overriding Considerations that will be supported by substantial evidence in the record.

Dec 3. 2002

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DEC 05 2002
ENGINEERING DEPARTMENT
CITY OF TORRANCE

Craig Bilezerian
City of Torrance
Engineering Dept.
3031 Torrance Blvd.
Torrance, Ca. 90503

Sir:
We're delighted that the Del Amo Blvd. Expansion is going forward.

We are Propertyowners at 2546 Maricopa St in Torrance. 9-1
The traffic here is terrible
We hope the Extension of Del Amo Blvd will alleviate some of our traffic
Thanks for your Work,
Doyle + Trudy Wolfgang
2546 Maricopa St Torrance

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JAN 16 2002
CITY OF TORRANCE
PLANNING DEPARTMENT

Jan 15, 2002

City of Torrance
Planning Department Re Iowa Extension

Sirs:
We are delighted that this Project is going forward.
We have lived at 2546 Maricopa St since 1967. 9-1
In these years traffic congestion has increased 10 fold. At times we can not get out of our drive way.

Please let it be known that we are in favor of this Project

Mr + Mrs Wayne E Wolfgang
2546 Maricopa St
Torrance, Ca 90503
310-328-2283

I have been called out of town. I am disappointed I can not attend the meeting.

Letter 9: Citizen Letter 1

Comment No.	Response
9-1	Citizen comment in favor of the proposed project has been noted.

Mr Joseph A Badrena
20104 Talisman St
Torrance, CA
90503-2146

Page 1 of 5.

Prepared By: Joseph Badrena Date: 12-16-2002
Project Title: Del Amo Blvd. Extension Project

Engineering Department
City Of Torrance
Attn: Craig Bilezerian

RECEIVED
JAN 08 2002
ENGINEERING DEPARTMENT
CITY OF TORRANCE

Sir: Homeowners and Residents of West Torrance Oppose the Del Amo Blvd. Extension Project Due to the Following:

1. Wrong Time to Spend Funds with California budget crisis, which will cut Torrance school funds! Schools should have priority over funds. 10-1
2. Extension is of no benefit to West Torrance Residents! It will reroute South Redondo Beach traffic to Del Amo Blvd. Affecting our quality of life! 10-2
3. It will add noise and air pollution to West Torrance and traffic backup east of Prospect Avenue where Del Amo becomes single lane going west. It will affect West High School traffic and safety of students. 10-3
4. It will make it easier for Exxon Refinery and Dow Chemical to be sabotaged by providing an access road between them! Extra High road fences will be needed. 10-4
5. This will re-route more North/South traffic through S/West park tract. We have enough already! 10-5

Note: City of Redondo Beach in last 10-15 years discouraged additional traffic. By:

1. Putting stop signs every block in North Redondo (North/South).
2. Turning Anza Blvd. North of 190th Street into a park; preventing N/S traffic.
3. Changing Grant Avenue west of Inglewood Avenue from 4 lanes to 2 lanes of traffic. Preventing E/W traffic.

Why Is Torrance Doing the Opposite?

Thank you very much,

MR. & MRS. Joseph A. Badrena
AND Mitsuko Badrena 20104 TALISMAN St. 90503
Ray Bryant 20116 talisman, Torrance 90503
20122 Talisman St Torrance Ca 90503
20110 Talisman
Susie Baulin 20032 TALISMAN St Torrance

Attachment 1

P.2 of 5

Prepared By: Joseph Badrena Date: 12-16-2002
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Why Is Torrance Doing the Opposite?

Thank you very much,

Annette Morton 20610 Talisman St. Torrance 90503
Kristin Kaiser 19916 Talisman St. Torrance 90503
Mary L. Jackman 19910 Talisman St Torr 90503
Ned Puchrik 19905 Talisman St. Torrance 90503
[illegible] 19917 Talisman St Torrance 90503

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Why Is Torrance Doing the Opposite?

Thank you very much,

Jim Hung 19923 Talisman
Joe + Jaime Cabrera 19929 Talisman 90503
Patty + Don Andello 20005 Talisman 90503
[illegible] 20025 Talisman 90503

Page 4 of 5

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Why Is Torrance Doing the Opposite?

Thank you very much,

Margaret Stuff 20111 Talisman St.
Jennifer Hu 20117 Talisman St.
[illegible] 4640 Carmelynn St.
Jim & Joni Beck 20028 Talisman St.

Page 5 of 5.

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Why Is Torrance Doing the Opposite?

Thank you very much,

JSDelley (Jill DeVey)
20105 Talisman St. Torrance CA 90503.

Letter 10: Citizen Letter 2

Comment No.	Response
10-1	Federal funding for the proposed improvements will be provided by FHWA. The funding will be coordinated through the California Department of Transportation (Caltrans), District 7, in Los Angeles.
10-2	One of the primary purposes of the project is to provide an additional east-west route between Hawthorne Boulevard and Western Avenue to relieve existing and future congestion along adjacent east-west streets in the City, including 190th Street, 182nd Street, and Torrance Boulevard between Hawthorne Boulevard and Western Avenue (page 1-4). Long term traffic congestion in the project vicinity would be lessened as a result of the proposed project.
10-3	Please see response to comment 10-2.
10-4	Access to the Exxon-Mobil Refinery and Dow Chemical Company will be maintained by the proposed project. The comment that the proposed project will increase the chance of sabotage at Exxon-Mobile Refinery and Dow Chemical Company has been noted.
10-5	Please see response to comment 10-2.

December 20, 2002

RECEIVED
DEC 26 2002
ENGINEERING DEPARTMENT
CITY OF TORRANCE

Attn: Craig Bilezerian
City of Torrance
Engineering Department
3031 Torrance Boulevard
Torrance, CA 90503

Dear Mr. Bilezerian:

We are concerned Torrance residents. 190th Street and Torrance Boulevard are commercial business streets, but Del Amo Boulevard between Madrona Avenue and Prospect Avenue is a residential and school zone. There are West High School, Bert Lynn Middle School, Victor Elementary School and South Bay Junior Academy on Del Amo Boulevard near Anza Avenue. There are Redondo Union High School, Parras Middle School , and Beryl Elementary School near Del Amo Boulevard and Prospect Avenue. 11-1

If Del Amo Boulevard is opened through Hawthorne and Crenshaw Boulevards, most of the drivers that drive to the West Torrance or Redondo Beach area will probably take Del Amo Boulevard instead of 190th Street or Torrance Boulevard. Because Del Amo Boulevard has less traffic signals than other streets, people will have a tendency to drive very fast. 11-2

We believe that it will be very dangerous for school children and their parents. It will create very heavy traffic with all the children, parents, and other commuters that drive in this area. The possibility of an accident will probably increase with all this increased traffic flow. The mere thought makes us shudder. 11-3

We, the residents signed below are asking you to stop this project in the name of the safety of our children.

Thank you.

Sincerely,

Name	Address
Candice & Jim Matsui	5503 WILMA ST. Torrance 90503

RECEIVED
DEC 26 2002
ENGINEERING DEPARTMENT
CITY OF TORRANCE

December 23, 2002

Attn: Craig Bilezerian
City of Torrance
Engineering Department
3031 Torrance Boulevard
Torrance, CA 90503

Dear Mr. Bilezerian:

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We, the residents signed below are asking you to stop this project in the name of the safety of our children.

Thank you.

Our son crosses Del Amo Blvd. at Entrada Ave. to attend West High School. We fear for his safety with increased heavy traffic!

Sincerely,

Name	Address
Arlene Dubas	20105 Entradero Ave. 90503
Thomas Dubas	20105 Entradero Ave. 90503
Ed Dubas	20105 Entradero Ave. 90503

December ____ , 2002

RECEIVED
DEC 26 2002
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City of Torrance
Engineering Department
3031 Torrance Boulevard
Torrance, CA 90503

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We, the residents signed below are asking you to stop this project in the name of the safety of our children.

Thank you.

Sincerely,

P. Bahr	5418 WILMA ST. TORR 90503
Elizabeth J. Bahr	5418 WILMA ST. TORRANCE, CA 90.
Cecily Bahr	5418 WILMA ST. TORRANCE CA. 90
Name	Address

December 20, 2002

RECEIVED
DEC 23 2002
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CITY OF TORRANCE

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City of Torrance
Engineering Department
3031 Torrance Boulevard
Torrance, CA 90503

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We, the residents signed below are asking you to stop this project in the name of the safety of our children.

Thank you.

Sincerely,

Name	Address
Daniel Lefranc	5414 WILMA ST TORRANCE
Deanna Lefranc	" "
Denise Lefranc	" "

Letter 11: Citizen Letter 3

Comment No.	Response
11-1	The City's General Plan shows that Del Amo Boulevard is a primary arterial in the project area, from Crenshaw Boulevard west to the Pacific Coast Highway. Del Amo Boulevard is not designated in the General Plan as a residential street, although there are residences on certain segments of the road.
11-2	There are four traffic signals on Del Amo Boulevard between the project site and West High School, at the following intersections: Madrona, Hawthorne Boulevard, Victor Street, and Entradero Avenue. Traffic signals slow traffic on roadways, thereby increasing pedestrian safety. In addition to the existing traffic features in place on Del Amo Boulevard, the project includes a mitigation measure that requires the City to conduct a Vehicle/Pedestrian/Bicycle Circulation and Management Study prior to implementation of the project. This study would examine pedestrian safety and schools.
11-3	Schools have been addressed in Section 3.11, Public Services and Utilities, pages 3.11-2 and 3.11-4. Accident data was presented in Section 3.05, Transportation and Circulation, page 3.5-8. In comparison to surrounding streets, the traffic flow on Del Amo Boulevard near West High School is relatively low. For example, the average daily trips (ADT) are approximately 35,000 vehicles per day (in 1999) on Carson Street, near Torrance High School. The existing ADT on Del Amo Boulevard between Henrietta Street and Anza Avenue, near West High School, is 17,000. If the project were approved, the estimated ADT between Henrietta Street and Anza Avenue is projected to be 20,000 vehicles per day. The proposed project will not result in significant impacts to schools or significantly increase the number of traffic accidents in the area.

2158 Delaware St
Torr. Ca. 905

City of Torr. Planning Dept.

For what ever it is worth, I am answering this letter & from the way you people are working on this, I think I am wasting my time.

You people are going to do what ever you please & the people that are in the area that you are discussing for you it is like one grain of sand in the ocean.

All you care about is all of the money that you will be getting from the bus Co. & as far as votes goes our St. (Blvd.) doesn't have enough votes to change anything for any of you, it's not your problem if we get heavy trucks, busses & any other hazzard on our resident area.

But you couldn't help keep a Church that was good for our community.

Marylynn Hun

12-1

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JAN 13 2003
CITY OF TORRANCE
PLANNING DEPARTMENT

Letter 12: Citizen Letter 4

Comment No.	Response
12-1	Federal funding for the proposed improvements will be provided by FHWA. The funding will be coordinated through the California Department of Transportation (Caltrans), District 7, in Los Angeles. Please see response to comment 10-2. The proposed action would not impact truck routes in the City. Del Amo Boulevard is designated by the City as a truck route between Prairie Avenue and Maple Avenue, and west of Hawthorne Boulevard. The potential for the proposed new segment for use as a truck route will be examined in the Vehicle/Pedestrian/Bicycle Circulation and Management Study (page 3.5-17). There are no current plans to extend the truck route on Del Amo Boulevard.

January 10, 2003

RECEIVED
JAN 13 2002
ENGINEERING DEPARTMENT
CITY OF TORRANCE

City of Torrance
Engineering Departmmnt
3031 Torrance Boulevard
Torrance, CA 90503

Attn: Craig Bilezerian

Dear Sir:

At the present time do you think there isn't emough traffic on Del Amo at Madrona? I live in the condo complex with 59 units, it is difficult and some times very dangerous to get out of my driveway now, with alot more cars, I can't imagine what we will do? 13-1

Project Location:
Del Amo Boulevard is located in the central portion of the City of Torrance. The proposed project is located between Crenshaw Boulevard on the east and Madrona Avenue/Prairie Avenue on the west. The project site is currently a vacant right-of-way, surrounded by industrial uses. Surrounding land uses primarily consist of industrial and manufacturing uses, including the Exxon-Mobil (formerly Mobil Oil) refinery to the north and the Dow Chemical manufacturing plant to the south.

This statement you made is true, but you didn't tell everyone that all the traffic between Crenshaw and Van Ness is going thru a residential area, this is a lower income area but is it fair to endanger these people with heavy traffic. Also where does all this traffic go when it reaches Western Ave.? 13-2

I hope you have taken the time to check on the traffic on Del Amo and Madrona between 7:30 and 9:00 a.m. and also 3:30 to 5:00 p.m. if not, you really need to do this. I really don't think the students at West High School need more traffic at these hours. 13-3

Polution is another big factor. We get more than we need from Exxon-Mobil at the present time, we sure don't need anymore from an increase in the flow of traffic. 13-4

I hope to live in this area for awhile and I hate to think how many people could get killed just trying to get out on Del Amo Blvd., and I sure do hop I am not one of those people. This is a very bad idea for the people who have lived here for many years. 13-5

Sincerely,

Marianna Lutz

Marianna Lutz
3444 Del Amo Blvd.,
Torrance, CA 90503

Letter 13: Citizen Letter 5

Comment No.	Response
13-1	Please see response to comment 10-2.
13-2	This comment is addressed in the EIR/EA. Please refer to Section 3.05, Traffic and Circulation, and Section 3.12, Socioeconomics.
13-3	Traffic counts were taken at the intersection of Maple Avenue at Del Amo Boulevard. Please refer to Section 3.05, Traffic and Circulation.
13-4	Short-term impacts associated with project construction would be significant under this alternative as the SCAQMD daily NO_x emissions threshold would be temporarily exceeded. Long-term emissions would be less than significant as air pollution concentrations at congested intersections would be improved. Mitigation measures to reduce short-term impacts are provided in Section 3.06, Air Quality of the EIR/EA.
13-5	Please see response to comment 10-2.

Thomas L. Smith
2150 Del Amo Blvd.
Torrance, California 90501
January 10, 2003

City of Torrance Planning Department
3031 Torrance Blvd.
Torrance, California 90503

Dear City of Torrance Planning Department:

I'm a homeowner at 2150 Del Amo Boulevard. We bought our home on this street because it was not a busy street. If Del Amo Boulevard is allowed to go through I know our property values will go down because it will become a major thoroughfare. 14-1

However my major concern is the safety of the children on our street. Many families with children moved on this street because it was a nice quiet street. Making Del Amo Boulevard go all the way through will surely endanger our children's lives. Please! Please! Do not allow this to happen. 14-2

Sincerely,

Thomas L. Smith

Thomas L. Smith

RECEIVED
JAN 13 2003
CITY OF TORRANCE
PLANNING DEPARTMENT

Letter 14: Citizen Letter 6

Comment No.	Response
14-1	Project impact on property values is not an issue that is addressed in the California Environmental Quality Act.
14-2	Please see response to comment 11-1.

RECEIVED
JAN 14 2003
ENGINEERING DEPARTMENT
CITY OF TORRANCE

20628 BURIN AVENUE
TORRANCE, CA 90503

JANUARY 10, 2003

MR. CRAIG BILEZERIAN
CITY OF TORRANCE
ENGINEERING DEPARTMENT
3031 TORRANCE BOULEVARD
TORRANCE, CA 90503

RE: DEL AMO BLVD. EXTENSION PROJECT

DEAR MR. BILEZERIAN,

OUR FAMILY HAS LIVED ON BURIN AVENUE IN TORRANCE NEAR HAWTHORNE BLVD. AND DEL AMO BLVD. SINCE 1955. WE TRAVEL VERY FREQUENTLY ON HAWTHORNE BLVD., DEL AMO BLVD., ANZA, AND MADRONA. WE USE MADRONA AND ANZA OFTEN TO AVOID HEAVY TRAFFIC ON HAWTHORNE BLVD.

WE BELIEVE THAT OPENING DEL AMO BLVD TO THROUGH TRAFFIC WILL:

A. HAVE A NEGATIVE IMPACT ON OUR NEIGHBORHOOD.

B TREMENDOUSLY INCREASE TRAFFIC ON OUR ALREADY OVER CROWDED STREETS AND INTERSECTIONS INCREASING THE LIKELIHOOD OF ACCIDENTS. 15-1

C. CAUSE ONE OF THE ONLY REMAINING GAS STATIONS IN THE NEIGHBORHOOD (AT ANZA AND DEL AMO) TO BE USED MORE FREQUENTLY BY PEOPLE WHO ARE DRIVING THROUGH AND HAVE 15-2

NO OTHER ALTERNATIVE, MAKING IT MORE DIFFICULT FOR THE PEOPLE WHO LIVE IN THE SURROUNDING AREA TO USE IT.

D. WILL ALSO CAUSE CONGESTION AROUND SCHOOLS, WEST HIGHSCHOOL IN PARTICULAR. 15-3

E. IT WILL CERTAINLY AFFECT THE AIR QUALITY IN THE SURROUNDING AREA, OUR HOME IS ALREADY SUBJECT TO NOISE AND FUMES FROM HAWTHORNE BLVD, AT TIMES WE MUST CLOSE OUR WINDOWS AND DOORS. 15-4

WE WONDER IF ANY MEMBER OF THE ENGINEERING DEPARTMENT HAVE ACTUALLY DRIVEN THROUGH THE AREA DURING THE BUSIEST HOURS OF THE DAY OR DURING THE HOLIDAY SEASON WHEN TRAFFIC IN THIS AREA IS SO BAD THAT WE DO NOT LEAVE OUR HOUSE UNLESS ABSOLUTELY NECESSARY. 15-5

WE ALSO FIND IT CURIOUS THAT A CITY THAT CANNOT SEEM TO FIND MONEY TO REPAIR ITS SCHOOLS, CAN AFFORD TO PUT IN AN UNNECESSARY STREET THAT WILL COST MANY THOUSANDS OF DOLLARS IN RELATED EXPENSES. 15-6

PLEASE DO NOT APPROVE THE DEL AMO BOULEVARD EXTENSION PROJECT.

SINCERELY,

Elaine DeOrio

Yvonne De Orio

ELAINE DE ORIO

YVONNE DE ORIO

Letter 15: Citizen Letter 7

Comment No.	Response
15-1	Please see response to comment 10-2. The corner of Madrona Avenue/Prairie Avenue and Del Amo Boulevard had 17 reported collisions from January 1, 1996 to December 31, 2002. Please refer to Section 3.05, Traffic and Circulation of the EIR/EA.
15-2	The comment regarding increased use of the gas station at Anza Avenue and Del Amo Boulevard has been noted.
15-3	Please see response to comment 11-1.
15-4	Please see response to comment 8-2.
15-5	Please see response to comment 10-2.
15-6	Please see response to comment 10-1.

RECEIVED
JAN 15 2003
CITY OF TORRANCE
PLANNING DEPARTMENT

Via Fax (310) 618-2822

January 15, 2003

Mr. Craig Bilezerian
City of Torrance
Engineering Department
3031 Torrance Blvd.
Torrance, CA 90503

RE: Planning Commission Hearing - EAS02-00012 Proposed extension of Del Amo Boulevard

Dear Craig:

I am in receipt of the public notice regarding the above referenced item, I wanted express my concerns to you in writing prior to the upcoming Planning Commission Hearing.

I reside on Perkins Avenue south of Del Amo Boulevard between Hawthorne Boulevard and Prairie Avenue.

I am opposed to the extension of Del Amo Boulevard for the following reasons:

- The city has been in existence for almost 90 years without suffering from Del Amo Boulevard not being connected with Crenshaw Boulevard. Torrance Boulevard and 190th Street, which run parallel to Del Amo Boulevard (directly north & south), already connect to Crenshaw Boulevard. Therefore, there is no need or benefit created from the extension of Del Amo Boulevard. 16-1
- There will be increased traffic, noise, and air pollution generated on Del Amo Boulevard that will impact the quality of life for the residents in my area. 16-2
- This project will intensify the demand for our police and paramedic units to respond to traffic accidents, injuries, and possible deaths from the increased use of Del Amo Boulevard. 16-3
- If the project goes forward, there will be the need for another traffic signal on Del Amo Boulevard to allow residents in my area to turn left safety onto Del Amo Boulevard to reach Hawthorne Boulevard. 16-4
- This project will further burden our police and fire departments with increased support to guard against any "potential threats" to the Mobil and Dow Chemical properties that will be exposed to Del Amo Boulevard. 16-5

- This project will have many unknown hidden costs especially if there is soil or ground water contamination. 16-6
- The city will be forced to pass along those increased construction, services and maintenance costs to businesses and residents in the form of higher taxes. 16-7
- Our economy is currently in a painful recession with massive layoffs and business closures. The State of California, currently in a financial crisis, is considering cutting funding to cities and raising taxes. If the State is forced to suspend it's contribution to this project, it would politically bad timing for the city to consider spending it's financial resources on a project will not generate any measurable positive returns to the welfare of its' constituents. 16-8

As Torrance residents, we care about our community and take pride in maintaining our properties. We have excellent schools, fire, and police protection. We are grateful for our city government listening to the concerns of its' residents.

In closing, I would like thank you and the Planning Commission in advance for your consideration in rejecting the Draft Environmental Impact Report and terminating the Proposed Extension of Del Amo Boulevard Project.

Sincerely,

John L. Lyons
20336 Perkins Avenue
Torrance, CA 90503

Letter 16: Citizen Letter 8

Comment No.	Response
16-1	The purpose and need of the proposed project are included in the Executive Summary and Section 1.0 of the EIR/EA.
16-2	Traffic- please see response to comment 8-1. Noise- please see response to comment 8-2. Air Quality- please see response to comment 13-4.
16-3	The proposed project would not generate traffic but would redistribute traffic from 190th Street and Torrance Boulevard. Police response times to emergency and other calls would be expected to decrease as a result of the project. In addition, the extension of Del Amo Boulevard would improve the Fire Department's ability to promptly travel in an east-west direction through the City, thus improving response times to emergencies. The project is intended to improve traffic flow in the vicinity of Del Amo Boulevard, thereby reducing the accident potential.
16-4	A new traffic signal is not currently planned at the intersection of Perkins Avenue and Del Amo Boulevard.
16-5	The comment recommending increased police and fire protection of Exxon-Mobil and Dow Chemical to guard against potential threats has been noted.
16-6	Soil and groundwater contamination is addressed in Section 3.04, Hydrology and Water Quality, of this EIR/EA.
16-7	Federal funding for the proposed improvements will be provided by FHWA. The funding will be coordinated through the California Department of Transportation (Caltrans), District 7, in Los Angeles.
16-8	The comment regarding State allocation of funds has been noted.

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
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JAMES A. NOYES, Director

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
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ENGINEERING DEPARTMENT
CITY OF TORRANCE

IN REPLY PLEASE REFER TO FILE: WM-4

January 22, 2003

Mr. Craig Bilezerian
City of Torrance
Engineering Department
3031 Torrance Boulevard
Torrance, CA 90503

Dear Mr. Bilezerian:

RESPONSE TO A DRAFT ENVIRONMENTAL IMPACT REPORT
DEL AMO BOULEVARD EXTENSION PROJECT
CITY OF TORRANCE

Thank you for the opportunity to provide comments on the Draft Environmental Impact Report for the Del Amo Boulevard Extension project. The proposed action would extend Del Amo Boulevard between Crenshaw Boulevard on the east and Maple Avenue on the west, and it would also widen an existing segment of Del Amo Boulevard between Maple Avenue and Prairie Avenue. The extension/widening of Del Amo Boulevard would include the construction of a new four-lane roadway, potentially with a bicycle lane on the south side, construction of a new bridge over the Burlington Northern Santa Fe railroad tracks, realignment of a portion of a branch railroad, construction of retaining walls, drainage improvements, relocation of affected utilities, and relocation/reconstruction of affected off-site facilities. The proposed project is located in the City of Torrance between Crenshaw Boulevard on the east and Madrona Avenue/Prairie Avenue on the west. We have reviewed the submittal and offer the following comments:

Environmental Programs

As projected in the Los Angeles County Countywide Siting Element, which was approved by a majority of the cities in the County of Los Angeles in late 1997 and by the County Board of Supervisors in January 1998, a shortfall in permitted daily landfill capacity may be experienced in the County within the next few years. The construction and/or predevelopment activities associated with the proposed project may increase the generation of solid waste and may negatively impact solid waste management 17-1

infrastructure in the County. Therefore, the proposed environmental document must identify what measures the project proponent plans to implement to mitigate the impact. Mitigation measures may include, but are not limited to, implementation of waste reduction and recycling programs to divert the solid waste, including construction and demolition waste, from the landfills. 17-1 cont.

Should any operation within the subject project include the construction/installation, modification or removal of underground storage tanks, our Environmental Programs Division must be contacted for required approvals and operating permits. 17-2

If you have any questions, please contact Mr. Wilson Fong at (626) 458-3581.

Geotechnical and Materials Engineering

The proposed project will not have significant environmental effects from a geology and soils standpoint, provided the appropriate ordinances and codes are followed. 17-3

If you have any questions, please contact Mr. Amir Alam at (626) 458-4925.

Land Development (Grading and Drainage)

17-4

We have reviewed the subject document and have no comments.

If you have any questions, please contact Mr. Timothy Chen at (626) 458-4921.

Traffic and Lighting

The proposed project will not have any significant impacts to County intersections or roadways in the area. No further information is required. 17-5

If you have any questions, please contact Ms. Anna Marie Gilmore of our Traffic Studies Section at (626) 300-4741.

Watershed Management

The proposed project should include investigation of watershed management opportunities to maximize capture of local rainfall on the project site, eliminate incremental increases in flows to the storm drain system, and provide filtering of flows to capture contaminants originating from the project site. 17-6

If you have any questions regarding the above comments or the environmental review process of Public Works, please contact Ms. Massie Munroe at (626) 458-4359.

Very truly yours,

JAMES A. NOYES
Director of Public Works

for ROD H. KUBOMOTO
Assistant Deputy Director
Watershed Management Division

MM:sv/kk
A:\EIR197.DOC

Letter 17: County of Los Angeles Department of Public Works *(late)*

Comment No.	Response
17-1	Solid waste will be disposed of at the discretion of the hired contractor. All recyclable materials will be disposed of at a recycling facility; all non-recyclable materials will be disposed of at a certified landfill. A mitigation measure has been added to address this issue (page 3.11-7).
17-2	The proposed project does not include construction/installation, modification, or removal of underground storage tanks.
17-3	The proposed project would follow the appropriate ordinances and codes. Please refer to mitigation measures for Section 3.03, Geology and Soils (page 3.3-10).
17-4	Land Development (Grading and Drainage) has no comment; no response required
17-5	Traffic and Lighting acknowledges the project will have no significant environmental impact to County intersections or roadways; no response required.
17-6	As stated in the EIR/EA, the proposed project would require a National Pollution Discharge Elimination System (NPDES) storm water permit, which will include a Storm Water Pollution Prevention Plan (SWPPP) permit, prior to the start of construction (Page 3.4-5).

CHAPTER 12.0
DISTRIBUTION LIST

The following distribution list includes agencies and libraries that received a copy of the Draft EIR/EA and technical appendices and the Recirculated Draft EIR/EA and technical appendices. In addition, a Notice of Availability was sent to approximately 6,000 residents in the vicinity of the project area.

State Clearinghouse
1440 Tenth Street
Sacramento, CA 95814

CA Environmental Protection Agency
1001 I Street
P.O. BOX 4025
Sacramento, CA 95812-4025

Metropolitan Transit Authority
One Gateway Place
Los Angeles, CA 90012

Craig David
County of Los Angeles
Dept. of Public Works
900 South Fremont Avenue
Alhambra, CA 91803-1331

Ruth Frazen, Engineering Technician
County Sanitation Districts of Los Angeles County
P.O. Box 4998
Whittier, CA 90607-4998

California Dept. of Fish and Game
Region 5 - South Coast
4949 Viewridge Avenue
San Diego, CA 92123

California Integrated Waste Management Board
1501 E. Orangethorpe Ave., Suite 150
Fullerton, CA 92831

Steve Smith
Planning & Rule Department
SCAQMD
21865 East Copley Drive
Diamond Bar, CA 91765-4182

Frank Meneses
County of Los Angeles
Dept. of Regional Planning
320 W. Temple Street
Los Angeles, CA 90012

City of Los Angeles Planning Dept.
Environmental Review Unit
200 N. Spring Street, 7th Floor
Los Angeles, CA 90012

Stephen Buswell, Program Manager
California Dept. of Transportation
District 7, IGR Office 1-10C
120 South Spring Street
Los Angeles, California 90012

Los Angeles Regional Water Quality Control Board (Region 4)
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Southern California Association of Governments
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

Lily Cusick
County of Los Angeles Fire Department
Forestry Division, Room 123
5823 Rickenbacker Road
Commerce, CA 90040

Richard V. Bongard, Fire Chief
City of Torrance Fire Department
1701 Crenshaw Boulevard
Torrance, CA 90503

James D. Herren, Police Chief
Officer Robert Lara
City of Torrance Police Department
3300 Civic Center Drive
Torrance, CA 90503-5016

Harlan R. Jeche
Department of Toxic Substances Control
1011 N. Grandview Ave.
Glendale, CA 91201

Torrance Transit
City Hall West Annex
3031 Torrance Boulevard
Torrance, CA 90503

Richard Kawasaki
City of Lomita
PO Box 339
Lomita, CA 90717

Bill Meeker, Planning Director
City of Redondo Beach
Planning Department
415 Diamond Street
Redondo Beach, CA 90277

Katy Geissert Civic Center Library
3301 Torrance Boulevard
Torrance, CA 90503

City of Hermosa Beach
Community Development
1315 Valley Drive
Hermosa Beach, CA 90354

City of Carson
Planning Department
701 E. Carson St
Carson, CA 90745

Henderson Branch Library
4805 Emerald
Torrance, CA 90503

El Retiro Branch Library
126 Vista del Parque
Redondo Beach, CA 90277

North Torrance Branch Library
36045 West Artesia
Torrance, CA 90504

Southeast Branch Library
23115 South Arlington
Torrance, CA 90501

Walteria Branch Library
3815 West 242nd St.
Torrance, CA 90505

Rob Wood
Native American Heritage Commission
915 Capitol Mall, Room 364
Sacramento, CA 95814

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